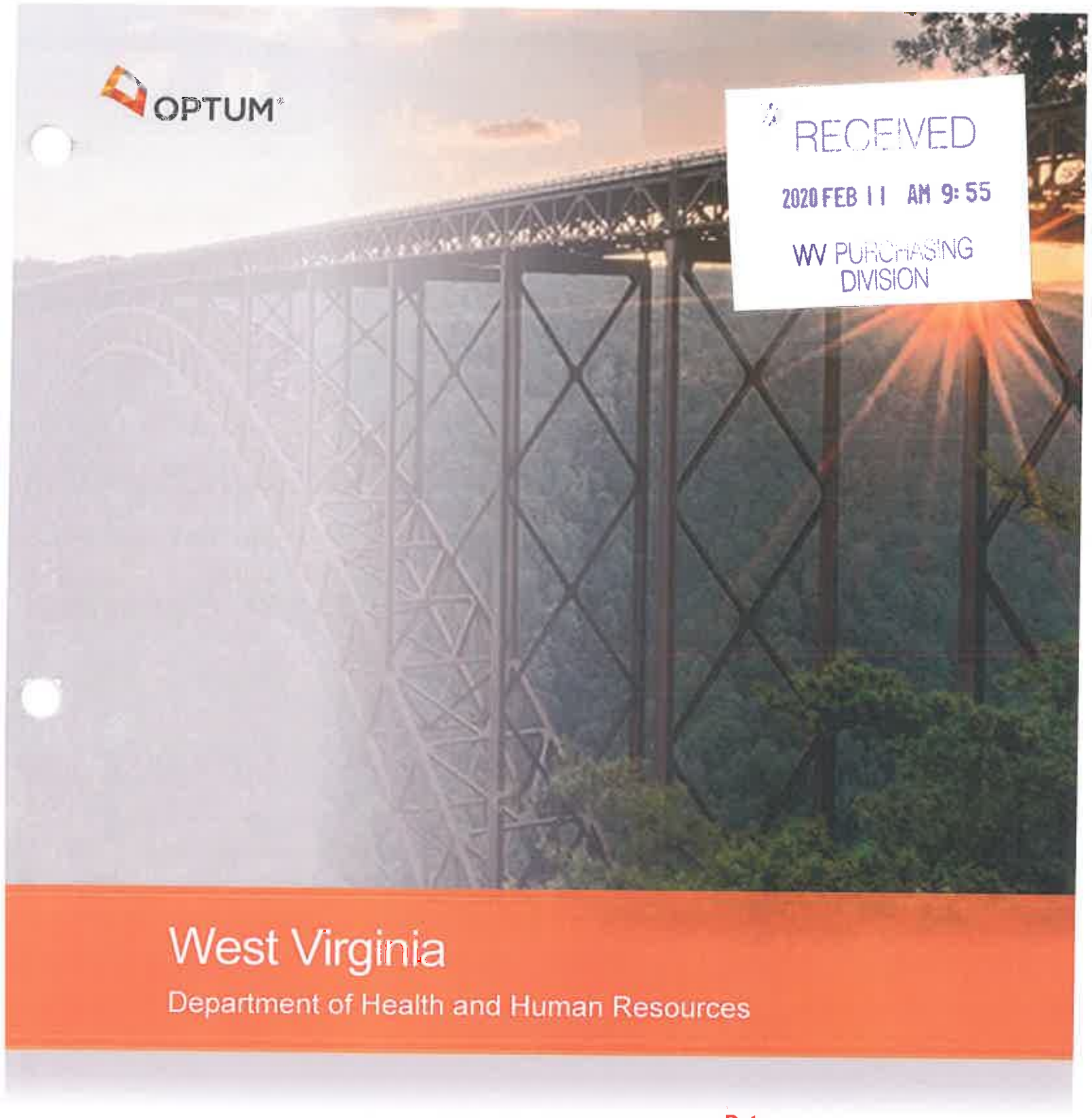


West Virginia

Department of Health and Human Resources

Optum Response to Medicaid Enterprise Data Solution

Technical Proposal
RFP Number: HHR2000000001

Date
February 11, 2020

Contact
Mike Miller
VP, Business Development
Optum Government Solutions
T: (508) 308-2085
mike.miller@optum.com
11000 Optum Circle
Eden Prairie, MN 55344

11000 Optum Circle | Eden Prairie, MN 55344 | phone: (888) 445-8745 | fax: (952) 917-7878 | www.optum.com

February 11, 2020

Ms. Brittany E. Ingraham
State of West Virginia
Department of Administration-Purchasing Division
2019 Washington Street E.
Charleston, WV 25305

RE: Optum Response to West Virginia Department of Health and Human Resources (DHHR) Medicaid Enterprise Data Solution Request for Proposal RFP Number: HHR2000000001.

Dear Ms. Ingraham:

On behalf of Optum, I am pleased to offer the following response to the West Virginia Department of Health and Human Resources Medicaid Enterprise Data Solution (EDS) Request for Proposal.

We understand the purpose of the EDS is to primarily support the Medicaid program, and that DHHR intends that the EDS will be expanded to include additional data sources for other DHHR programs and services. Additionally, DHHR is seeking from the EDS a greater range of analytical capabilities. DHHR's vision for EDS is to create and maintain a useful, objective, and comprehensive information database to promote better care, better health, and lower costs for West Virginians.

Optum is a current contractor to DHHR and is the best partner to provide you with this enterprise capability. Optum has been named as the top health care informatics company for the last four years, according to Healthcare Informatics (HCI)[1]. We are responding with our Optum Performance Analytics for Health and Human Services (OPAHHS) platform that will enhance DHHR's ability to use your data to provide analytic insights and enable fact-based decision making to support your programs.

Sincerely,

Amy Shaw, Senior VP, Finance
Optum Government Solutions, Inc.

[1] The *Healthcare Informatics 100* listing provides readers with a unique information resource and financial overview of vendors active in the healthcare IT market. The Healthcare Informatics 100 is published in June.

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Proposal
27 — Miscellaneous

Proc Folder: 489735

Doc Description: Request for Proposal for Medicaid Enterprise Data Solution

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2019-10-09	2020-01-21 13:30:00	CRFP 0511 HHR2000000001	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Optum Government Solutions, Inc.
11000 Optum Circle Eden Prairie, MN 55344
Phone: (888) 445-8745

FOR INFORMATION CONTACT THE BUYER

April E Battle
(304) 558-0067
april.e.battle@wv.gov

Signature X **FEIN #** 04-3574101 **DATE** 2/4/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

ADDITIONAL INFORMATION

The West Virginia Purchasing Division is soliciting proposals for the Department of Health and Human Resources to provide the implementation, maintenance, and operation of a Medicaid Enterprise Data Solution (EDS) that will support various programs administered by DHHR.

Mandatory Pre-Bid Meeting: October 31, 2019, 9:00 AM EST to 11:00 AM EST at One Davis Square, Suite 100E, CR 134.

PLEASE CONTACT APRIL BATTLE, SENIOR BUYER, VIA EMAIL AT APRIL.E.BATTLE@WV.GOV TO REQUEST A COPY OF THE SOLICITATION DOCUMENTS ON CD.*

INVOICE TO	SHIP TO
PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV25301-3709 US	PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV 25301-3709 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Project monitoring and evaluation				

Comm Code	Manufacturer	Specification	Model #
80101606			

Extended Description :

Project monitoring and evaluation

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Pre-Bid Meeting	2019-10-30
2	Questions Due	2019-11-13

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Proposal
27 — Miscellaneous

Proc Folder: 489735
Doc Description: Add#1 Request for Proposal Medicaid Enterprise Data Solution
Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2019-10-11	2020-01-21 13:30:00	CRFP 0511 HHR2000000001	2

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:
Optum Government Solutions, Inc.
11000 Optum Circle Eden Prairie, MN 55344
Phone: (888) 445-8745

FOR INFORMATION CONTACT THE BUYER
April E Battle
(304) 558-0067
april.e.battle@wv.gov

Signature X **FEIN #** 04-3574101 **DATE** 2/4/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

ADDITIONAL INFORMATION:

Addendum #1 is issued to clarify the date of the Mandatory Pre-Bid Meeting:

The Mandatory Pre-Bid Meeting date is: October 30, 2019, 9:00 AM EST to 11:00 AM EST at One Davis Square, Suite 100E, CR 134.

other changes.

PLEASE CONTACT APRIL BATTLE, SENIOR BUYER, VIA EMAIL AT APRIL.E.BATTLE@WV.GOV TO REQUEST A COPY OF THE SOLICITATION DOCUMENTS ON CD.

INVOICE TO	SHIP TO
PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES **BUREAU FOR MEDICAL SERVICES** 350 CAPITOL ST, RM 251 CHARLESTON WV25301-3709 US	PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES **BUREAU FOR MEDICAL SERVICES** 350 CAPITOL ST, RM 251 CHARLESTON WV 25301-3709 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Project monitoring and evaluation				

Comm Code	Manufacturer	Specification	Model #
80101606			

Extended Description :

Project monitoring and evaluation

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Pre-Bid Meeting	2019-10-30
2	Questions Due	2019-11-13

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Proposal
27 — Miscellaneous

Proc Folder: 489735

Doc Description: Addendum No 2 Medicaid Enterprise Data Solutions

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2019-10-21	2020-01-21 13:30:00	CRFP 0511 HHR2000000001	3

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Optum Government Solutions, Inc.
11000 Optum Circle Eden Prairie, MN 55344
Phone: (888) 445-8745

FOR INFORMATION CONTACT THE BUYER

April E Battle
(304) 558-0067
april.e.battle@wv.gov

Signature X

FEIN # 04-3574101

DATE 2/4/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

ADDITIONAL INFORMATION:

Addendum No. 2 is issued to provide the Instructions to Vendors Submitting Bids and the General Terms and Conditions documents for the solicitation.

formation contained in the two (2) attached documents include but not limited to the following -

1. Mandatory pre-meeting date, time and information
2. Technical question date and time
3. Bid opening date and time
4. Contract term
5. License/Certification/permit requirements
6. Insurance requirements

To obtain a CD containing all of the solicitation documents, please contact Senior Buyer April Battle by email at April.E.Battle@wv.gov.

If vendors have already contacted Ms. Battle for a CD for the documentation, the documents contained on this addendum have been provided on the CD.

This addendum was published to provide details of the mandatory pre-bid meeting scheduled for 10/30/2019 at 9:00 am EST located at

WV DHHR
One Davis Square, Suite 100E
Charleston, WV 25301

Please note: The mandatory pre-bid is a MANDATORY ON-SITE MEETING, no teleconference will be permitted.

See attached Instructions to Vendors Submitting Bids and the General Terms and Conditions for more information.

INVOICE TO	SHIP TO
PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV25301-3709 S	PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV 25301-3709 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Project monitoring and evaluation				

Comm Code	Manufacturer	Specification	Model #
80101606			

Extended Description :

Project monitoring and evaluation

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Pre-Bid Meeting	2019-10-30
2	Questions Due	2019-11-13

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Proposal
27 — Miscellaneous

Proc Folder: 489735

Doc Description: Addendum No 3 Medicaid Enterprise Data Solutions

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2019-10-31	2020-01-21 13:30:00	CRFP 0511 HHR2000000001	4

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Optum Government Solutions, Inc.
11000 Optum Circle Eden Prairie, MN 55344
Phone: (888) 445-8745

FOR INFORMATION CONTACT THE BUYER

April E Battle
(304) 558-0067
april.e.battle@wv.gov

Signature X **FEIN #** 04-3574101 **DATE** 2/04/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

ADDITIONAL INFORMATION:

Addendum No. 3 is issued to provide the pre-bid sign-in sheets.

To obtain a CD containing all of the solicitation documents, please contact Senior Buyer April Battle by email at April.E.Battle@wv.gov.

other changes.

INVOICE TO	SHIP TO
PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV25301-3709 US	PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV 25301-3709 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Project monitoring and evaluation				

Comm Code	Manufacturer	Specification	Model #
80101606			

Extended Description :

Project monitoring and evaluation

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Pre-Bid Meeting	2019-10-30
2	Questions Due	2019-11-13

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Proposal
27 — Miscellaneous

Proc Folder: 489735

Doc Description: Addendum No 4 Medicaid Enterprise Data Solutions

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2019-12-10	2020-02-04 13:30:00	CRFP 0511 HHR2000000001	5

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Optum Government Solutions, Inc.
11000 Optum Circle Eden Prairie, MN 55344
Phone: (888) 445-8745

FOR INFORMATION CONTACT THE BUYER

April E Battle
(304) 558-0067
april.e.battle@wv.gov

Signature X **FEIN #** 04-3574101 **DATE** 2/04/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

ADDITIONAL INFORMATION:

Addendum No. 4 is issued:

1) to provide the vendor questions and responses;

   to extend the bid opening date from January 21, 2020, at 1:30 PM EST to February 4, 2020, at 1:30 PM EST;

3) to provide the Vendor Change Log;

4) to provide the clean version of Appendix 1_Detailed Specifications;

5) to provide the clean version of Attachment A_Cost Workbook;

6) to provide the clean version of Attachment F_Mandatory Requirements;

7) to provide the clean version of the EDS RFP; and

8) to provide DOC046_Record Retention Schedule.

No other changes.

INVOICE TO	SHIP TO
PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV25301-3709 US	PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV 25301-3709 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Project monitoring and evaluation				

Comm Code	Manufacturer	Specification	Model #
80101606			

Extended Description :

Project monitoring and evaluation

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Pre-Bid Meeting	2019-10-30
2	Questions Due	2019-11-13

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Proposal
27 — Miscellaneous

Proc Folder: 489735

Doc Description: Addendum No 5 Medicaid Enterprise Data Solutions

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2019-12-23	2020-02-04 13:30:00	CRFP 0511 HHR2000000001	6

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Optum Government Solutions, Inc.
11000 Optum Circle Eden Prairie, MN 55344
Phone: (888) 445-8745

FOR INFORMATION CONTACT THE BUYER

Brittany E Ingraham
(304) 558-2157
brittany.e.ingraham@wv.gov

Signature X **FEIN #** 04-3574101 **DATE** 2/04/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

ADDITIONAL INFORMATION

Addendum No. 5 is issued to change the buyer and contact information for the CRFP.

Contact Information: Brittany Ingraham, Senior Buyer
Email: Brittany.E.Ingraham@wv.gov
Phone number: 304-558-0067

No other changes.

INVOICE TO	SHIP TO
PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV25301-3709 US	PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV 25301-3709 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Project monitoring and evaluation				

Comm Code	Manufacturer	Specification	Model #
80101606			

Extended Description :
Project monitoring and evaluation

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Pre-Bid Meeting	2019-10-30
2	Questions Due	2019-11-13

Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Proposal
27 — Miscellaneous

Proc Folder: 489735

Doc Description: Addendum No 6 Medicaid Enterprise Data Solutions

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2020-01-31	2020-02-11 13:30:00	CRFP 0511 HHR2000000001	7

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Optum Government Solutions, Inc.
11000 Optum Circle Eden Prairie MN, 55344
Phone: (888) 445-8745

FOR INFORMATION CONTACT THE BUYER

Brittany E Ingraham
(304) 558-2157
brittany.e.ingraham@wv.gov

Signature X **FEIN #** 04-3574101 **DATE** 2/11/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

ADDITIONAL INFORMATION:

Addendum No. 6 is issued to:

1. Modify the bid opening date as follows:

opening WAS 02/04/2020 at 1:30 PM ET
id opening IS NOW 02/11/2020 at 1:30 PM ET

2. Publish a revised pricing page due to formula error (attached).

No other changes.

INVOICE TO	SHIP TO
PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV25301-3709 US	PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES BUREAU FOR MEDICAL SERVICES 350 CAPITOL ST, RM 251 CHARLESTON WV 25301-3709 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Project monitoring and evaluation				

Comm Code	Manufacturer	Specification	Model #
80101606			

Extended Description :

Project monitoring and evaluation

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Pre-Bid Meeting	2019-10-30
2	Questions Due	2019-11-13

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Proposal
27 — Miscellaneous

Proc Folder: 489735

Doc Description: Addendum No 7 Medicaid Enterprise Data Solutions

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2020-02-03	2020-02-11 13:30:00	CRFP 0511 HHR2000000001	8

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Optum Government Solutions, Inc.
11000 Optum Circle Eden Prairie, MN 55344
Phone: (888) 445-8745

FOR INFORMATION CONTACT THE BUYER

Brittany E Ingraham
(304) 558-2157
brittany.e.ingraham@wv.gov

Signature X [signature] **FEIN #** 04-3574101 **DATE** 2/11/2020

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

ADDITIONAL INFORMATION:

Addendum No. 7 is issued to:

1. Publish a revised pricing page due to formula error. Revised pricing page is attached as:

achment A_Cost Workbook_Clean_Revised 2-3-20 (Addendum No.07)

2. Bid opening will remain 02/11/2020 at 1:30 PM ET

No other changes.

INVOICE TO	SHIP TO
PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES **BUREAU FOR MEDICAL SERVICES** 350 CAPITOL ST, RM 251 CHARLESTON WV25301-3709 US	PROCUREMENT OFFICER - 304-356-4861 HEALTH AND HUMAN RESOURCES **BUREAU FOR MEDICAL SERVICES** 350 CAPITOL ST, RM 251 CHARLESTON WV 25301-3709 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Project monitoring and evaluation				

Comm Code	Manufacturer	Specification	Model #
80101606			

Extended Description :

Project monitoring and evaluation

HEDULE OF EVENTS

Line	Event	Event Date
1	Pre-Bid Meeting	2019-10-30
2	Questions Due	2019-11-13

REQUEST FOR PROPOSAL

Department of Health and Human Resources, RFP#HHR200000001

ATTACHMENT B: TITLE PAGE, EXECUTIVE SUMMARY, AND SUBCONTRACTOR LETTERS

1. TITLE PAGE

In accordance with ***Section 5 – Vendor Proposal*** of this RFP, the Vendor should include a title page stating the Vendor's intent to bid for this Request for Proposal (RFP). The Vendor's response should include a Title Page; Table of Contents; Executive Summary; and Vendor contact and location information.

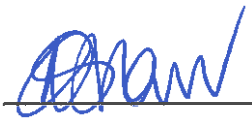
The Vendor should include the following cover letter, signed in blue ink by an authorized signatory legally binding the Vendor and include it in the labeled "Original Proposal."

Provide the following information regarding the person responsible for completing of the Vendor response. This person should also be the person DHHR and Purchasing Division should contact for questions and/or clarifications.

Name	Mike Miller	Phone	508-308-2085
Address	11000 Optum Circle	Fax	304-206-9682
	Eden Prairie, MN 55344	E-mail	mike.miller@optum.com

Subject to acceptance by the State, the Vendor acknowledges that by submitting a response AND signing in the space indicated below, the Vendor is submitting a formal offer to meet the requirements and intent of the RFP.

In addition to providing a signature to ***Section 6.9 – Availability of Information*** in the RFP, failure to sign the Submission Cover Sheet or signing it with a false statement shall void the submitted response or any resulting contracts.



_____ / February 4, 2020

Original signature of Signatory Authorized to Legally Bind the Company / Date

Name (Typed or Printed)	Amy Shaw
Title	Senior VP, Finance
Company Name	Optum Government Solutions, Inc.
Physical Address	11000 Optum Circle Eden Prairie, MN 55344
State of Incorporation	Delaware

REQUEST FOR PROPOSAL

Department of Health and Human Resources, RFP#HHR200000001

ATTACHMENT B: TITLE PAGE, EXECUTIVE SUMMARY, AND SUBCONTRACTOR LETTERS

1. TITLE PAGE

In accordance with ***Section 5 – Vendor Proposal*** of this RFP, the Vendor should include a title page stating the Vendor's intent to bid for this Request for Proposal (RFP). The Vendor's response should include a Title Page; Table of Contents; Executive Summary; and Vendor contact and location information.

The Vendor should include the following cover letter, signed in blue ink by an authorized signatory legally binding the Vendor and include it in the labeled "Original Proposal."

Provide the following information regarding the person responsible for completing of the Vendor response. This person should also be the person DHHR and Purchasing Division should contact for questions and/or clarifications.

Name	Mike Miller	Phone	508-308-2085
Address	11000 Optum Circle	Fax	304-206-9682
	Eden Prairie, MN 55344	E-mail	mike.miller@optum.com

Subject to acceptance by the State, the Vendor acknowledges that by submitting a response AND signing in the space indicated below, the Vendor is submitting a formal offer to meet the requirements and intent of the RFP.

In addition to providing a signature to ***Section 6.9 – Availability of Information*** in the RFP, failure to sign the Submission Cover Sheet or signing it with a false statement shall void the submitted response or any resulting contracts.

/ February 4, 2020

Name (Typed or Printed)	Amy Shaw
Title	Senior VP, Finance
Company Name	Optum Government Solutions, Inc.
Physical Address	11000 Optum Circle
	Eden Prairie, MN 55344
State of Incorporation	Delaware

By signature hereon, the Vendor certifies that:

1. All statements and information prepared and submitted in response to this RFP are current, complete, and accurate.
2. The proposed solution for the Project meets the requirements of this RFP.
3. The Vendor will comply with all federal and state laws, rules, and regulations that are in force currently or anytime during the term of a resulting contract.
4. The Vendor understands that proposal submissions become public and are available for review immediately after opening pursuant to West Virginia Code §5A-3-11(h). All other information associated with the RFP, including but not limited to, technical scores and reasons for disqualification, will not be available until after the contract has been awarded pursuant to West Virginia Code of State Rules §148-1-6.3.d.
5. The company represented here is an authorized dealer in good standing of the products and services included in this response.
6. The Vendor and its principals are eligible to participate in this transaction and have not been subjected to suspension, debarment, or similar ineligibility determined by any federal, state or local governmental entity; are in compliance with the State's statutes and rules relating to procurement; and are not listed on the federal government's terrorism watch list as described in Executive Order 13224. Entities ineligible for federal procurement are listed at **https://www.sam.gov/portal/SAM/#1**.
7. Prior to award, the Vendor affirms it will have all current approvals, licenses, or other qualifications needed to conduct business in West Virginia.

2. VENDOR INFORMATION

Complete the following information regarding the Vendor's information, including: primary contact for any questions pertaining to the Vendor's payment address to which the State should send payments under the Contract, Legal Notice Address to which the State should send legal notices for any potential future agreements, and individuals responsible for the Vendor's response.

2.1 Payment Address

In Table 8, the Vendor should provide the address to which the State should send payments.

Table 1: Payment Information

Payment Information:			
Name:	Whitney Williams	Title:	Officer Treasury Svc Specialist
Address:	PO Box 402842		
City, State and Zip Code:	Atlanta, GA 30384-2842		
Phone:	888-715-1000 EXT 35314		
Email:	dedicatedeastone@bankofamerica.com		

2.2 Legal Notice Address

In Table 9, the Vendor should provide the name, title, and address to which the State should send legal notices.

Table 2: Legal Notice Information

Legal Notice Information			
Name:	Craig Brattebo	Title:	Deputy General Counsel, Optum Government
Address:	11000 Optum Circle		
City, State and Zip Code:	Eden Prairie, MN 55343		
Phone:	952-205-6254	Fax:	952-205-4801
Email:	craig.brattebo@optum.com		

3. Executive Summary

This section should be a brief (three [3] to five [5] page) summary of the key aspects of the Vendor's Technical Proposal. The Executive Summary should include an overview of the Vendor's qualifications, approach to delivering the services described in the RFP; timeframe for delivering the services; proposed team; and advantage of this proposal to the State.

Optum Response:

Overview of Optum Qualifications

Optum supports state Medicaid programs to transform performance through care management, technology, analytics, program and policy consulting. We have implemented and operated over a dozen EDS solutions for state Medicaid programs since 1994.

In 1994, when we first began working with the State of Michigan to build the nation's first Medicaid Enterprise Data Solution (EDS), there were 50 users and three data feeds. The program, since initial implementation, has now grown to more than 10,000 users and over 60 data feeds from different departments. We continue to work with the State to apply new and more advanced analytics that facilitate informed decision-making across all of the State's Health and Human Services (HHS) programs. With our support, Michigan translated its data analysis into significant cost savings and improved outcomes across many programs and service areas. For example, the additional data feeds provided the data and analytics used to increase family reunifications of foster children by 34 percent among temporary court wards. The expanded data sources and analytics also resulted in new procedures implemented by the State to reduce the number of children with lead poisoning by 35 percent.

Over the years, many entities have formally recognized Michigan's innovative approach to maximizing the data and analytic tools within its EDS solution to enable better outcomes. These include:

- The National Governors Association
- The National Association of State Chief Information Officers
- The Data Warehousing Institute
- American Public Human Services Association (APHSA)
- Multiple business and trade publications

Based on our 25 years of working with state Medicaid agencies, we have a deep appreciation of both the goals and challenges you face. Our services include collection, cleansing, aggregation, enhancement, and management of HHS data from a wide range of disparate sources. Optum is the best equipped and experienced partner to support you in realizing your vision for the EDS.

Approach to Delivering Services

The Optum Performance Analytics for Health and Human Services (OPAHHS) solution we are proposing to replace the current DW/DSS will be a useful, objective, and comprehensive solution that will support the West Virginia Department of Health and Human Resources (DHHR) in fulfilling its responsibilities to deliver high-quality services, benefits, and resources and help promote better care, better health, and lower costs for West Virginians.

We will use our knowledge working with the current MMIS contractor and the transition artifacts provided by the current DW/DSS contractor to minimize the time needed by State resources during the implementation phase. We will also leverage our working knowledge of current state PMO processes and deliverable artifacts approved on the West Virginia People's Access to Help (WV PATH) project to drive efficiencies for the EDS deliverables. Figure 1 shows the core services and approach provided by the OPAHHS solution.

Figure 1: Core Services and Approach Provided by the OPAHHS Solution
OPAHHS will provide a set of core technical capabilities and services for the DHHR EDS solution.

Timeframe for Delivering Services

Based on our experience with analytics and EDS solution delivery, we propose a realistic and achievable timeline. Our Work Plan, located in Attachment E, supports a lean iterative execution process that delivers the most critical components of the solution sooner so you can take advantage of available data more quickly.

Our timeline includes a two-phase implementation approach. The Project Monitor, Control, and Governance task group provides project oversight and includes organizational change management and certification support. Phase 1 focuses on implementing the EDS core and data sources. The task groups for Phase 1 include Project Initiation, and Planning; Solution Planning; Solution Design, Testing, and Operations; and Solution Deployment. Phase 1 required deliverables will follow the 10/5/5 cycle. Phase 1 is planned to be complete within twelve months of the contract start date.

The data sources included in Phase 1 are:

- Medicaid Management Information System –(MMIS)
- Public Employees Insurance Agency –(PEIA) (Medical and Pharmacy)
- West Virginia Health Statistics Center (HSC) (Birth and Death)

Phase 2 includes implementation of the Fraud Abuse Detection System (FADS). The task groups for Phase 2 are Project Planning; Solution Planning; Solution Design, Testing, and Operations; and Solution Deployment. Deliverables will be amended in Phase 2 to follow a 5/3/3 cycle. Phase 2 is planned to be complete within six months of completion of Phase 1. Operations (one year in duration) follows Phases 1 and 2. Figure 2 shows our proposed timeline.

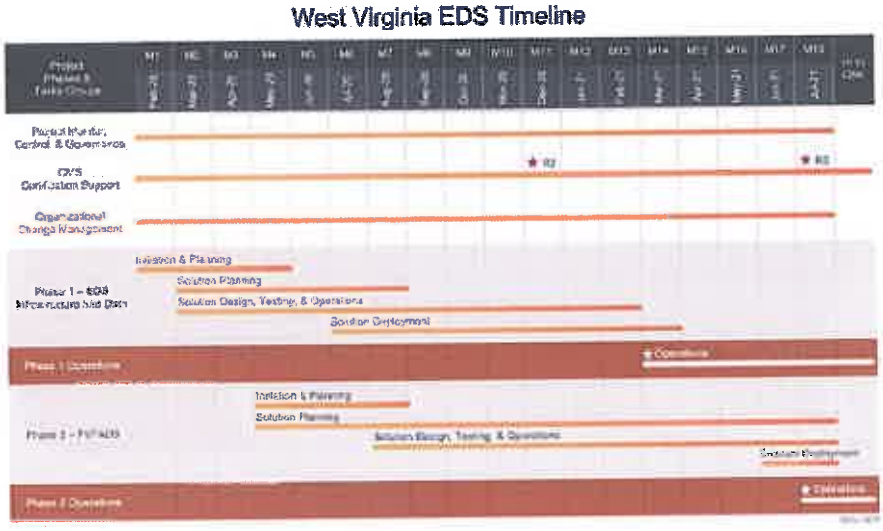


Figure 2: WV EDS Project Phases

The schedule will provide DHHR with access to critical infrastructure of the EDS and data sets at the conclusion of Phase 1, while development and delivery continues on FADS components during Phase 2. This approach will allow DHHR to take advantage of the data analytics and EDS before the additional FADS components are complete.

Data Diversification and future Roadmap

Optum has demonstrated expertise in incorporating multiple HHS program and commercial health care data sets into an integrated environment. Achieving this will provide DHHR an across-the-board perspective of multi-program service use and costs and a 360-degree view of individual beneficiaries, helping DHHR gauge success and plan accordingly. We can help DHHR continue to prioritize and integrate your data sets over time consistent with the privacy, security and access guidelines you require. Linking diverse data sets better equips DHHR to take a fact-based approach to identifying opportunities to improve services, financial accountability, and client and stakeholder engagement.

Proposed Team

Our key personnel have over 100 years of combined experience directly transferable to their project roles. They already know how to meet your needs and those of your Medicaid members and stakeholders. Our professionals understand the various Medicaid, health and human services (HHS), and social determinants of health data sets across state government. They know how to use this data now and in the future to provide DHHR with the greatest value and benefit for your members.

We will also draw on knowledge gained from our successful projects in some of the most complex Medicaid and HHS EDS environments in the country. This includes the states of Arkansas, California, Michigan, Illinois, Indiana, New Jersey, New York, Minnesota, and the Commonwealth of Virginia.

While skilled leaders are vital for project success, we also recognize the importance of engaging staff with strong personal connections to West Virginia and knowledge of DHHR to reduce DHHR resource burden for the EDS project. With this in mind, five of our eight key personnel positions have experience supporting projects for DHHR:

- **Account Manager Steve Grimshaw** is a certified PMP and Certified Scrum Master (CSM) with more than 35 years of information technology (IT) experience. This includes more than 31 years of Medicaid systems implementation experience and more than 30 years of project management and leadership experience with large-scale Medicaid projects. These include EDS engagements for the States of California, New Jersey, and Arkansas, as well as the West Virginia integrated eligibility system and the Montana MMIS provider services projects.
- **Project Manager Tami Mette** is a certified PMP and CSM with more than 15 years of project management experience, including 10 years of Medicaid and health care experience. As a director of technology program and project management for Optum, Ms. Mette leads engagements for next-generation applications and components. Her past work supporting DHHR included initiating the modernization of the provider management solution and managing the WV CHIP integration into the core West Virginia MMIS solution.
- **Business Lead Abhishek Kumar** is a certified PMP who leads requirements management activities for state government clients. He has worked closely with states including New York, North Carolina, and North Dakota. Mr. Kumar has a specialized focus on Medicare and Medicaid plans, MMIS, CHIP, the Supplemental Nutrition Assistance Program (SNAP), and Temporary Assistance for Needy Families (TANF).
- **Technical Lead Jack Swearingen** is a lead architect with 29 years of experience in EDSs and operational decision support, including 17 years of health care IT experience and 11 years of Medicaid experience. He has substantial experience serving as the principal architect for full life cycle of development projects for EDS solutions, data marts, and operational data stores. In his current role with Optum, Mr. Swearingen leads the design, development, and implementation (DDI) for the New York All Payer Database. The database integrates claims across Medicaid, Medicare, Employee Benefits program, commercial insurance, and the NYS Health Exchange.
- **Implementation/Operations Manager Raghu Mekala** is a certified PMP and West Virginia resident who manages projects according to the Project Management Institute (PMI) Project Management Institute Book of Knowledge (PMBOK). He has over 20 years of enterprise IT experience with a focus on requirements elicitation and management, systems and business analysis, design, development, implementation, operational support, and service level management. This includes more than 15 years of application M&O experience and 17 years of experience consulting with DHHR, including serving as the operations leader for WV RAPIDS.
- **Certification Lead Brandy Spaulding** is a long-time West Virginia resident worked 10 years for DHHR. She managed regulatory compliance of the statewide Managed Care (MCO) program for the West Virginia Medicaid Program and participated in the implementation and certification of the MMIS. Ms. Spaulding is thoroughly familiar with MECT and the Medicaid Enterprise Certification Lifecycle (MECL). As a member of the Optum certification leadership team, Ms. Spaulding works with the State PMO to achieve desired certification outcomes.
- **Quality Assurance Manager Sid Niaz** is a quality assurance (QA) manager and CSM with nearly 15 years of leadership experience in QA and testing for domains that include health care. As a Six Sigma Yellow Belt, he applies Six Sigma methodology to projects with a focus on continuous process improvement. Mr. Niaz uses his knowledge of the Software Development Life Cycle (SDLC) and project management methodologies to deliver flexible solutions. As a senior QA manager for Grant Thornton, he oversees QA and quality control (QC) for the U.S. Department of Veterans Affairs project.

We will also provide experienced **Testing Manager, Information Security Architect and Compliance Officer, and Documentation Management Lead**. Our Implementation Manager

will transition to Operations Manager after implementation and our Security Architect will transition to our Compliance Officer during operations. This will provide additional delivery team continuity for the EDS solution.

Advantages to DHHR and BMS

The OPAHHS solution is a modular, highly integrated, and configurable solution based on commercial-off-the-shelf (COTS) products that meet your objective of procuring a scalable, extensible EDS module. OPAHHS is an integrated COTS solution with a library of pre-built analytics that save you time and money. It provides self-service capabilities for DHHR-specific analytic queries and reports. OPAHHS brings disparate data together using standard integration processes and tools to serve as a single source of truth for improved data governance, management, and analytic capabilities. This solution will deliver advantages to DHHR based on your stated CMS Implementation Advanced Planning Document (IAPD) objectives through the following features.

Enterprise Integration and Modernization: OPAHHS supports multiple programs and accepts data from multiple sources. Automated processes are in place to receive data from other State contractors including Medicaid claims data sent by their fiscal agent, Employee Benefits Program, and Birth and Death records. In West Virginia, Optum already receives files from the MMIS for integrated eligibility reporting. Our understanding of this data is a benefit of Optum, and will help reduce EDS implementation risk. We will use our experience in EDS operations to provide DHHR a data diversification roadmap that will deliver extensive enterprise value over time.

Increased Shared Use: The EDS provides a shared data and analytics environment across DHHR that will allow for consolidation of the currently disparate databases. This means DHHR will have the opportunity to consolidate current reporting from the other platforms and systems in the DHHR enterprise.

Improved Analytics and Reporting Capability: Tableau, a data visualization and reporting tool currently used by DHHR, provides visualization capabilities that advance user self-service. The R and RStudio analytic tools and other included data science tools provide extensive analytic capabilities that include a wide variety of smoothing algorithms. These use past experience to create a future forecast. Additionally, these tools will provide you the capability to identify potential candidates for your care management programs. The combined analytic and reporting capabilities of OPAHHS will help establish and maintain user confidence in DHHR health data analytic capabilities, reporting, and services.

Common Governance Structure: We will leverage governance and change control processes and artifacts that we are operationalizing with the State PMO for the DHHR PATH project. This will drive consistency and quality in the governance and change management process.

Enhanced Program Management: Optum will establish and maintain an EDS that is representative of all data sources required to support the promotion of better care, better health, and lower costs for West Virginians.

MITA framework and the CMS Standards and Conditions will be used throughout the project as a guide to the EDS implementation. Our 25 year long Michigan data warehouse project demonstrates our ability to deliver a flexible and sustainable platform. Since the inception of MITA, our team has deployed modifications to our Design, Development, and Implementation (DDI) approach and introduced technology enhancements to maintain compliance throughout each of the MITA maturity levels. Over the past decade, our collaboration with CMS helped to transform the MITA vision into a reality.

4. SUBCONTRACTOR LETTERS

For each proposed subcontractor, the Vendor should attach to ***Attachment B: Title Page, Executive Summary, and Subcontractor Letters***, a letter from the subcontractor, signed in ink by an authorized signatory legally binding the subcontractor, which includes the following information:

- The subcontractor's legal status, federal tax identification number, D-U-N-S number, and principal place of business address.
- The name, phone number, fax number, email address, and mailing address of a person who is authorized to legally bind the subcontractor to contractual obligations.
- A description of the work the subcontractor will perform.
- A statement of the subcontractor's commitment to perform the work if the Vendor is selected.
- A statement that the subcontractor has read and understands the RFP, and will comply with the requirements of the RFP.
- A statement that the subcontract will maintain any permits, licenses, and certifications requirements to perform its portion of the work.

Optum Response: Please find the subcontractor letter on the following page.

January 8, 2020
RE: Subcontractor Letter
State of West Virginia, Department of Health and Human Resources (DHHR)
Medicaid Enterprise Data Solution (EDS)
RFP# HHR200000001

To Whom It May Concern,

TEKsystems is pleased to serve as a subcontractor to Optum in their bid to provide the EDS for the State of West Virginia.

We are providing the following information and statements as required by section 4, Subcontractor Letters, from RFP Attachment B: Title Page, Executive Summary, and Subcontractor Letters.

- **Company name:** TEKsystems, Inc.
- **Legal status:** S corporation
- **Federal tax identification number:** 52-2010575
- **D-U-N-S number:** 96-576-2909
- **Principal place of business address:** 7437 Race Road, Hanover, MD 21076
- **Person authorized to legally bind TEKsystems to contractual obligations:**

  Name, Title: Christopher Garman, Senior Manager of Operations
  Phone: 410-540-3367
  Fax: 410-540-3120
  Emails: cgarman@TEKsystems.com
  Address: 7437 Race Road, Hanover, MD 21076
- **Description of the work TEKsystems will perform:** TEKsystems will provide business and technical staff for this contract.

TEKsystems is committed to perform the work if Optum is selected. TEKsystems has read and understands the RFP and will comply with the RFP requirements. TEKsystems will maintain any permits, licenses, and certification requirements to perform our portion of the work.

Sincerely,

Matthew Galante, Account Lead

TEKsystems
Our people make IT possible.

January 8, 2020
RE: Subcontractor Letter
State of West Virginia, Department of Health and Human Resources (DHHR)
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- **Principal place of business address:** 7437 Race Road, Hanover, MD 21076
- **Person authorized to legally bind TEKsystems to contractual obligations:**

  Name, Title: Christopher Garman, Senior Manager of Operations

  Phone: 410-540-3367

  Fax: 410-540-3120

  Emails: cgarman@TEKsystems.com

  Address: 7437 Race Road, Hanover, MD 21076
- **Description of the work TEKsystems will perform:** TEKsystems will provide business and technical staff for this contract.

TEKsystems is committed to perform the work if Optum is selected. TEKsystems has read and understands the RFP and will comply with the RFP requirements. TEKsystems will maintain any permits, licenses, and certification requirements to perform our portion of the work.

Sincerely,

Matthew Galante, Account Lead

5. TABLE OF CONTENTS

This section should contain a table of contents. The table of contents should include all parts of the proposal, including response forms, and attachments, identified by section and page number. The table of contents should include a Table of Tables and Table of Figures, etc.

Table of Figures

Table of Tables

ATTACHMENT C: VENDOR QUALIFICATIONS & EXPERIENCE

1. ORGANIZATION OVERVIEW

This section of the Vendor's Technical Proposal should include details of the Vendor and subcontractor overview. The Vendor's Technical Proposal should include: organization overview, corporate background, Vendor's experience in public sector, and certifications.

1.1 Vendor Overview

Provide all relevant information regarding the general profile of the Vendor.

Optum Response:

Optum Organization Overview

Optum is committed to helping people live healthier lives and modernizing the delivery of care. This requires great capabilities, expertise, and people dedicated to making a difference. It also requires a culture that helps us build relationships and do our best work for the people we serve. Figure 3 shows how our corporate values of integrity, compassion, relationships, innovation, and performance are the foundation for us to establish and maintain long-term, trusted relationships with the West Virginia Department of Health and Human Resources (DHHR) and your stakeholders.

Figure 3: Optum Organization
Our corporate values are the foundation for us to build and maintain long-term, trusted relationships with DHHR.

Optum Corporate Background

Our mission is to help make the health system work better for everyone. We are a single, integrated health services company with 25 years of experience solving the biggest and the most complex challenges facing health care. Our employees connect and serve the entire health system: those who provide care, pay for care, and most importantly, need care. We know services are best delivered locally. Our health care analytic experience will provide DHHR with a partner who will continue to invest in solutions serving individuals seeking health care for decades to come. Figure 4 shows the customers we serve.

Figure 4: Optum Customers Served within the Health System
Our solutions serve the entire health care system, turning data into insight and making the health care system work better for everyone.

As a leading health care services company, we are dedicated to making the health system work better for everyone. This mission drives us to invest in the talent, innovation, and capabilities to deliver complex, yet vital projects like yours. Our solutions help states manage programs and services for half of the total U.S. Medicaid population. This includes:

- Mobilizing public and private sector collaboration to identify and solve health-related problems
- Developing policies and programs that support individual and community needs
- Linking individuals to critical health and care management services

Our clients include more than 100,000 physicians, 70,000 pharmacies, four out of five U.S. hospitals, 300 commercial health plans, and 47 state Medicaid agencies, including the District of Columbia. States rely on our technology solutions, clinical expertise, policy knowledge, and commitment to research to improve the lives of their residents. We invest nearly $3.5 billion annually to advance technology and innovation. These advancements include Medicaid modernization, artificial intelligence, and targeted programs to battle chronic conditions and epidemics, such as substance use disorders. For example, we have invested in more than 50 artificial intelligence health care use cases that are part of our proposed Optum Performance Analytics for Health and Human Services (OPAHHS) platform. This investment in innovation will benefit DHHR and the communities you serve.

Optum Experience in Public Sector

Optum has a long history serving multiple federal agencies and state Medicaid and Health and Human Services (HHS) agencies to improve health outcomes and reduce costs. For state governments in particular, Optum supports programs to transform performance through care management, technology and analytics, program and policy consulting, and broad health care operations.

Our experience, capabilities, and commitment to state government programs led us to develop a services platform to help agencies streamline program administration with a modular solution. Figure 5 shows the components of the Optum Health Services Platform.

Figure 5: Optum Health Service Platform
Our platform provides modular capabilities that we can implement individually or in combination to improve HHS program operations.

DHHR is seeking an integrated, modular EDS that promotes modernization, shared use, improved analytics and reporting, and long-term stability and performance. Based on our 25 years of working with state Medicaid agencies, we have a deep appreciation of your goals and the challenges you face in meeting them. Optum is the best choice for you to realize your vision for the EDS. We have the state government enterprise analytic and health care technology expertise to help guide your business transformation, including a smart and practical roadmap to reach the goals you envisioned during your data visioning project. Figure 6 shows the state government experience we have with the Optum Health Services Platform.

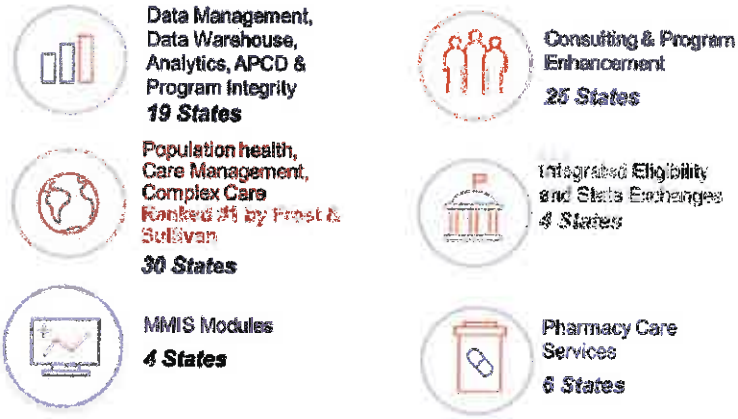

Figure 6: Optum Health Services Platform Public Sector Experience
We work with 46 states and the District of Columbia to provide a broad range of capabilities for state governments.

Not only do we deliver on our commitments—we partner with our state clients to make sure the data they receive is actionable and enables measureable outcomes. With nine current state Medicaid enterprise data solutions, our services include collection, cleansing, aggregation, enhancement, and management of HHS data from a wide range of disparate sources. New York and Wisconsin are All Payer Database (APD) projects. Figure 7 represents our state government EDS projects.

Figure 7: Optum State Government EDS Projects
Our project experience is similar to the size and scope to your project.

Optum has maintained a 100 percent proven record of delivering EDS and analytics projects of similar size and scope to yours, on time and within budget. No other company can make that claim. Our implementation history is a testament to our proven project and data management protocols and our ability to successfully deliver and operate our proposed solution for DHHR.

Optum Certifications

We have successfully achieved Centers for Medicare and Medicaid Services (CMS) certification on time, the first time, in every implementation where certification has been required. Our team has a thorough working understanding of the current Medicaid Enterprise Certification Toolkit (MECT). We understand how it is applied to the assessment of enterprise data solutions and associated applications. We have been involved with the MECT Checklist process from the time it was originally released in 2007. Since that time, Optum has helped several states receive successful certification. Our EDS and Fraud and Abuse Detection System (FADS)/Program Integrity modules have all received certification, retroactive to day one. This has allowed each state to receive the full Federal Financial Participation amount available.

FADS has been certified by CMS in six states: Georgia, Mississippi, Washington, New Hampshire, District of Columbia, and most recently Arkansas in 2018. Certifications are in process for California and Virginia. We successfully certified the Arkansas Medicaid Enterprise (AME) Data Warehouse and the South Dakota Pharmacy modules under MECT 2.2 and 2.3. We are currently engaged in MECL and MECT 2.3 activities for our Montana Provider Services, South Carolina Administrative Services Organization, Tennessee Pharmacy, Virginia Decision Support System, and California FADS.

Our West Virginia certification team is currently working on the West Virginia People's Access to Help (WV PATH) project implementation. The project has been accepted into the CMS Outcomes Based Certification pilot program. The WV PATH system will be one of the first to be certified by CMS under the new guidelines. The West Virginia certification team is also working with the Food and Nutrition Service and the Administration for Children and Families to certify the WV PATH system.

Our team members were selected to serve on the Medicaid Technology Alliance group for their input on the concept of Outcomes Based Certification. We continue to stay at the forefront of evolving CMS guidelines and certification requirements to make sure our clients are successfully certified using the most current and efficient processes.

Vendors are NOT to change any of the pre-filled cells in the following tables.

Table 3: Vendor Overview

Vendor Overview	
Company Name	Optum Government Solutions, Inc. (Optum)
Name of Parent Company (If Applicable)	UnitedHealth Group, Inc.
Industry (North American Industry Classification System [NAICS])	524114
Type of Legal Entity	C Corporation
Company Ownership (e.g., Private/Public, Joint Venture)	Public
Number of Full-Time Employees	More than 181,000 for Optum 851 for Optum Government Solutions
Last Fiscal Year Company Revenue	$437,619,653 for Optum $136,038,895 for Optum Government Solutions in 2018
Last Fiscal Year Company Net Income	$36,095,666 for Optum Government Solutions in 2018
% of Revenue From State and Local Government Clients in the United States	100 percent
% of Revenue From IT Design and Implementation Services	84 percent
Number of Years in Business	25 years
Number of Years Vendor has been Providing the Type of Services Specified in the RFP	25 years
Number of Employees Providing the Type of Services Specified in the RFP	82 percent
Headquarters in the United States	Eden Prairie, Minnesota
Locations in the United States	Across our corporate enterprise, we have 339 locations in the United States. We have two offices in West Virginia including our office at 700 E. Washington Street in Charleston. We also have 32 MedExpress locations in West Virginia. Our locations include the following: • Optum State Government data warehousing location, Hoover, AL

Vendor Overview	
	• Optum State Government data warehousing location, Little Rock, AR • Optum State Government operations location, San Francisco, CA • Optum State Government data warehousing location, Sacramento, CA • Optum State Government operations location, Santa Ana, CA • Optum State Government data warehousing location, Rocky Hill, CT • Optum State Government data warehousing location, Atlanta, GA • Optum State Government data warehousing location, Indianapolis, IN • Optum State Government data warehousing location, Boston, MA • Optum State Government data warehousing location, Waltham, MA • Optum State Government data warehousing location, Lansing, MI • Optum State Government operations location, Minnetonka, MN • Optum State Government operations location, Eden Prairie, MN • Optum State Government sales location, Eden Prairie, MN • Optum State Government operations location, Eden Prairie, MN • Optum State Government operations location, Helena, MT • Optum State Government operations location, Helena, MT • Optum State Government data warehousing location, Hamilton, NJ • Optum State Government data warehousing location, Latham, NY • Optum State Government operations location, Horsham, PA • Optum State Government location, Columbia, SC • Optum State Government data warehousing location, Knoxville, TN • Optum State Government data warehousing location, Richmond, VA • Optum State Government operations location, Winooski, VT

Vendor Overview	
	• Optum State Government operations location, Eau Claire, WI • Optum State Government location, Charleston, WV

1.2 Subcontractor Overview (if applicable)

If the proposal includes the use of Subcontractor(s), provide all relevant information regarding the profile of each Subcontractor. This section may be duplicated in its entirety and a page created per Subcontractor included.

Optum Response:

TEKsystems Organization Overview

Optum has worked with TEKsystems for over five years on other EDS projects including Michigan, Indiana, New York, Virginia, and the WVPATH project.

TEKsystems specializes in the following service offerings:

- **IT Talent Services**: Complement and enhance DHHR in-house skills and capabilities
- **Full-stack Technology Services**: Achieve DHHR's business outcomes through a managed, project-based, or outsourced model

TEKsystems service models are highly customizable to fit DHHR's needs. TEKsystems can provide varying levels of support, from staff augmentation all the way through a completely outsourced solution. The following sections offer a more robust description of their services.

IT Talent Services

The contract labor positions TEKsystems IT Talent Services span the full spectrum of IT needs:

- **Applications:** Support all stages of the applications lifecycle including analysis, design, development, testing, implementation, and maintenance. Skill sets include business analysis, business intelligence, customer relationship management, data warehousing, and enterprise resource planning. Each year, 700 applications-aligned recruiters place over 23,000 consultants worldwide.
- **Digital:** Strengthen and execute your brand strategy while fostering customer relationships across multiple user-interfaces and technologies. With these skills in high demand and short supply, TEKsystems uses their specialized focus on the digital and creative services market to deliver IT consultants with expertise in digital marketing, coding, design, SEO, and social media. Each year, 200 digital-aligned recruiters place over 10,000 consultants worldwide.
- **Dynamic workplace services:** Provide desktop support and help desk operations. With the TEKsystems specialized focus on the end-user support market, TEKsystems delivers IT professionals with expertise in operating system, ticketing system, remote control, VPN, and mobile technologies. Each year, 550 end-user services-aligned recruiters place over 17,000 consultants worldwide.
- **Infrastructure optimization:** Plan, build, and run your network, data center, security operations, and project management offices. Skill sets include cloud computing, data center optimization and virtualization, and network and security monitoring. Each year, 600 infrastructure optimization-aligned recruiters place over 20,000 consultants worldwide.
- **Communications:** Support installations, moves, adds, and changes. TEKsystems uses their specialized focus on the communications market to deliver people with experience in

installations, testing, and project planning. Each year, 350 communications-aligned recruiters place over 8,000 consultants worldwide.

Full-stack Technology Services

Optum and the Department can rely on TEKsystems for services that build upon their talent strengths and extend the value of TEKsystems to help you achieve business targets. TEKsystems has leveraged their unique perspective within their clients' organizations and the massive consultant network of TEKsystems to design IT services that work where it matters most: in practice.

- **Cloud enablement:** TEKsystems has deep experience in cloud and beyond, from applications to networks to security.
- **Data analytics and insight:** Uniting real-world experience and subject matter expertise to monetize and maximize your data.
- **DevOps and automation:** A hands-on approach to evolving your organization and talent alongside your technology.
- **Digital experience:** Fuel your digital journey with leading-edge technology, advice, and talent—from data insights to design thinking to DevOps—to create compelling user experiences that deliver and delight.
- **Enterprise applications:** With deep subject matter expertise, state-of-the-art delivery centers, and an arsenal of innovative tools, you can have confidence in the ability of TEKsystems to deploy, optimize, and support your enterprise apps.
- **Risk and security:** TEKsystems will help you redefine security processes and improve your capabilities beyond technology so you can focus on maximizing profits.
- **Technology operations:** The TEKsystems expertise in enterprise service management helps you calibrate your IT operations to your business goals so they work in harmony.
- **Telecom design, implementation, and operations:** TEKsystems will help you on your journey to modernize and densify your network infrastructure at the ferocious pace of change.

TEKsystems Corporate Background

TEKsystems began in 1983 as part of Aerotek, a company that offered staffing and consulting services, based on a commitment to meeting client needs—no matter how challenging or complex. Through the remainder of the 1980s, Aerotek developed several subsidiaries that expanded its service offerings to include technical staffing, in addition to aeronautics, engineering, and light industrial staffing. TEKsystems emerged from Aerotek in 1997 to focus on technical staffing and more advanced service solutions.

TEKsystems is a privately owned S corporation, incorporated in the State of Maryland, with over 100 non-franchised offices across North America, Europe, and Asia. TEKsystems makes more than 80,000 annual IT placements to over 6,000 clients, with 2018 revenue of $4.6 billion.

TEKsystems Experience in Public Sector

TEKsystems maintains a formal State and Local Government Services practice as one of their five industry specialties. The 37-year history of TEKsystems maintains a formal State and Local Government Services practice as one of their five industry specialties. Their 37-year history of supporting top initiatives across agencies positions TEKsystems to help state and local governments achieve their missions. TEKsystems has provided high-quality IT consultants to local government entities with structures and initiatives similar to DHHR. Over the past year,

TEKsystems deployed nearly 5,000 government IT consultants across 42 state governments and more than 150 municipal governments.

Examples of the TEKsystems state and local government capabilities include their involvement in the following initiatives:

- HHS initiatives for effective and secure system interface deployment that allows providers, hospitals, public health departments, and state agencies to implement respective services
- Data center consolidation and modernization initiatives to simplify and streamline operations while supporting hardware and software assets
- Transportation initiatives to improve safety and reduce vehicle wear, transportation times, and fuel consumption
- Public safety initiatives to securely share information while meeting standards for interoperability and data exchange
- Education initiatives to permit the generation and use of accurate and timely data, facilitate informed analytics and decision making, improve student academic achievement, and support education accountability systems

TEKsystems Certifications

Within the TEKsystems full-stack technology practice, they hold the certifications shown in the following table:

Solution Center Location	Standard
Dallas #1	ISO 27001:2013
Dallas #2	ISO 27001:2013
Montreal	ISO 27001:2013
Bangalore	ISO 27001:2013
Hyderabad	ISO 27001:2013

The Vendor is NOT to change any of the pre-filled cells in the following tables.

Table 4: Subcontractor Overview

Subcontractor Overview	
Company Name	TEKsystems, Inc.
Name of Parent Company (if applicable)	Allegis Group Holdings
Industry North American Industry Classification System (NAICS)	561320
Type of Legal Entity	S Corporation
Company Ownership (e.g., Private/Public, Joint Venture)	Private
Number of Full-Time Employees	5,000

Subcontractor Overview	
Last Fiscal Year Company Revenue	Over $5 billion
Last Fiscal Year Company Net Income	$4.6 billion in 2018
% of Revenue From State and Local Government Clients in the United States	10 percent
% of Revenue From IT Design and Implementation Services	8 percent
Number of Years in Business	37
Number of Years Vendor Has Been Providing the Type of Services Specified in the RFP	37
Number of Employees Providing the Type of Services Specified in the RFP	Over 32,000 active consultants performing IT staffing services.
Headquarters in the United States	Hanover, MD
Locations in the United States	100 locations across the U.S. and Canada

2. MANDATORY QUALIFICATIONS

This section details the mandatory qualifications, the Vendor must complete this section to demonstrate that it has the experience needed to meet requirements set forth in this RFP. The table below lists each mandatory qualification, the Vendor must note whether it meets the qualification and provide narrative demonstrating fulfillment of the requirement. The Vendor must list each project experience separately and completely every time it is referenced.

Table 5: Mandatory Qualifications

Mandatory Qualification Item(s)	Vendor Meets?		Provide A Brief Narrative To Demonstrate Fulfillment Of Requirement
The Vendor must demonstrate experience within the last three (3) years as the prime contractor for at least three (3) federal, state, local government or private healthcare entities where a Medicaid Enterprise DW is currently being or has been implemented.	YES		Within the last three years, Optum has served as the prime contractor to implement and operate Medicaid EDWs for state government clients. These projects have occurred in some of the most complex Medicaid and HHS enterprise EDW environments in the country. Our OPAHHS clients are Arkansas, California, Michigan, Illinois, Indiana,

Mandatory Qualification Item(s)	Vendor Meets?		Provide A Brief Narrative To Demonstrate Fulfillment Of Requirement
			New Jersey, New York, Minnesota, and the Commonwealth of Virginia.
The Vendor must demonstrate at least three (3) years' experience in Medicaid and Health and Human Services.	YES		We have 25 years of Medicaid and HHS experience, beginning with our flagship contract with Michigan in 1994, the nation's first Medicaid EDW and BI solution. The initial solution had only a few State data sources and served a limited functional base when implemented. Today, the solution is an EDS with more than 10,000 users spanning nine major departments, 20 agencies, and more than 100 bureaus, integrating more than 60 data sets. Our solution and services for DHHR will provide the same high level of performance.
The Vendor must include at least three (3) references from projects performed within the last three (3) years that demonstrate the Vendor's ability to perform the scope of work described in the RFP. Vendors may only use one (1) reference per project performed. The State strongly prefers three (3) references from different state engagements where a Medicaid Enterprise DW is currently being or has been implemented. Please note, because this item is a mandatory requirement, it will not be scorable.	YES		We are providing three references for Medicaid EDW work we have performed within the last three years to demonstrate our ability to perform your scope of work. The EDS projects are the Virginia Enterprise Data Warehouse Solution, the Arkansas Medicaid Decision Support System (DSS)/EDW, and the Indiana EDS/DSS Business Intelligence (BI) Solution.
The Vendor must have at least three (3) years' experience in operation of a Medicaid Enterprise DW similar to the State's in compliance with all Federal and State regulations.	YES		Optum has a 25-year history of operating our proposed Medicaid EDW solution for state government clients including Medicaid DW solutions for Arkansas, Indiana and Michigan. Our history has given us substantial experience across multiple state engagements in implementation activities, operations, project management activities, CMS Medicaid Enterprise Certification,

Mandatory Qualification Item(s)	Vendor Meets?		Provide A Brief Narrative To Demonstrate Fulfillment Of Requirement
			knowledge of MMIS, CMS Conditions and Standards, MITA, and MECT checklists, Health Care Exchanges, and supporting the transition from a legacy MMIS or health care system to modern, modular systems. CMS has recognized Optum for our certification best practices related to our FADS solution, which is part of our EDW suite of offerings. For each project, we comply with all state and federal regulations and standards. For example, our security methodology for OPAHHS includes compliance with NIST, the information system standards for federal agency security controls. We built OPAHHS to comply with NIST because it encompasses widely recognized standards and best practices across industries for stringent security measures.

3. Existing Business Relationships with the State

Describe any existing or recent (within the last five [5] years) business relationships the Vendor or any of its affiliates or proposed Subcontractors have with the State, the State's counties, and/or the State's local municipalities.

Optum Response:

Optum Business Relationships with the State

We are proud of our extensive business presence and involvement in West Virginia. More than 400 State residents work for Optum and our parent organization, UnitedHealth Group. Optum and our affiliates have engaged in the following business relationships with the State in the past five years.

Recipient Automated Payment and Information Data System Integrated Eligibility Services (RAPIDS IES): Optum currently supports West Virginia through the RAPIDS IES project and the People's Access to Help (PATH) project, the integrated eligibility project to modernize RAPIDS, OSCAR, and FACTS. Since January 2016, Optum has served as the maintenance and operations (M&O) vendor for RAPIDS. During that time, we have supported DHHR with standard M&O services and initiatives that drive cost-savings and efficiencies. These include implementing no-touch or low-touch Medicaid eligibility, Able Bodied Adults without Dependents (ABAWD) for Supplemental Nutrition Assistance Program (SNAP) benefits,

and quick deployment of disaster SNAP during devastating flooding in the State. Optum also worked with DHHR to enhance the Child Welfare System, including implementing screens that facilitate the Family First initiative.

Medicaid Managed Care Administration: The Lewin Group, an Optum company, has helped West Virginia administer the State's Medicaid program for more than 15 years. Lewin facilitates readiness reviews, rate setting, contract development, network adequacy reviews, and other activities related to administering managed care entities for DHHR. Lewin also provides an opioid module that leverages claims data and other sources to detect opioid abuse among citizens, providers, and pharmacies. The module also supports early intervention and treatment. Lewin designed the Upper Payment Limit (UPL) strategy, a complex approach that supported DHHR in shifting UPL funds from the fee-for-service (FFS) delivery system to managed care. This initiative represented a groundbreaking approach that required substantial engagement with CMS, stakeholders that included the West Virginia Hospital Association, and managed care organizations (MCOs). Lewin also supported the DHHR effort to drive cost savings through a pharmacy carve-out by providing subject matter experts from OptumRx and actuarial services to demonstrate the proof of concept. Based on these efforts, the WVDHHR achieved critical acclaim among its peers for making difficult decisions that reduced expenses while maintaining effective pharmacy benefits for residents.

MedExpress: Through Urgent Care MSO, LLC, the wholly owned management services organization and Optum subsidiary headquartered in Morgantown, we provide administrative support to MedExpress. MedExpress is a neighborhood urgent care medical center with 324 locations in West Virginia. Centers are open 12 hours a day, 7 days a week to meet customers' urgent care needs. MedExpress has an office and more than 100 employees in West Virginia.

United Medical Resources (UMR): UMR is UnitedHealthcare's third-party administrator (TPA) solution, the largest TPA in the nation. UMR has more than 65 years of experience listening to and answering the needs of clients with self-funded employee benefits plans. In 2019, UMR was awarded an opportunity to provide TPA services for the West Virginia Public Employees Insurance Agency (PEIA). UMR employs more than 100 West Virginia residents at its Charleston facility and is co-located with Optum.

Optum NurseLine: UnitedHealth Group chose Charleston as a hub for our national nurse advice line service. More than 30 registered nurses in the Charleston location provide health and wellness advice 24 hours a day, 7 days a week to Medicare Secure Horizons members and Medicaid enrollees around the country.

Investing in West Virginia Communities: We recently invested more than $1.5 million to lease and upgrade Optum office space in Charleston. We also prioritize using local staff and local staffing firms, where possible, for our engagements. Our local employees and those who regularly travel to the State contribute millions of dollars to the local economy annually. UnitedHealth Group's annual investment in West Virginia is over $33 million. The United Health Group Foundation was proud to provide $500,000 to help Launch Homes in West Virginia rebuild homes and communities affected by flooding. We will continue our commitment to West Virginia communities as your EDS vendor.

TEKsystems Business Relationships with the State

TEKsystems does not have business relationships with the State.

4. Business Disputes

Provide details of any disciplinary actions and denote any that are pending litigation or Terminated for Cause or Convenience and associated reasons. Also denote any other administrative actions taken by any jurisdiction or person against the Vendor. List and summarize all judicial or administrative proceedings involving your sourcing activities, claims of unlawful employment discrimination, and anti-trust suits in which you have been a party within the last five (5) years. If the Vendor is a subsidiary, submit information for all parent companies. If Vendor uses Subcontractors, associated companies, or consultants that will be involved in any phase of this project, each of these entities will submit this information as part of the response.

Optum Response:

Optum Business Disputes

The Vendor, Optum Government Solutions, Inc., who will be providing resources under the contract resulting from this RFP:

1. Is not subject to any disciplinary action or pending litigation
2. Is not subject to any administrative actions taken by an jurisdiction or person
3. Has not been involved in any judicial proceedings involving its sourcing activities, employment discrimination or anti-trust suits within the last five years

The Vendor's parent companies, including OptumInsight, Inc., OptumInsight Holdings, LLC, Optum, Inc., UnitedHealth Care Services, Inc. and UnitedHealth Group, Incorporated (UHG) are larger legal entities with either separate businesses offering separate solutions and products from the enterprise data warehouse solution offered in response to this RFP or are holding companies that are not subject to any of the foregoing. UHG, a Fortune 6 company, and some of its separate subsidiaries other than the Vendor are and have been subject to different disciplinary actions, litigation, administrative actions, and/or judicial proceedings within the last five years. The details of any proceeding considered to be material are reported on UnitedHealth Group's most recent Form 10-K, found here https://www.unitedhealthgroup.com/investors/financial-reports. Although we cannot predict the outcomes of legal actions or other proceedings, it is our opinion that the resolution of any currently pending or threatened matters will not have a materially adverse effect on our financial position or operations or ability to perform the services sought by this RFP.

TEKsystems Business Disputes

As with any company of this size, TEKsystems is involved in litigation in the ordinary course of its business. None of its current litigation—individually or in the aggregate—impairs the company's ability to conduct business or perform its obligations. If your company requires further information, TEKsystems is willing to supplement this response with a list of pending litigation. For this information, please contact Frank Buckley, TEKsystems General Counsel, at (410) 579-3534.

5. REFERENCES

The State may conduct reference checks to verify and validate the past performance of the Vendor and its proposed Subcontractors.

Optum Response:

Optum References

Examples of our EDS and analytics work for state government agencies include the following.

Michigan EDW/BI Solution: Optum has performed EDW and BI services for the State since 1994, when we installed the first Medicaid data warehouse infrastructure in the country. The data warehouse grew dramatically over the years to support Michigan's changing needs. The original data warehouse simply collected and compiled data and had 50 users and 3 data feeds. The solution evolved to serve 10,000 users, 8 major departments, 20 agencies, and more than 100 bureaus using more than 60 data feeds. Similar to the potential source solutions you envision interfacing with the EDS, we helped Michigan expand their data sources that deliver measurable results. With our support, Michigan translated its data analysis into significant cost savings and improved outcomes. The additional data feeds provided the data and analytics to increase family reunifications of foster children by 34 percent among temporary court wards. The expanded data sources and analytics also resulted in new procedures to reduce the number of children with lead poisoning by 35 percent.

California Medicaid Information System/Decision Support Services (MIS/DSS): Optum has provided Medicaid program administrative functions, operations, and IT services and support for the California MIS/DSS since 2007. The MIS/DSS is the largest Medicaid/CHIP data warehouse in the nation by membership, with more than 13 million recipients enrolled in 2019. It has 23 data feeds and contains 14 years of data (growing to 20 years) with more than 8.4 billion Medi-Cal claims and encounter records and 2.4 billion enrollment records, including associated eligibility and provider data. Similar to your goal for improving your analytics and reporting capability, the Medi-Cal MIS/DSS data warehouse enables effective and efficient use of health data through advanced analytics, ad hoc queries, and reporting.

New York All Payer Database (APD): Optum designed, implemented, and operates the New York APD for the New York State Department of Health (NYSDOH). The APD is one of the largest public sector-managed health data repositories in the nation, serving the second largest Medicaid program in the country. The APD includes claims and data for more than 20 million New Yorkers. It serves as the data and analytics cornerstone of New York's health care decision-making and research. The APD enables NYSDOH to conduct comparative analysis using data from across the health system to improve population health and reduce costs.

West Virginia RAPIDS: Optum performed maintenance, operations, and enhancements for West Virginia's legacy eligibility system, RAPIDS. The State also selected Optum to implement our modular integrated eligibility solution. We are providing a phased integrated eligibility implementation approach, which gives DHHR staff more time to adjust to the new system. For example, we divided the 12 West Virginia HHS programs into three releases based on existing program interrelationships and dependencies. Our experience working in West Virginia has given us a strong understanding of your expectations, environment, vendor partners, and stakeholders. We will combine this understanding with our experience implementing and operating some of the most complex EDS and data analytics solutions in the country to perform your scope of work.

To further demonstrate our ability to perform the scope of work described in the RFP, we provide client references for the following three additional EDS projects:

- Virginia Department of Medical Assistance Services (DMAS) Enterprise Data Warehouse Solution (EDWS)
- Arkansas Department of Human Services Medicaid Decision Support System (DSS)/EDW
- Indiana Family and Social Services Administration (FSSA), Office of Medicaid Policy and Planning, DW/DSS/BI Solution

Our understanding of technology, data, and Medicaid as well as HHS policy and programs has resulted in measurable results for our clients. Our references demonstrate we have the knowledge, experience, and capabilities to deliver the EDS solution and services defined in your RFP and return significant value and savings to DHHR.

5.1 Vendor (Prime) References Form

Include at least three (3) references from projects performed within the last three (3) years that demonstrate the Vendor's ability to perform the scope of work described in this RFP. The Vendor should provide three (3) different clients/projects in order to demonstrate their experience.

Vendor should include project description, contract dates, and contact information (customer points of contact, addresses, telephone numbers, and email addresses). The Vendor should explain whether it performed the work as a prime contractor or as a subcontractor.

The Vendor is NOT to change any of the pre-filled cells in the following tables. The Vendor may add additional Reference Tables as necessary.

Table 6: Vendor References

Vendor Information		
Vendor Name: Optum	Contact Name:	Jayce Johnson, Vice President of Government Health Information Technology
	Contact Phone:	(612) 306-3785
Customer Information		
Customer Organization: Virginia DMAS –EDWS	Contact Name:	Umakanth Pandurangaiah
	Contact Title:	Acting Project Management Office (PMO) Director
Customer Address: 600 East Broad Street Richmond, VA 23219	Contact Phone:	(804) 225-4711
	Contact Email:	umakanth.pandurangaiah@dmas.virginia.gov
Project Information		
Total Vendor Staff:	15 FTE Maintenance and Operations	
Project Objectives: The project objectives are to replace and support the Commonwealth's legacy MMIS with a modular MMIS solution that modernizes the critical information systems supporting the Commonwealth's overall Medicaid enterprise.		

Project Description: Our OPAHHS solution will support a centralized EDWS with integrated analytics and reporting capabilities that serve business imperatives across state programs. The project is using a phased implementation and is a flagship of the modern, modular implementation model. It is similar to the DHHR goal for modernization. The services Optum provides for this contract include the following:

- Integrating data from various Medicaid legacy systems (e.g., Virginia MMIS, behavioral health system, dependent care system) and new source systems (e.g., encounter processing system) into a common data platform
- Providing analytics to access the integrated data which includes the initial roll-out of OPAHHS
- Management Administrative Reporting Subsystem (MARS) and Fraud and Abuse Detection and Case Tracking (FADS) reporting
- As DMAS replaces legacy systems, the EDWS will ultimately integrate the new replacement source systems (e.g., new core claims processing, new pharmacy benefits, new financial system) to feed the EDWS, providing for advanced analytic services using data from the data warehouse
- Optum will operate the overall solution on behalf of the Commonwealth, providing staff and services to keep the data warehouse up-to-date, with ongoing analytics support
- The project includes three phases:
- Phase 1: Data warehouse implemented and transitioned to operations October 11, 2019; included base data warehouse, FADS, and OPAHHS; MARS is deferred at the request of DMAS and we are awaiting State readiness to move forward
- Phase 2: Enhancing existing data warehouse to handle data from the new sources is in progress
- Phase 3: Building data marts are in progress

Vendor's Involvement: Optum provides EDWS software and hardware maintenance and support. This includes designing, developing, implementing, hosting, supporting, and maintaining our solution. The project features operational data store support, relational database service support, analytical data management, and content data management.

Project Benefits: Our OPAHHS solution provides DMAS with easy access to retrospective reporting, while also supporting strategic planning efforts needed to facilitate proactive thinking and strategic planning. Our service and delivery provides DMAS with standard BI metrics, consolidated from a single or centralized dashboard, quick access to BI information that supports decision-making and strategy development, and enterprise-wide performance standards and metrics for business analysis.

Key Personnel	
Name: Jayce Johnson	Role: Accounts Manager
Name: Anand Swamy	Role: Project Manager
Name: Tom Kent	Role: Database Administrator/Technical Solution Manager
Name: Robert Heffron	Role: Data Architect/Data Modeler/Database and Data Mart Designer
Name: Tanuj Patel	Role: Healthcare Data Warehouse Specialist and Requirements Engineer
Name: Arun Gangidi	Role: Network Engineer

Name: Siva Suramprasad	Role: Senior ETL Engineer and Database Developer
Name: Harsha Paladugu	Role: Quality Assurance and Testing Engineer
Name: Madhusudan Eethamukkala	Role: Metadata Management Specialist
Name: Sreekanth Donthabhaktuni	Role: ETL Engineer and Database Developer
Name: Pradeep Peddineni	Role: Data Quality Monitoring Tool Administrator and Specialist
Name: Arunabh Das Choudhury	Role: Report Developer and BI Specialist
Name: Jill Feagans	Role: Security Specialist
Name: Chad Corgiat	Role: Technical Production Support

Project Measurements:	
Estimated one-time costs: $21.8 million	Actual one-time costs: $21.8 million
Reason(s) for change in one-time cost: N/A	
Original Value of Vendor's Contract: $91.1 million	Actual Total Contract Value: $91.1 million
Reason(s) for change in value: N/A	

Estimated Start & Completion Dates:	From:	10/11/2017	To:	10/10/2027
Actual Start & Completion Dates:	From:	10/11/2017	To:	10/10/2027

Reason(s) for difference between Estimated and Actual dates: N/A

If the Vendor performed the work as a Subcontractor, the Vendor should describe the scope of subcontracted activities:

Optum performed the work as the prime contractor.

Vendor Information		
Vendor Name: Optum	Contact Name:	Mark Langenfeld, Senior Manager
	Contact Phone:	(501) 725-3283
Customer Information		
Customer Organization: Arkansas Department of Human Services—Arkansas Medicaid DSS/EDW	Contact Name:	Matthew Rocconi
	Contact Title:	Arkansas Medicaid Enterprise IT Director

Customer Address: P. O. Box 1437 Little Rock, Arkansas 72203	Contact Phone:	(501) 320-6175
	Contact Email:	Matt.Rocconi@dhs.arkansas.gov

Project Information

Total Vendor Staff:	13 FTE Maintenance and Operations

Project Objectives: The project objectives are to procure a true Service Oriented Architecture (SOA) platform to bring interoperability of COTS, service-based modules, and support the modernization and continual evolution of the Arkansas Medicaid Enterprise (AME).

Project Description: Optum implemented, operates, and provides onsite support for the AME DSS. The solution supports and uses the health information of thousands of Arkansans who receive FFS or managed care services. Working under tight time frames, we developed and implemented the solution in two phases on time and within budget. Optum implemented Phase 2 of the project in December 2017 to accommodate implementation of the State's new MMIS.

Scope of Phase 1 services included:

- Data sources that include feeds from the MMIS, pharmacy, and State financial systems
- Hosted in a Web-based, flexible, and expandable Medicaid BI environment
- Supporting HIPAA-compliant data security and providing data cleansing, data archiving, data management, and data standards
- Providing program integrity, State Management and Administrative Reporting System (MARS) and designated CMS Federal Reports
- Exchange data services (e.g., configurable interfaces to HIEs, health insurance exchanges, intra- and inter-Medicaid domain databases and registries, other State agency data warehouses)

The scope of the Phase 2 MMIS upgrade included integrating the DSS with the State's new MMIS developed by another vendor. The scope of activities included updating hundreds of DSS reports to support new data formats and implementation of the Optum MARS for financial reporting to CMS.

A contributing factor in the success of this phase was our ability to collaborate with other vendors and analyze data in ways that revealed numerous data anomalies and defects, which were previously undetected through other vendor source system testing. As a trusted partner with the State of Arkansas, Optum identified data issues and deliberated with the MMIS vendor and Project Management Office on why corrections were necessary to improve the data. The Optum approach provided persistence during negotiation periods. Our dedication to overall data quality contributed to a smooth implementation for both the MMIS and Phase 2 DSS.

Vendor's Involvement: Optum provides DW and DSS services as well as MARS and FADS software and hardware maintenance and support with private cloud hosting.

Project Benefits: The solution supports modernization and continual enterprise evolution without restricting the State's ever-changing business needs.

Key Personnel

Name: Mark Langenfeld	Role: Project Manager

Name: Jay Arrowood	Role: DDI Manager
Name: Arun Gangidi	Role: Technical Solution Manager
Name: Jay Arrowood	Role: Documentation/Training Manager
Name: Kyle Serrano	Role: Interface Data Manager

Project Measurements:

Estimated one-time costs: $21,919,579.94	Actual one-time costs: $21,919,579.94
Reason(s) for change in one-time cost: N/A	
Original Value of Vendor's Contract: $58,173,442	Actual Total Contract Value: $68,166,619.82
Reason(s) for change in value: The total contract value increased because DMAS expanded the scope of work with 13 contract amendments. To complete the additional scope of work, we added five resources to handle ad hoc analytic requests and address the additional requirements. The new requirements include T-MSIS, loading HL-7, all payer and denied managed care data, and adapting to a new integrated eligibility system.	

Estimated Start & Completion Dates:	From:	12/2013	To:	06/2020
Actual Start & Completion Dates:	From:	12/2013	To:	06/2020
Reason(s) for difference between Estimated and Actual dates: N/A				
If the Vendor performed the work as a Subcontractor, the Vendor should describe the scope of subcontracted activities: Optum performed the work as the prime contractor.				

Vendor Information

Vendor Name: Optum	Contact Name:	Dave Wieber
	Contact Phone:	(517) 993-0929

Customer Information

Customer Organization: Indiana FSSA, Office of Medicaid Policy and Planning— DW/DSS/BI Solution	Contact Name:	Connor W. Norwood, PhD, MHA
	Contact Title:	Chief Data Officer
Customer Address:	Contact Phone:	(317) 234-1380

100 N. Senate Ave., Rm. N200 Indianapolis, IN 46204	Contact Email:	connor.norwood@fssa.in.gov

Project Information

Total Vendor Staff:	38.75 FTE Maintenance and Operations

Project Objectives: The project objectives are to procure services to support the maintenance, operations, and enhancements of the State's data warehouse platform infrastructure and the health care-oriented data warehouse system.

Project Description: Optum implemented and operates the EDW/BI that helps FSSA aggregate and analyze Medicaid and HHS data. FSSA awarded Optum the initial contract in 2012 and the rebid in 2018. OPAHHS helps FSSA make decisions, reduce costs, and improve health outcomes for its Medicaid and HHS programs. The solution scope includes:

- A comprehensive, centralized-hybrid HHS data warehouse with an open systems framework that contains integrated COTS components
- Operations support for system maintenance, monthly database updates, user support, and training
- Supporting multiple data sources including eligibility and claims data

Optum successfully completed the design, development, and implementation of the EDW/BI project on time and within budget. Our solution received CMS certification within eight months of going live and features a platform for future expansion. This includes providing operational BI to add data from more data sources, including other HHS agencies.

Vendor's Involvement: Optum provides EDW software and hardware maintenance and support, including MARS.

Project Benefits: The solution gives FSSA the data and insight required to improve programs, increase federal funding, and improve health outcomes. For example, FSSA used the EDW to conduct in-depth analyses to determine substance use disorders in Indiana's Medicaid population. The results showed a 41 percent increase of members with substance abuse disorders (SUDs) during a five-year period (2010–2014). The SUD population grew at more than four times the rate of the overall Medicaid population. FSSA uses this data and analytics that the EDW provides to develop a comprehensive view of its members with SUD diagnoses, enabling the agency to apply for and receive federal funds to address this major health issue.

Key Personnel

Role: Dave Wieber	Role: Project Executive
Name: Adam Madoukh	Role: Project Manager
Name: Eric Gilbert	Role: Platform Administrator
Name: Jordan D. Allen	Role: System Administrator
Name: Ronn Bouchard	Role: Reporting Manager

Project Measurements:

Estimated one-time costs: $14,076,598.00	Actual one-time costs: $14,076,598.00
Reason(s) for change in one-time cost: N/A	

Original Value of Vendor's Contract: $32,880,967.00	Actual Total Contract Value: $125,832,498.37			
Reason(s) for change in value: **Contract 1 Original Value: $32,880,967.00; Contract 1 Actual Total Value: $76,490,070.00** Contract 2: Original Value: $38,943,271.40; Contract 2 Actual Total Value: $49,342,428.37 Reasons for changes in value: M&O-related scope changes and optional extensions				
Estimated Start & Completion Dates:	From:	07/2012	To:	12/2022
Actual Start & Completion Dates:	From:	07/2012	To:	12/2022
Reason(s) for difference between Estimated and Actual dates: Contract 1 Dates: 7/2012-12/2018 Contract 2 Dates: 1/2019-12/2022				
If the Vendor performed the work as a Subcontractor, the Vendor should describe the scope of subcontracted activities: Optum performed the work as the prime contractor.				

5.2 Subcontractor References (if applicable)

If the Vendor's proposal includes the use of subcontractor(s), provide three (3) references for each subcontractor. **The State prefers references that demonstrate where the Prime and Subcontractors have worked together in the past.**

Table 7: Subcontractor References

Subcontractor Information		
Vendor Name: TEKsystems	Contact Name:	Matthew Galante
	Contact Phone:	(518) 470-2684
Customer Information		
Customer Organization: General Dynamics IT	Contact Name:	Damon Carr
	Contact Title:	Director of Quality
Customer Address: 327 Columbia Turnpike, Rensselaer, NY 12144	Contact Phone:	(518) 275-7206
	Contact Email:	Damon.carr@gdit.com
Project Information		

Total Vendor Staff:	80
Project Objectives: Provide a solution for eligibility and enrollment for the New York State of Health exchange	
Project Description: The New York State of Health is an organized marketplace designed to help people shop for and enroll in health insurance coverage. Individuals, families, and small businesses can use the marketplace to help them compare insurance options, calculate costs, and select coverage. The marketplace uses a single application that helps people check their eligibility for health care programs (e.g., Medicaid, Child Health Plus, and the Essential Plan) and enroll in the programs if they are eligible. The marketplace also indicates the type of financial assistance available to applicants to help them afford health insurance purchased through the marketplace. New Yorkers can complete the marketplace application online, in person, or over the phone.	
Vendor's Involvement: TEKsystems has been a prime staffing partner with GDIT since the project began development in 2012. It went live in 2014. TEKsystems has supported GDIT with both IT staffing and security assessments for the system.	
Project Benefits: The project benefits the citizens of New York. The New York State of Health provides a one-stop shop for New Yorkers to check their eligibility and enroll in health insurance.	
Key Personnel	
Name: Carlos Arevalo	Role: Technical Architect
Name: Prem Kumar	Role: Lead Business Analyst
Name: Chris Foster	Role: Project Manager
Name: Harish Bondalapati	Role: Java Developer
Name: Biash Shresta	Role: QA Analyst
Name: Shveta Garg	Role: Lead Business Analyst
Project Measurements:	
Estimated one-time costs:$575,601,579.27	Actual one-time costs: To Date - $340,202,616.64
Reason(s) for change in one-time cost: The current end-date of this project is May 31, 2021 and spending is still being accrued.	
Original Value of Vendor's Contract: $575,601,579.27	Actual Total Contract Value: $340,202,616.64
Reason(s) for change in value: The current end-date of this project is May 31, 2021 and spending is still being accrued.	

Estimated Start & Completion Dates:	From:	6/1//2012	To:	5/31/2016
Actual Start & Completion Dates:	From:	6/1/2012	To:	5/31/2021

Reason(s) for difference between Estimated and Actual dates: General Dynamics has received multiple extensions, extending the end date to 5/31/2021.
If the Vendor performed the work as a Subcontractor, the Vendor should describe the scope of subcontracted activities: TEKsystems served as a staff augmentation partner.

Subcontractor Information		
Vendor Name: TEKsystems	Contact Name:	Matthew Galante
	Contact Phone:	(518) 470-2684
Customer Information		
Customer Organization: Advance Auto Parts	Contact Name:	Binoj Varma
	Contact Title:	Senior Manager
Customer Address: 5008 Airport Road Roanoke, VA 24012	Contact Phone:	(540) 561-7374
	Contact Email:	binoj.varma@advance-auto.com

Project Information	
Total Vendor Staff:	20

Project Objectives: Order to Delivery tracking using zebra mobile device for last mile professional customer delivery.

Project Description: Deploy zebra mobile device to all stores companywide. Deploying mobile application and systems integration to track delivery and obtain proof of delivery for professional customers of Advance Auto Parts.

Vendor's Involvement: Project management for development of mobile application and systems integration. Project coordination to roll out 16,000 devices to stores companywide. QA and testing to deploy quality software and application to support delivery tracking.

Project Benefits: Application improvements and Mobile Driver/Delivery Management Application will enable real time/dynamic dispatch and tracking. Improve On Time Delivery tracking and measuring tools and reports to validate customer delivery promise.

- Provide signature capture capabilities and enable customer delivery notification development
- Improve customer experience with additional portal functionality

Deliver last mile operational data to enable better analytics relative to inventory availability, labor allocation, and asset utilization.

Key Personnel	
Name: Darryl Agee	Role: Sr. Project Manager
Name: Ken Githire	Role: Agile Coach

REQUEST FOR PROPOSAL

Department of Health and Human Resources, RFP#HHR200000001

Project Measurements:				
Estimated one-time costs: $8,000,000.00		Actual one-time costs: $8,200,000.00		
Reason(s) for change in one-time cost: Scope change				
Original Value of Vendor's Contract: $1,000,000.00		Actual Total Contract Value: $8,200,000.00		
Reason(s) for change in value: Partnership and needs grew				
Estimated Start & Completion Dates:	From:	2008	To:	Present
Actual Start & Completion Dates:	From:	2008	To:	Present
Reason(s) for difference between Estimated and Actual dates: N/A				
If the Vendor performed the work as a Subcontractor, the Vendor should describe the scope of subcontracted activities: TEKsystems is a direct supplier of contract labor to Advance Auto.				

Subcontractor Information		
Vendor Name: TEKsystems	Contact Name:	Matthew Galante
	Contact Phone:	(518) 470-2684
Customer Information		
Customer Organization: International Business Machines (IBM) Corporation	Contact Name:	Charles Waters
	Contact Title:	Program Manager
Customer Address: 2300 Dulles Station Blvd. Herndon, VA 20171	Contact Phone:	(540) 759-6875
	Contact Email:	Charles.waters@ibm.com
Project Information		
Total Vendor Staff:	61	
Project Objectives: Provide IT services to the U.S. Army		
Project Description: IBM's PD ALTESS IT Support Services program provides data center operations resulting in 24 hour a day, 7 days a week, real-time access to mission-critical data and systems in support of the warfighter. PD ALTESS also supports core mission work to the Department of Defense and other federal agencies. As a newly appointed lead Army Enduring Data Center (AEDC), PD ALTESS is the Army's premier full lifecycle IT services provider for application development, sustainment		

modernization and migration activities. In addition to core data center and software development sustainment activities, IBM maintains a fully accredited Impact Level 4 and Impact Level 5 cloud environment.				
Vendor's Involvement: TEKsystems is IBM's largest and most effective IT resource provider, providing certified IT professionals in support of IBM's PD ALTESS program.				
Project Benefits: Provides global support for the Army's mission				
Key Personnel				
Name: Mark Bordwine		Role: Program Manger		
Name: John Wanshek		Role: Service Level Manager		
Project Measurements:				
Estimated one-time costs: $8,000,000.00		Actual one-time costs $8,000,000.00		
Reason(s) for change in one-time cost: N/A				
Original Value of Vendor's Contract: $8,000,000.00		Actual Total Contract Value: $8,000,000.00		
Reason(s) for change in value: N/A				
Estimated Start & Completion Dates:	From:	2012	To:	Present
Actual Start & Completion Dates:	From:	2102	To:	Present
Reason(s) for difference between Estimated and Actual dates: N/A				
If the Vendor performed the work as a Subcontractor, the Vendor should describe the scope of subcontracted activities: IBM is the prime vendor for ALTESS and TEKsystems is the subcontractor. TEKsystems currently has 61 people on the program.				

6. FINANCIAL STABILITY

The Vendor should provide the following components for this section:

6.1 Dun & Bradstreet (D&B) Ratings

The Vendor should provide the industry standard D&B ratings that indicate its financial strength and creditworthiness, assigned to most U.S. and Canadian firms (and some firms of other nationalities) by the U.S. firm D&B. These ratings are based on a firm's worth and composite credit appraisal. Additional information is given in credit reports (published by D&B) that contain the firm's financial statements and credit payment history.

Optum Response: Please find the D&B rating for Optum Government Solutions, Inc., on the following pages.

DNBi Risk Management

Printed By:David Kays

Date Printed:December 10, 2019

LIVE REPORT

Currency: Shown in USD unless otherwise indicated

OPTUM GOVERNMENT SOLUTIONS, INC.

Trade Names: (SUBSIDIARY OF OPTUMINSIGHT, INC., EDEN PRAIRIE, MN), INCEPTN

ACTIVE | HEADQUARTERS (SUBSIDIARY)

D-U-N-S Number: 10-159-5036

Company: OPTUM GOVERNMENT SOLUTIONS, INC.

D&B Address

Address: 11000 OPTUM CIRCLE
EDEN PRAIRIE, MN, US - 55344

Location Type: HEADQUARTERS (SUBSIDIARY)

Phone: 952-833-7100

Fax:

Web: www.opensourcing.net

Added to Portfolio: 06/19/2017

Endorsement: david_a_kays@uhc.com

Last View Date: 12/10/2019

Company Summary

SCORE BAR

PAYDEX®	80	Paying on time.
Commercial Credit Score Percentile	17	Moderate to High Risk of severe payment delinquency.
Financial Stress Score National Percentile	98	Low Risk of severe financial stress.
D&B Viability Rating	3 4 C Z	View More Details
Bankruptcy Found	N	
D&B Rating	--	Unavailable.

D&B VIABILITY RATING SUMMARY

Viability Score

Viability Score : 3

Low Risk:1 ; High Risk:3

Portfolio Comparison

Portfolio Comparison : 4

Low Risk:1 ; High Risk:9

Data Depth Indicator

Data Depth Indicator : C

Predictive:A ; Descriptive:G

Company Profile:

Z
SUBSIDIARY

DETAILED TRADE RISK INSIGHT™

3 months from Nov-18 to Jan-19

Days Beyond Terms Past 3 months: 0 Days

Days Beyond Terms Past 3 months :

Low Risk:0 ; High Risk:120+

Dollar-weighted average of **2** payment experiences reported from **2** companies.

D&B COMPANY OVERVIEW

This is a headquarters (subsidiary) location

Branch(es) or Division(s) exist	Management Control	Chief Executive
Y	2008	STEVEN B LARSEN, PRES
Age (Year Started)	**Employees**	**History Status**
18 years (2001)	110 (4 Here)	CLEAR
SIC	**Line of business**	**NAICS**
7375	Information retrieval services	519190

PAYDEX® TREND CHART

PUBLIC FILINGS

The following data includes both open and closed filings found in D&B's database on this company.

Record Type	Number of Records	Most Recent Filing Date
Bankruptcies	0	---
Judgments	0	---
Liens	0	---
Suits	2	11/27/2013
UCCs	0	---

The public record items contained herein may have been paid, terminated, vacated or released prior to today's date.

CORPORATE LINKAGE

This is a Headquarters (Subsidiary) location	OPTUM GOVERNMENT SOLUTIONS, INC. Eden Prairie, MN D-U-N-S® NUMBER: 10-159-5036
Domestic Ultimate:	UNITEDHEALTH GROUP INCORPORATED MINNETONKA , UNITED STATES D-U-N-S® NUMBER: 11-287-1561
Parent Company	OPTUMINSIGHT, INC. Minnesota D-U-N-S® NUMBER: 10-564-8369

Predictive Scores

D&B VIABILITY RATING SUMMARY

The D&B Viability Rating uses D&B's proprietary analytics to compare the most predictive business risk indicators and deliver a highly reliable assessment of the probability that a company will go out of business, become dormant/inactive, or file for bankruptcy/insolvency within the next 12 months. The D&B Viability Rating is made up of 4 components:

Viability Score

Compared to All US Businesses within the D&B Database:

- **Level of Risk: Low Risk**
- Businesses ranked 3 have a probability of becoming no longer viable: 3 %
- Percentage of businesses ranked 3: 15 %
- Across all US businesses, the average probability of becoming no longer viable: 14 %

Portfolio Comparison

Compared to All US Businesses within the same MODEL SEGMENT:

- Model Segment : Established Trade Payments
- Level of Risk: Low Risk
- Businesses ranked 4 within this model segment have a probability of becoming no longer viable: 4 %
- Percentage of businesses ranked 4 with this model segment: 11 %
- Within this model segment, the average probability of becoming no longer viable: 5 %

Data Depth Indicator

Data Depth Indicator:

- ✓Rich Firmographics
- ✓Extensive Commercial Trading Activity
- ×No Financial Attributes

Greater data depth can increase the precision of the D&B Viability Rating assessment.

To help improve the current data depth of this company, you can ask D&B to make a personalized request to this company on your behalf to obtain its latest financial information. To make the request, click the link below. Note, the company must be saved to a folder before the request can be made.

Request Financial Statements

Reference the FINANCIALS tab for this company to monitor the status of your request.

Company Profile:

Company Profile Details:

- Financial Data:
- Trade Payments:
- Company Size: null
- Years in Business: null

Subsidiary

4

6.2 Financial Capacity

The Vendor should supply evidence of financial stability sufficient to demonstrate reasonable stability and solvency appropriate to the requirements of this procurement.

In the following table, please list credit references that can verify the financial standing of your company.

Table 8: Credit References

INSTITUTION	ADDRESS	PHONE NUMBER
Practical Technology Consulting, LLC Attn: Jim Davis	1314 Country Lane DeWitt, MI 48820	(517) 256-4865
Enos Technical Consultants Attn: Kathy Enos	5008 Nantucket Street Roseville, CA. 95747	(916) 846-4641
Clover Consulting, Inc. Attn: Scott Doyle	P.O. Box 196 Rockford, MI 49341	(616) 863-3200
Tim Carey, LLC	176 Crescent Drive Grand Haven, MI 49417	(517) 819-9673

ATTACHMENT D: PROJECT ORGANIZATION AND STAFFING APPROACH

Instructions: Staffing strategies are to be employed by the Vendor to ensure all requirements and service levels are met to the satisfaction of DHHR. The evaluation of the Vendor's staffing approach shall be based on the ability of the Vendor to satisfy the requirements stated herein. Therefore, the Vendor should present detailed information regarding the expertise of the proposed staff and an Initial Staffing Plan.

For ease of formatting and evaluation, ***Attachment D: Project Organization and Staffing Approach*** provides the required outline for the Vendor's response to staffing. The Vendor's response to the following should not exceed 25 pages, excluding key personnel resumes and the forms provided in this Attachment.

Please refer to ***Appendix 3: Staff Qualifications, Experience, and Responsibilities*** of the RFP for the details pertaining to staff qualifications, experience, and responsibilities.

1. Initial Staffing Plan

As part of the Vendor's bid response, the Vendor should provide an Initial Staffing Plan. In addition to the requirements described in ***Attachment F: Mandatory Requirements*** and ***Appendix 1: Detailed Specifications***, the Vendor's narrative description of its proposed Initial Staffing Plan should include the following:

- A succinct description of the Vendor's proposed project team and should exhibit the Vendor's ability and capability to provide knowledgeable, skilled, and experienced personnel to accomplish the Scope of Work (SOW) as described in this RFP.
- A detailed proposal for providing all resources necessary to fulfill the requirements as specified in this RFP. This includes details covering not only key staff but support staff.
- Organization charts for implementation and maintenance stages showing both the Vendor staff and their relationship to State staff that will be required to support the project. The organization chart should denote all key staff for this project, and a summary of each key member's high-level responsibilities.
- A narrative describing tools and processes used to screen available staff to fill positions. In addition, a narrative describing the process for replacing key staff within defined timeframes, and procedures for backfilling key staff during any transition.
- Resumes (not to exceed two (2) pages each) for the key staff and support staff members assigned to this project including their licenses, credentials, and experience. DHHR considers the key staff resumes as a key indicator of the Vendor's understanding of the skill sets required for each staffing area.
- A letter of intent for each proposed staff member not currently employed by the Vendor. Each letter of intent should be signed by the named individual, indicating that the individual is willing to accept employment if the Vendor is awarded the contract.
- A description and diagram of the proposed staffing for each phase of the project.
- Identification of subcontractor staff, if applicable.

Optum Response:

Approach to Organization and Staffing

Our staffing solution will comply with your RFP requirements, including those defined in RFP Attachment F: Mandatory Requirements and RFP Appendix 1: Detailed Specifications.

Successful project delivery requires a culture that promotes collaboration and communication across Optum, DHHR, project stakeholders, and your other vendors. It also requires exceptional professionals who perform at their highest level and understand how to develop and support innovative solutions. We commit both organizationally and individually to our core values shown in Figure 8.

Figure 8: Optum Cultural Values
Our core values drive the high levels of confidence and engagement and are our foundation for the EDS project.

You will see our people put these values into action every day. These common principles result in cohesive, productive teams committing themselves to consistency and excellence in their work and in their lives. By living these values, our professionals will perform project activities in a timely, efficient manner for DHHR.

Our key personnel have long-term experience directly transferable to their project roles. Our team understands the various Medicaid, health and human services (HHS), and social determinants of health data sets across state government. They know how to use this data now and in the future to provide DHHR with the greatest value and benefit for your members.

We will also draw on knowledge gained from our successful projects in some of the most complex Medicaid and HHS EDS environments in the country. This includes the States of Arkansas, California, Michigan, Illinois, Indiana, New Jersey, New York, Minnesota, and the Commonwealth of Virginia. Our proposed account manager, Steve Grimshaw, and Project Manager Tami Mette, have more than 40 years of combined experience in Medicaid, gained in part through working on and leading EDS and Medicaid Management Information System (MMIS) solutions for Medicaid projects in several of these states.

While skilled leaders are vital for project success, we also recognize the importance of engaging staff with strong personal commitments to West Virginia and knowledge of DHHR. With this in mind, five of our eight key roles have experience supporting projects for DHHR:

- **Account Manager, Steve Grimshaw** has been instrumental in the implementation of the West Virginia Integrated Eligibility System (WV IES) and WV PATH Project for DHHR.

- **Project Manager, Tami Mette's** work for Molina supporting DHHR included managing the West Virginia Children's Health Insurance Program (WV CHIP) integration into the core MMIS.
- **Implementation Manager and Operations Manager, Raghu Mekala** has 17 years of experience working with DHHR, including serving as the WV IES operations leader. Mr. Mekala will fill two key roles providing consistency for implementation and operations.
- **Certification Lead, Brandy Spaulding's** 10 years of work for DHHR included participating in the implementation and certification of the MMIS.

Their combined experience gives our proposed leadership team valuable insight into your culture, processes, people, data, and goals that will reduce project risk. These leaders and our other key staff have an unwavering commitment to the success of this project. They will work with you to implement and operate an EDS that promotes actionable insights for improving member health and health care outcomes in compliance with contract requirements.

Staffing Management Plan and Human Resources Management Plan

After contract award, we will provide DHHR with a Staffing Management Plan and Human Resources Plan in compliance with the deliverable requirements described in RFP Appendix 2, Deliverables and Milestones Dictionary. The plans will meet the acceptance criteria established between DHHR and Optum.

Staffing Management Plan: The plan will document our approach for providing and managing qualified human resources for the project. It will describe how we structure the project and include: organizational charts for each project phase that identify onsite and offsite staff and subcontractors; roles, responsibilities, and skillsets; summaries of key staff roles, responsibilities, and qualifications; assurance of the quality and timeliness of offsite work; resource calendar showing onsite and offsite staff and allocations; description of DHHR resources needed to support deliverable creation; description of the training and business analysis staff; description of the process for transferring knowledge to DHHR and authorized users; and our personnel management approach in areas such as hiring and terminating staff.

Human Resources Management Plan: The plan will document our approach for managing the human resources supporting the project and operations. It will describe our defined roles and responsibilities, reporting relationships, and staff management processes.

Optum Initial Staffing Plan

Our Initial Staffing Plan describes the following:

- Proposed project team
- Approach for providing project resources
- Organization charts
- Tools and processes for screening staff
- Key staff replacements
- Key staff backfilling
- Subcontractors

Proposed Project Team

Our proposed project team will include employees of Optum and TEKsystems and will have the qualifications for their assigned project roles. We have selected experienced leaders with

comprehensive business and technical experience in Medicaid, HHS, and the complete lifecycle of EDS and data analytics implementations. Their shared experience and insights will help reduce project risks related to quality and schedule.

Optum will leverage exceptional sources for acquiring qualified and talented staff. Five of our eight proposed named key staff roles have direct experience supporting DHHR. As a leading provider of data analysis services to health care enterprises we offer an attractive engagement to prospective employees. Our workplace values and dynamic learning culture, combined with the excitement of building and operating a next generation of Medicaid solution, will help us attract skilled staff in West Virginia.

Key Staff

We will commit our most accomplished leaders to this project. They have experience developing solutions that align with the MITA Framework and the Centers for Medicare and Medicaid Services (CMS) Seven Standards and Conditions. We have assembled a management team of highly skilled leaders with substantial experience working on Medicaid, HHS, EDS, and data analytics projects as the following experience summaries demonstrate:

Account Manager Steve Grimshaw is a Project Management Institute (PMI) certified Project Management Professional (PMP) and Certified Scrum Master (CSM) with more than 35 years of information technology (IT) experience. This includes more than 31 years of state Medicaid systems implementation experience with operations similar to West Virginia. He has more than 30 years of project management and leadership experience with large-scale Medicaid projects. Mr. Grimshaw is skilled at managing projects according to the PMI Project Management Institute Book of Knowledge (PMBOK). As a director of IT project management with Optum, he manages the full system development life cycle (SDLC) for implementation and operations projects. These include EDS and DSS engagements for the States of California, New Jersey, and Arkansas, as well as the WV IES and the Montana MMIS provider services projects. In addition to his project management skills, Mr. Grimshaw is knowledgeable in analytic problems and the semantic content of Medicaid and HHS data. His proven ability to work effectively with clients, executive leaders, and project staff contributes to the success of each project he leads. He holds a Bachelor of Science in accounting with a minor in computer sciences.

Project Manager Tami Mette is a PMI certified PMP and CSM with more than 15 years of project management experience. This includes 10 years of project management experience implementing information systems for state Medicaid agencies with similar operations to West Virginia. Ms. Mette is knowledgeable and experienced in applying PMBOK project management standards and best practices to the projects she leads. As a director of technology program and project management for Optum, she leads engagements for next-generation applications and components. She holds key management positions on state contracts and participates in pre-award efforts, implementation, and operations transition and support. Before joining Optum, Ms. Mette led teams to design and implement IT projects for clients that included the State of West Virginia, Idaho, and the U.S. Virgin Islands. She managed the integration of the WV CHIP into the core West Virginia MMIS solution, including requirements development, design, and implementation. Ms. Mette is effective directing Project Management Office (PMO) teams to develop high-quality programs that provide tangible results for enterprise financial and legacy workflow systems. She holds a Bachelor of Science in computer science.

Business Lead Abhishek Kumar is a PMI certified PMP with eight years of experience supporting information system implementations for state Medicaid agencies similar in size to West Virginia. He has eight years of experience managing project issues, risks, requirements,

scope, schedules, and other project controls. Mr. Kumar is knowledgeable of PMBOK project management standards and best practices and follows them in his project work. He leads requirements management activities in support of state government clients and has worked closely with states such as New York, North Carolina, and North Dakota. He has a specialized focus on Medicare and Medicaid plans, CHIP, the Supplemental Nutrition Assistance Program (SNAP), and Temporary Assistance for Needy Families (TANF). Mr. Kumar has a strong understanding of MMIS solutions, health care reform, and health care legislation such as the Affordable Care Act. He conducted requirements gathering sessions with the New York State Department of Health (NYSDOH) to capture scope for health exchange change requests. Mr. Kumar's collaboration skills enable him to mentor teams with diverse skill sets and lead effective joint application development (JAD) sessions to develop functional specifications. He holds a Master of Business Administration (MBA) and a Bachelor of Science.

Technical Lead Jack Swearingen is a lead architect with 29 years of management experience delivering and maintaining large-scale enterprise data solutions and providing operational decision support. He has 17 years of health care IT experience that includes 11 years of Medicaid experience, giving him an in-depth knowledge of applicable standards for health information systems. Mr. Swearingen has substantial experience serving as the principal architect for full life cycle of development projects for enterprise data solutions, data marts, and operational data stores. As a senior architect with Optum, he leads information architecture projects and design, development, and implementation (DDI) engagements for state government clients. For the State of Arkansas, he served as the technical solution architect for the Arkansas Medicaid DSS/EDW EDS. He specializes in data quality management; Extract, Transform, Load (ETL) design and development; dimensional modeling; physical database implementation; database administration; SQL performance tuning; architecture optimization; and metadata architecture and design. Mr. Swearingen has spent several years managing assets he architected and deployed. This experience, and his understanding of how core infrastructure components interact, have given him a significant knowledge base of best practices and unique solutioning capabilities. He holds a Bachelor of Arts in economics.

Implementation Manager and Operations Manager Raghu Mekala is a PMI-certified PMP and long-time West Virginia resident with over 20 years of enterprise IT experience. He has consulted with DHHR for 17 years, which includes 15 years of project management experience implementing and operating information systems. Mr. Mekala manages projects according to PMBOK with a focus on requirements elicitation and management, systems and business analysis, design, development, implementation, operational support, and service level management. As a director of client operations and system services with Optum, Mr. Mekala, is a maintenance and operations leader for the WV IES. He delivers operational support, application maintenance, program improvements, software maintenance, stakeholder engagement, service level management, and leadership for more than 25 team members. Mr. Mekala holds a Master of Science in technology management with an information technology emphasis and a Bachelor of Science in computer science.

Certification Lead Brandy Spaulding has nearly 20 years of health care leadership experience, including 11 years working for DHHR. She has in-depth knowledge of Medicaid and certifying systems against industry standards for projects similar in size and scope to this project. Ms. Spaulding is thoroughly familiar with MECT and the Medicaid Enterprise Certification Lifecycle (MECL). As a member of the Optum certification leadership team, she works with the West Virginia State Project Management Office (PMO) to achieve desired certification outcomes for the West Virginia People's Access to Help (WV PATH). She gathers,

analyzes, refines, articulates, and documents federal acceptance criteria and software documentation using approved processes. As an employee of DHHR, her roles included director of the Office of Medicaid Managed Care and Procurement Services and special programs manager. Ms. Spaulding managed regulatory compliance of the statewide Managed Care Organization (MCO) program for the West Virginia Medicaid program. She actively participated in the implementation and certification of the MMIS, a COTS-based solution that replaced the legacy mainframe. She also participated in the initial implementation and certification activities for the current MMIS. Ms. Spaulding has exceptional oral and written communication skills. She holds an Associate Degree of Applied Science in medical administration. Her PMI PMP certification is in process for an April 2020 completion.

Quality Assurance Manager Sid Niaz is a CSM with more than 10 years of experience developing and maintaining comprehensive quality control (QC) functions for system implementations, operations, and business processes for organizations comparable in size to the West Virginia Medicaid Program. He has 10 years of experience developing and maintaining QC functions that address quality checks throughout each project phase for projects similar to this one. As a Six Sigma Yellow Belt, he applies Six Sigma methodology to projects with a focus on continuous process improvement. Mr. Niaz is knowledgeable of applicable standards for health information systems. He uses his understanding of the SDLC and project management methodologies to deliver flexible solutions. As a senior QA manager for Grant Thornton, he oversees QA and QC for a U.S. Department of Veterans Affair project. He validates data integrity, system inputs and outputs, and multiple data sources for the EDS. Mr. Niaz is skilled in hands-on testing and test automation development. His effective collaboration and communication skills enable him to mentor productive teams and build strong client relationships. He holds a Bachelor of Science in computer science.

Our key staff for the project will be full-time employees of Optum or our subcontractor. They will enter the project within 30 days of contract award. We will not combine key staff roles or fill a role with multiple staff members. We will have key staff working onsite in our Charleston project office during your normal business hours of 8 a.m. to 5 p.m. ET, Monday through Friday, excluding State holidays. As in our current EDS engagements with other state clients, we design flexible staffing models for the implementation and operations phases around our onsite, fully dedicated staff. We will have our staff onsite in Charleston with a few possible exceptions. These exceptions may include:

- During implementation, where Optum may need to engage additional staff (i.e., outside the level needed for operations), we may engage staff in our other offices within the United States. When necessary, we will bring them onsite during implementation.
- During operations, offsite staff may be engaged when backfilling positions are not required to be on site until a local candidate can be hired. When backfilling positions are required to be on site, these staff will travel on site until a local candidate can be hired.
- For our operational accounts, we prefer to hire staff locally to facilitate communications between state and Optum staff. When we engage offsite staff to support this contract during implementation and operations, their work schedule will follow the Eastern Time zone. We routinely follow the time zones and core business hours of our clients so we can best support them.
- Our plan is to have key personnel onsite during implementation and M&O. If there is an exception, Optum will review it with DHHR to validate our onsite and offsite staff deliver high-quality services and support for DHHR and the members you serve.

We will also have support staff available during business hours and on call after-hours to address any critical issues that may arise, including outside of the standard workday. These staff will be the personnel who will be working with you to implement, maintain, and operate the EDS. This is a standard practice at Optum. We understand that onsite does not include travel time to and from the project office.

A priority for us will be making sure DHHR has timely access to the proper Optum staff in support of business and technical needs. Our goal is to build a seamless relationship where we become an extension of your team and anticipate and supply staff timely and efficiently.

We provide resumes for our key staff in Section 3.1. Please refer to end of this section for the signed letters of intent for each key staff member we propose who is not currently an Optum employee.

Support Staff

We will closely align roles and responsibilities to the analytical, operational, and technical scope of work defined in your RFP. We will assign these roles and responsibilities to the appropriate team members based on their qualifications, skills, and experience. Roles and responsibilities can vary over time. We determine the labor category based on required skills for the position and classify labor as management, technical, professional, and skilled. We will engage the following roles to support our key staff as your RFP requires. The roles will comply with the requirements in RFP Appendix 3: Staff Qualifications, Experience, and Responsibilities.

Documentation management lead: The documentation management lead will oversee and manage documentation projects, processes, standards, tools, and personnel to produce high-quality documentation for the project. During operations, the documentation management lead will assume the responsibilities the technical writers held during DDI and continue into EDS operations as necessary. Our documentation management lead will have:

- A minimum of five years' experience with data warehouse, MMIS, or other large-scale IT implementations within the health care sector and extensive knowledge of Optum's overall processes

Test manager: The test manager will oversee and manage testing activities (e.g., planning, execution), and personnel to validate system functionality and operations meet certification criteria. This includes establishing and executing quality standards and control processes for testing. During operations, the test manager will assume the responsibilities the testers held during DDI and continue into EDS operations as necessary. Our test manager will have:

- A minimum of four years of experience leading the systems testing of a large-scale insurance or health and human services system
- Previous service as a testing manager on one or more Medicaid system implementation projects
- A minimum of three years of Medicaid experience
- A minimum of a bachelor's degree or a minimum of four years of related experience

Information security architect/privacy data protection officer: This role will be responsible for validating the solution architecture supporting DHHR security needs and keeping a focus on security during DDI. Although we are not required to name this role, we are engaging Ms. Freda Painter as the information security architect/privacy data protection officer for this contract. She will also serve as the compliance officer for this engagement to provide HIPAA subject matter expertise. Ms. Painter is a Certified Information Systems Security Professional (CISSP) with over 28 years of experience in IT security, including infrastructure and networks and multi-

platform environments similar in scope to this project. She is knowledgeable in technical and risk assessment techniques, tools, and practices. Ms. Painter is also experienced working with federal security and privacy requirements. She has extensive knowledge of regulatory compliance and information security frameworks and controls. She demonstrates a deep commitment to risk identification and mitigation, user and leadership education, and staying current on the threat landscape. Ms. Painter holds a Bachelor of Science in physics and has:

- 28 years IT security work experience including infrastructure/network and multi-platform environments with similar scope to the services that DHHR has requested
- Experience and familiarity with technical and risk assessment techniques, tools, and practices, and experience working with federal security and privacy requirements
- A CISSP certification

Other Staff during DDI

We will engage other staff to complete your scope of work. The following table identifies the other staff roles we will use during DDI and their responsibilities.

DDI Role	Responsibilities
Assistant Project Manager	• Develops, maintains, and reports on the overall project schedule • Manages risks and issues, change management, budget, and service level agreements (SLA) adherence • Manages risk assessment tool, IRAAD (Issues, Risks, Actions, Assumptions and Decisions) • Leads the creation of key deliverables, status reports, configurations, and systems for accuracy and suitability
Scribes	• Develops meeting agendas and documents meeting minutes as needed • Distributes agendas, meeting minutes, and other relevant documents as agreed upon and directed by DHHR
QA Specialists	• Evaluates deliverables, software, and documentation for accuracy and completeness • Conducts formal and informal reviews to determine IT quality and develop software QA plans • Monitors adherence to performance levels and develops initiatives to improve overall quality
Data Modeler	• Prepares, develops, and creates conceptual, logical, and physical data models of health care data that integrate actual, expected, and forecasted data and factors • Maintains responsibility for logical schemas, key constraints, indexing strategies, and identifying ETL requirements for downstream data feeds and data naming standards • Defines data quality and designs data quality measurements and controls • Designs data quality into the data model, metadata, and data transformation routines
Business Analysts	• Assists in the collection, review, and documentation of user requirements, development of user stories, estimates, and work plans • Works with users to gather business requirements and define business rules • Translates business requirements into technical specifications for the solution • Works with developers on designing the solution • Produces design packages for units of EDS scope • Provides writing and SME support for project documentation
Testers	• Develops and executes test cases for analytics, data feeds, business intelligence (BI), performance testing, and automated regression testing • Performs unit testing, system testing, readiness testing, and other testing as needed • Produces testing results reports for project management to deliver to DHHR • Tests the reporting solution products (e.g., reports, templates) to confirm they are functioning to meet reporting and analytical needs
Training Lead	• Oversees training and serves as lead for training delivery • Works with DHHR to analyze training needs and create overall Training Management Plan

DDI Role	Responsibilities
	• Responsible for training delivery • Oversees the development of training, training materials, and communications • Conducts ongoing training evaluations and assessments to validate training effectiveness
Trainer	• Delivers end-user training to DHHR in classroom settings, one-on-one, and through Web-based classroom sessions • Trains the Optum and DHHR project team • Develops and maintains training documentation and materials
Technical Writers	• Works with technical staff, subject matter experts, and other project staff to document BI and analytics system design documents, training materials, business glossaries, operations manuals, and other project deliverables • Understands and effectively communicates how changes to processes, policies, and procedures affect solution components • Assists in coordinating the appropriate updates, reviews, and approvals of documents at required project gates and intervals
ETL Team Lead	• Oversees the creation of ETL transformations, workflows, and jobs • Creates production job schedules • Creates final job schedule to confirm data is loaded in the proper sequence and confirms appropriate stop-gates are in place to verify data as it is loaded • Develops conceptual, logical, and physical data models for the EDS • Designs linkage and storage structures to capture relationships between data and different types of metadata
ETL Specialist	• Creates ETL transformations, workflows, and jobs • Works to understand the data and the data model • Tests and debugs workflows
ETL Operations	• Creates ETL transformations, workflows, and jobs • Works to understand the data and the data model • Tests and debugs workflows • Develops the overall data transfer and conversion architecture • Responsible for after-hours scheduling
Senior Database Administrator	• Oversees and defines required database administration policies, procedures, standards, and guidelines • Manages logical and physical database design, development, operations, and maintenance • Evaluates and advises on data processing techniques, database management, and management information systems, concepts, and applications
Database Administrator	• Defines required database administration policies, procedures, standards, and guidelines • Performs logical and physical database design, development, operations, and maintenance
Application Administrator	• Oversees installation, configuration, and operation of the applications in the technical solution • Responsible for software upgrades and patches • Responsible for appropriate project, design, and operational documentation
Report Analyst	• Provides reporting expertise and quality support to the project team and DHHR • Works collaboratively with users to gather business requirements, define business rules, and translate them into reporting specifications • Develops and delivers BI reports, strategic reporting tools, and new enterprise reports • Performs ad hoc queries for DHHR • Provides data validation support of the information for reports produced from the EDS
Tableau BI Developers Lead	• Manages the design of Tableau ad hoc and preconfigured reports to meet DHHR needs • Oversees support for Tableau visualizations that promote user self-service • Provides Tableau subject matter expertise
Tableau BI Developers	• Designs Tableau ad hoc and preconfigured reports according to contract requirements • Provides support for Tableau visualizations • Provides Tableau subject matter expertise
Liferay Developer	• Designs Liferay solution components according to contract requirements • Provides Liferay subject matter expertise

Other Staff during Operations

The following table identifies the other staff roles we will use during operations and their responsibilities.

Operations Role	Responsibilities
Business Analysts	• Assists in the collection, review, and documentation of user requirements, development of user stories, estimates, and work plans • Works with users to gather business requirements and define business rules • Translates business requirements into technical specifications for the solution • Works with developers on designing the solution • Produces design packages for units of EDS scope • Produces and provides test plans and documentation • Provides writing and SME support for project documentation • A business analyst assumes the following responsibilities that the training lead performed during DDI: – Oversees training and serves as lead for training delivery – Works with DHHR to analyze training needs and update and maintain overall Training Management Plan – Responsible for training delivery – Oversees the development of training, training materials, and communications – Conducts ongoing training evaluations and assessments to validate training effectiveness • A business analyst assumes the following responsibilities that the trainer performed during DDI: – Delivers end-user training to DHHR in classroom settings, one-on-one, and through Web-based classroom sessions – Trains the Optum project team as needed – Develops and maintains training documentation and materials – Delivers end-user training to DHHR in classroom settings, one-on-one, and through Web-based classroom sessions • A business analyst serves as the help desk lead during operations with the following responsibilities: – Leads Optum help desk operations – Manages help desk staff, who are all project team members and serve as help desk staff based on their areas of expertise to perform the following: – Addresses inquiries and issues in a timely manner and in compliance with SLAs and performance standards – Performs research and issue resolution as needed – Maintains knowledge of solution and reporting needs to address inquiries effectively – Monitors help desk user needs to enhance the user experience – Verifies help desk operations and staff comply with SLAs and performance standards – Tracks and reports help desk metrics to project leadership and DHHR according to contract requirements • Provides reporting expertise and quality support to the project team and DHHR during operations
ETL Team Lead	• Oversees the creation of ETL transformations, workflows, and jobs • Creates production job schedules

Operations Role	Responsibilities
	• Creates final job schedule to confirm data is loaded in the proper sequence and confirms appropriate stop-gates are in place to verify data as it is loaded • Develops conceptual, logical, and physical data models for the EDS • Designs linkage and storage structures to capture relationships between data and different types of metadata • Assumes the following responsibilities the data modeler performed during DDI: – Prepares, develops, and creates conceptual, logical, and physical data models of health care data that integrate actual, expected, and forecasted data and factors – Maintains responsibility for logical schemas, key constraints, indexing strategies, and identifying ETL requirements for downstream data feeds and data naming standards – Defines data quality and designs data quality measurements and controls – Designs data quality into the data model, metadata, and associated data transformation routines – Preserves and improves data quality during data conversion activities
ETL Specialist	• Creates ETL transformations, workflows, and jobs • Works to understand the data and the data model • Tests and debugs workflows
ETL Operations	• Creates ETL transformations, workflows, and jobs • Works to understand the data and the data model • Tests and debugs workflows • Develops the overall data transfer and conversion architecture • Responsible for after-hours scheduling
Senior Database Administrator	• Oversees and defines required database administration policies, procedures, standards, and guidelines • Manages logical and physical database design, development, operations, and maintenance • Evaluates and advises on data processing techniques, database management, and management information systems, concepts, and applications
Database Administrator	• Defines required database administration policies, procedures, standards, and guidelines • Performs logical and physical database design, development, operations, and maintenance
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Report Analyst	• Provides reporting expertise and quality support to the project team and DHHR • Works collaboratively with users to gather business requirements, define business rules, and translate them into reporting specifications • Develops and delivers BI reports, strategic reporting tools, and new enterprise reports • Performs ad hoc queries for DHHR as needed • Provides data validation support of the information for reports produced from the EDS
Tableau BI Developer Lead	• Manages the design of Tableau ad hoc and preconfigured reports to meet DHHR needs • Oversees support for Tableau visualizations that promote user self-service • Provides Tableau subject matter expertise • Assumes the following responsibilities that Tableau BI developers performed during DDI: – Designs Tableau ad hoc and preconfigured reports according to contract requirements – Provides support for Tableau visualizations
Liferay Developer	• Designs Liferay solution components according to contract requirements • Provides Liferay subject matter expertise

Approach for Providing Project Resources

Optum will provide the resources required to perform BI, reporting, analytics, and training activities for the project in compliance with contract requirements. We do this in all nine of our

current EDS contracts. Our staff will have the skills and experience required to perform your scope of work, even as multiple projects are ongoing. To provide project resources, we will use our established processes for the following:

- Achieving and maintaining staffing levels
- Applying staffing criterial
- Estimating resources
- Staff contingency planning
- Corrective action planning

Achieving and Maintaining Staffing Levels

Optum will maintain adequate staff to perform analytic, operational, and technical activities. We will achieve and maintain staffing levels and competencies to support software applications, data integrity, analytics, user training, and contract administration in compliance with SLAs.

Our approach to achieve and maintain staffing levels throughout the project incorporates Optum best practices, lessons learned, and PMBOK guidelines. These, in turn, have helped shape and refine our processes for managing project teams. We staff key roles with leaders who have DDI, operational, and enhancement experience on Medicaid projects similar in size and scope to this one. Our staff has successfully delivered some of the nation's largest state EDS and business intelligence solutions.

A key factor in maintaining staffing levels in compliance with contract requirements is hiring the right people. We hire individuals who share our cultural values of integrity, compassion, relationships, innovation, and performance. They possess the appropriate combination of expertise and versatility to adapt and respond to changing DHHR needs. We provide staff continuity throughout the life of the project by:

- Dedicating our staff to the project for applicable phases
- Executing well-established development, staffing, and employee satisfaction programs that result in low turnover and high retention
- Implementing a smooth transition to operations with continuity of staff
- Using a trusted subcontractor, such as TEKsystems, and the Optum human resources organization to acquire replacement staff in a timely manner as needed

Our staffing methods validate that our project work complies with the project objectives, deliverables, and scope. Our techniques include a reliable and dependable staffing selection criteria, estimation processes, and contingency plans to determine staffing levels.

Applying Staffing Criteria

We believe in transparency and collaboration from the top down. We will begin by aligning our project leadership with your corresponding leaders to develop strong working rapport and accountability. We can partner our project staff members and yours, enabling them to work closely together to define requirements, review deliverables, and test the solution.

We select our leadership team using selection criteria that include skills in leadership, facilitation, task coordination, PMBOK knowledge, and communication skills.

We select staff for our implementation and operations teams that work as a cohesive and effective team. In selecting the staff, our selection criteria include the following:

- Optum values and principles
- Extensive experience delivering solutions that align with the project scope

- Skills to conduct DDI activities and also provide the services and support for the project as it progresses into operations
- EDS, analytics, and IT expertise
- Appropriate credentials and educational background

Estimating Resources

Our estimation process will prepare us to release staff members when we no longer need them for a particular EDS task or phase. We derive our staff estimation from baseline resource levels we have used consistently on other EDS projects. We allocate resources using a month-by-month calendar and phase to make sure we have the right resources committed to the project at the right time. We use this calendar in conjunction with developing our work plan to align staff onboarding and ramp-up with the project schedule. Having staff on board before the phase helps our preliminary planning and preparation. In developing this proposal, we refined positions and staffing levels many times to make sure our FTE estimates are optimal for providing the best service for the project scope. Our estimation process uses inputs such as the following:

- Project timeline based on the RFP requirements, our work breakdown structure, and initial risks, assumptions, and constraints
- Contract staffing commitments, such as RFP-defined roles and skills
- Initial staffing allocations, which is information based on our past successful implementations, best practices, and lessons learned of comparable projects
- Statistical analysis of performance levels and metrics
- Staff expertise and qualifications
- Staff availability

Staff Contingency Planning

We will be prepared at all times to recruit qualified staff to implement all aspects of the services required in this contract within the stated time frames. Our project manager, implementation manager, and operations manager will consider assumptions and constraints of the project when planning for contingencies. We approach contingency with specific consideration to each individual role and position. We will analyze project needs and include DHHR in executing our contingency plans.

We will leverage TEKsystems to help us execute our contingency plans for staffing. TEKsystems has many consultants with knowledge and experience to provide contingency staff for the project. They have extensive experience in health care program design and helping large organizations in the public sector. We have worked with TEKsystems for over five years on other EDS projects including Michigan, Indiana, New York, Virginia, and the WVPATH project.

If DHHR and Optum determine additional staff is needed to the support the project, Optum will follow our standard staffing procedures to obtain qualified staff and maintain adequate staffing levels. When executing contingency plans, we look for staff members that can fulfill our staffing approach. When defining our staffing contingency plans, we consider the following:

- Broad experience with health care issues, EDS, analytics, and government
- Constraints of schedules and relocation requirements
- Staff availability relative to the project and tasks schedule

- Experience in health care systems, public health agencies, community-based organizations, state and federal Medicaid agencies, managed care and accountable care organizations, and health plans
- Extensive understanding of the challenges and constraints that DHHR faces related to policies, processes, and procedures
- Understanding and knowledge of DHHR policies and waivers
- Analytical transformation and holistic visualization skills
- In-depth knowledge of IT systems and solutions

Corrective Action Planning

DHHR will benefit from our contract management processes and procedures. We will monitor and control our contract management service levels and meet with you periodically to proactively discuss potential risks. This proactive interaction will give you less exposure to risk while providing earlier planning and preparation for corrective actions.

If DHHR determines, at its discretion, that Optum is not meeting requirements, timelines, quality, or other standards, we will increase staffing levels as a corrective action and at no additional cost to DHHR. We understand the Department will determine this by evaluating whether we are meeting deliverable dates, producing quality materials, consistently maintaining high quality, and meeting RFP and contract standards without significant rework or revision.

Organization Charts

We have designed an organization structure to support required staffing levels for this project. The organization charts we provide illustrate our proposed staffing for each project phase. Projects with this level of complexity need an organized and disciplined approach. Our organization charts will help us make sure we focus on the deliverables we need to provide. Organization charts are not limited to the beginning of the project. As an Optum best practice, we review organization charts at least quarterly to evaluate changes needed based on the evolving project needs.

If DHHR and Optum decide that additional staff is needed to the support the project, we will obtain qualified staff and maintain adequate staffing levels. We will only assign staff to the project, including key staff and support staff, with DHHR approval.

We will organize the project into implementation and operations phases. Each phase will have clear lines of authority and responsibility within our project team. We based the organization structure on our experience implementing and operating some of the most complex EDS projects in the country for states, such as California and New York. Our in-depth understanding of the staff required to perform your scope of work will enable us to deliver the solution on time and within budget.

Implementation Organization Chart

Our organization for the implementation phase will support the DHHR-specific configuration of the solution and provide a sound framework for a low-risk implementation. Leadership is more than just one individual and these Optum staff will make up the diverse and experienced leadership team. Optum has a teaming agreement in place with TEKsystems to supplement staffing, as needed, to make certain we maintain necessary staff and required staffing levels. Key roles will be filled by Optum and subcontractor personnel.

Figure 9 shows our proposed organization and reporting relationships for implementation. The Support Staff and Other Staff sections earlier in this response list the responsibilities for the support roles and other roles. Key staff high-level responsibilities follow this section.

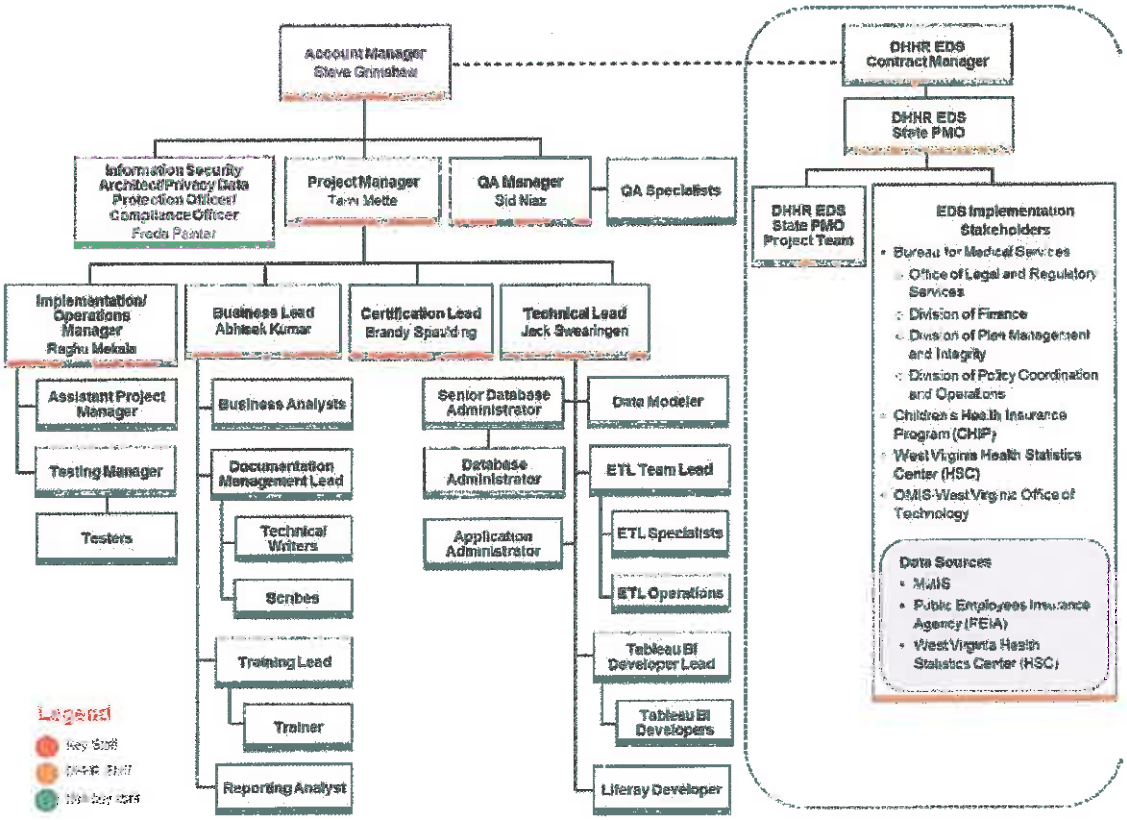

Figure 9: Implementation Organization Chart

We have carefully selected a team of experienced professionals to lead implementation based on an approach that reduces implementation time, cost, and risk for DHHR.

Operations Organization Chart

We designed our staffing model to make sure the transition from implementation to operations is smooth. All of our named key staff will transition from implementation to operations to provide continuity of project knowledge. We will manage and maintain the solution with a focus on quality, customer service, and cost containment. We plan to size our operations staff to deliver at an optimum level of efficiency while continuing to provide customer service excellence and operational efficiency. We achieve this through our focus on transitioning resources that are completing implementation activities over to operational roles and activities. Our objective is to maintain staffing continuity and facilitate retaining experienced West Virginia-based resources.

Figure 10 shows our proposed organization and reporting relationships for M&O. The Support Staff and Other Staff sections earlier in this response list the responsibilities for the support roles and other roles. Key staff high-level responsibilities follow this section.

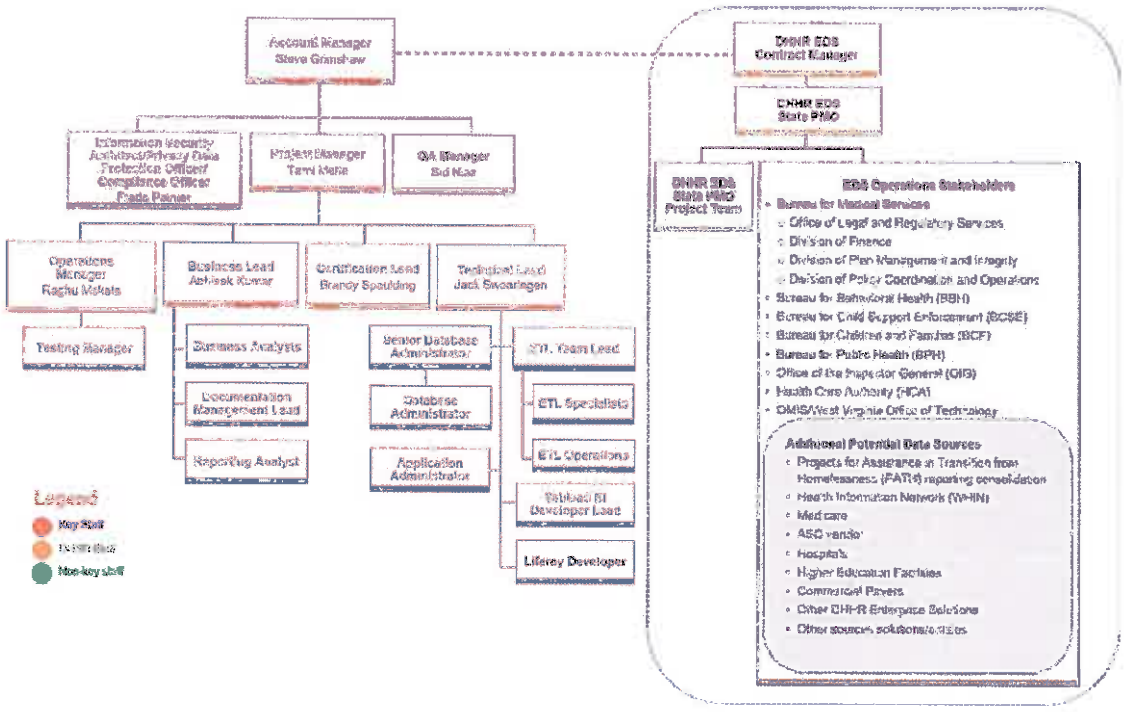

Figure 10: Operations Organization Chart

Our operational team will provide you with consistent and uninterrupted services as we help you achieve your business, quality, and technology goals.

Key Staff High-level Responsibilities

Our key staff responsibilities will comply with those defined in RFP Appendix 3, Staff Qualifications Experience and Responsibilities. The following table describes the high-level responsibilities of our key staff.

Role	High-level Responsibilities
Account Manager	• Oversees project delivery throughout the life of the contract; serves as the primary point of contact for DHHR through all project phases and meets with DHHR staff as needed • Builds and maintains strong communications and working relationships with DHHR, other vendors, and project stakeholders • Keeps DHHR and DHHR-designated parties updated on project status, project staff, and other subjects that are necessary for successful implementation and operations • Participates in in-person meetings and hearings of legislative committees, governmental bodies, agencies, and officers at the Department's request
Project Manager	• Provides onsite project management throughout the life of the contract in compliance with established project management and project governance standards • Serves as the DHHR liaison responsible for day-to-day activities and decisions during implementation and operations • Manages project staffing as well as project risks, issues, and change management activities • Validates the quality and timeliness of project deliverables, documentation, and reports comply with the approved work plan • Verifies that staff perform project activities according to the SDLC • Leads onsite status meetings, milestone meetings, and interim meetings with DHHR to provide transparency into project activities and status

Role	High-level Responsibilities
	◦ During operations, the project manager assumes the following responsibilities that the assistant project manager had during DDI: – Develops, maintains, and reports on the overall project schedule – Manages risks and issues, change management, budget, and SLA adherence – Manages the risk assessment tool, IRAAD; leads the creation of key deliverables, status reports, configurations, and systems for accuracy and suitability
Business Lead	• Serves as liaison between stakeholders throughout the life of the contract to validate adherence to DHHR policies and operations • Provides direction and expertise to make sure the solution incorporates DHHR policy and business rules and adheres to contract requirements • Coordinates day-to-day implementation activities and fosters communication between business analysis staff and other project staff • Manages business analyst work and resources, making sure work and work products are completed according to the project schedule • Serves as the senior business expert and makes sure the Department requirements and reporting needs are met
Technical Lead	◦ Serves as the technical SME and DHHR primary point of contact for the technical solution throughout the life of the contract ◦ Manages the technology team and technology infrastructure for successful delivery ◦ Validates the technical solution complies with system requirements efficiently and effectively in compliance with policies and standards ◦ Responsible for the quality and accuracy of the system support and maintenance documentation ◦ Leads formal design reviews for each iteration or code cycle and works with program leadership on project iterations and release cycles • Coordinates the technical design, implementation, and configuration of the solution architecture • Oversees the development of target data architecture, design principles, quality control, and data standards ◦ Works collaboratively with business subject matter experts and developers to identify data needs and confirm the integrity of the EDS • Leads development of standards for data interchange, management, operations, and administration • Monitors solution performance and accessibility and coordinates improvements to the architecture
Implementation Manager	• Responsible for solution planning, configuration, deployment, and certification activities for successful solution implementation ◦ Performs day-to-day planning, oversight, and resource management activities and manages implementation risks and issues • Responsible for timely delivery of implementation project deliverables ◦ Coordinates implementation activities with DHHR and builds strong communications and working relationships with project stakeholders and other vendors, such as the IV&V • Provides timely project status and progress communication to DHHR and stakeholders
Operations Manager	• Responsible for solution deployment, certification, deliverables, and operational and maintenance activities • Facilitates a smooth transition of project activities from implementation to M&O • Manages risks, issues, and the overall solution operations ◦ Coordinates maintenance activities with DHHR and validates timely and effective execution of maintenance activities • Oversees, supports, and monitors day-to-day activities for ongoing solution maintenance

Role	High-level Responsibilities
	• Provides timely communication on project status and progress to DHHR and project key stakeholders, including responding to IV&V requests as needed
Quality Assurance Manager	• Serves as the DHHR primary point of contact for QA work • Manages QA personnel and oversees QA work, including deliverable review, accuracy of reports, solution documentation, and the review of test results • Develops, executes, and maintains the Quality Management Plan • Establishes and executes quality monitoring and review processes • Establishes and executes QC processes to observe and correct variances or abnormalities and validate consistency in performance • Establishes and executes QC processes to verify work process modifications, training, communication, and implementation • Establishes and executes QC processes to verify data entry, system inputs and outputs, data integrity, and adequate internal controls • During operations, the quality assurance manager assumes the following responsibilities that the QA specialists held during DDI: – Evaluates deliverables, software, and associated documentation for correctness and completeness – Establishes project QA processes and procedures – Conducts formal and informal reviews to determine IT quality and develop software QA plans – Monitors Optum adherence to performance levels and develops initiatives to improve overall quality

Tools and Processes for Screening Staff

We use proven tools and processes to staff projects with skilled resources.

Optum Recruitment and Screening Process

Our recruitment and screening processes are ongoing and interactive. We work with our project teams and our human resources corporate recruiters to fill positions proactively with the most qualified candidate rather than reactively to meet requirements. Our technology-enabled recruitment and screening process shown in Figure 11, helps us locate qualified industry candidates and fill open positions efficiently.

Figure 11: Recruitment and Screening Process
Hiring the right people requires demand planning, sourcing, interviewing, selecting, and competitive offers.

Our project teams first send a needs assessment to our corporate recruiters. They work together to identify qualified candidates from our resource pool to meet or exceed requirements. We also solicit candidates from sources such as employment websites and agencies. Our external website provides the public information on open positions. We can also contract with qualified subcontractors as needed.

A standard step in our recruiting and screening is qualifications verification. We verify the approved applicant's qualifications and conduct a management interview to determine if the individual's skills match a job appropriately. For key personnel, we add an additional step and conduct an executive interview to make sure the person is the best fit. If the applicant is successful, a group of peers conducts a rigorous technical interview, where appropriate, to assess knowledge and skills. We consider both technical and behavioral responses to identify the most qualified candidates to perform work for our client contracts.

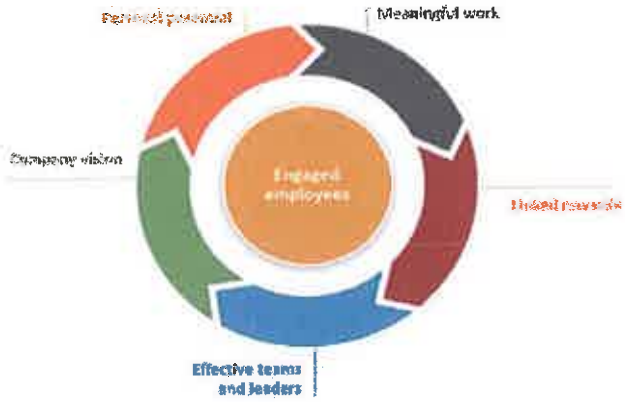

Figure 12: Employee Engagement Model
Optum promotes employee engagement to develop personnel and help them to reach their full potential.

Employee Engagement Model

Our employee engagement model promotes an environment of engagement that helps us staff projects with high-performing staff. Our human resources organization researches benefits and programs to provide the best mix of competitive benefits and rewards to attract and retain highly qualified professionals. As a critical component of providing qualified staff for West Virginia, our employee engagement focuses on the five areas shown in Figure 12.

- **Meaningful work:** Employees want to believe their work is valued. We assign skilled resources to positions that allow them to use their skills in meaningful ways to support Wyoming.
- **Linked rewards:** Staff require rewards for the value they give Optum. We offer competitive rewards linked to performance and use peer reviews in annual performance reviews.
- **Effective teams and leaders:** Effective teams and leaders are vital to engage employees. We assess our leaders continuously and provide leadership programs that promote our culture of customer service. Our employees use the annual Vital Signs survey to provide feedback on the effectiveness of company leadership, corporate direction, and their management. We share the results with employees to promote transparency and engagement.
- **Company vision:** Optum operates in a dynamic health care and IT environment. This make it critically important that Optum leadership shares the company vision with employees regularly so they remain aligned with our goals and cultural values as they serve our clients. To accomplish this, Optum leadership provides information to employees regularly through employee town halls and Web-based meetings.
- **Personal potential:** Staff need a certain level of challenge to maximize their potential. We provide training and cross-training to increase skills, which also benefits our clients.

Staff Replacement

We will work to minimize the impact of personnel changes to the project and provide transparency to DHHR as we do for all of our EDS clients. To accomplish this, we will give the Department a minimum of a 10-business-day notice for staffing changes. We will replace key staff within 30 business days after the position becomes vacant unless the Department approves a longer period of time.

We will work with you to select qualified key staff replacements. We will only replace key staff with professionals whose experience and qualifications are equal to or greater than those of the individual we are replacing. Before an anticipated change, we will provide resumes of qualified replacement candidates for DHHR review and approval. Key staff substitutions will begin work under the contract only after we receive your approval.

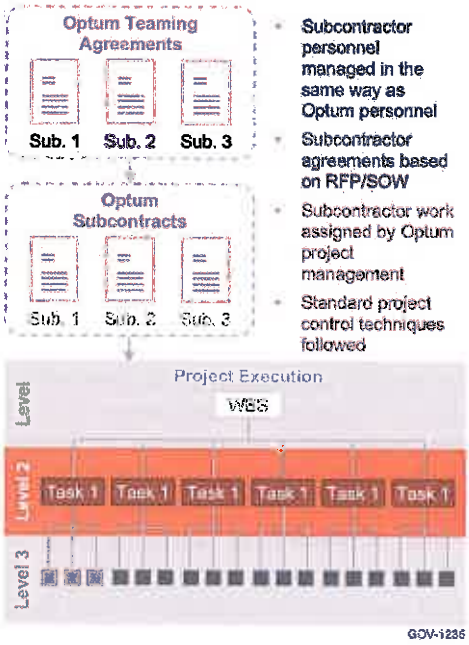

Figure 13: Subcontractor Management
Optum subcontracting agreements provide clear definition of work and lines of authority.

If the DHHR determines a key or support staff member has or may interfere in its operations, we will remove the staff member from the project at your request. The Human Resources Plan we provide after contract award will describe our standard operating procedures for succession planning, staff replacement, and backups.

Key Staff Backfilling

We will require all staff assigned to the EDS Project to participate in job rotation and cross-training. This will help maintain us backfill key staff and other roles, enabling us to maintain continuity in the event of planned and unplanned absences. We will augment cross-training with support from our corporate training staff as needed. Optum also can deploy additional staff from other internal departments, as needed, throughout the project. The Human Resources Plan we provide after contract award will describe our standard operating procedures for succession planning, staff replacement, and backups.

Subcontractors

Optum accepts financial, legal, ethical, and all other forms of responsibility for the conduct of all of our subcontractors, business partners, independent contractors, and other entities supporting us or working with us on this project. Our subcontractor for this contract is TEKsystems, an industry leader that has been supplying health care and IT professionals since 1983. Our formal teaming agreement with TEKsystems defines the legal relationships. Through this agreement, Optum will maintain project leadership, control, coordination, and oversight of our subcontractor. We will serve as the single point of contact for DHHR on matters related to our subcontractor and their work for this engagement.

As the prime contractor, Optum will be ultimately held accountable by DHHR for the success of this project and the work performed, including subcontractor work. To demonstrate this understanding and make sure everyone is invested in the project's success, we incorporate the

necessary flow-down provisions in our subcontractor agreements, as shown in Figure 13, to validate compliance with contract requirements. We hold our subcontractors to the same high standards we hold our staff.

Optum subcontracting agreements provide clear definition of work and lines of authority. We develop detailed statements of work that outline the roles and responsibilities for Optum and each subcontractor. TEKsystems staff will be direct reports to Optum leadership. We will stay fully informed on the project interactions and performance of our subcontractor staff. They will follow our standard project controls, such as project schedule adherence.

Our approach integrates subcontractor and Optum resources as one team. They will align and be unified in addressing project requirements and fulfilling the scope of work together to achieve project goals. The Staffing Management Plan we provide after contract award will detail our processes and standards for using subcontractors.

Letter of Intent

January 9, 2020

RE: Letter of Intent

State of West Virginia, Department of Health and Human Resources (DHHR)
Medicaid Enterprise Data Solution (EDS)
RFP# HHR200000001

To Whom It May Concern,

I am proposed as the QA Manager key staff role in the Optum proposal to provide the EDS for the State of West Virginia. I am not currently an Optum employee. I am instead a prospective employee of TEKsystems who is a subcontractor to Optum.

This letter confirms my intent to accept employment with TEKsystems and function in the above named role, under a subcontract between TEKsystems and Optum, if Optum is awarded the contract.

Sincerely,

Zahid Niaz
630-330-5024
Sid48@hotmail.com

January 9, 2020

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Sincerely,

Zahid Niaz
630-330-5024
Sid48@hotmail.com

TEKsystems
Our people make IT possible.

January 14, 2020
RE: Letter of Intent
State of West Virginia, Department of Health and Human Resources (DHHR)
Medicaid Enterprise Data Solution (EDS)
RFP# HHR200000001

To Whom It May Concern,

I am proposed as the Business Lead key staff role in the Optum proposal to provide the EDS for the State of West Virginia. I am not currently an Optum employee. I am instead an employee of TEKsystems who is a subcontractor to Optum.

This letter confirms my intent to accept employment in the above named role, under a subcontract between my employer and Optum, if Optum is awarded the contract.

Sincerely,

Abhishek Kumar, Business Lead
701-541-9257
Akumar23687

January 14, 2020
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State of West Virginia, Department of Health and Human Resources (DHHR)
Medicaid Enterprise Data Solution (EDS)
RFP# HHR200000001

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Abhishek Kumar, Business Lead
701-541-9257
Akumar23687

2. USE OF STATE STAFF

Describe the required staffing of business and technical resources DHHR should provide to support the creation of all deliverables. Specifically, the Vendor should address the following:

- The nature and extent of Department support required, in terms of staff roles and percentage of time available
- Assistance from Department staff and the experience and qualification levels of required staffing for both implementation and maintenance and operations phases

DHHR may not be able or willing to provide the additional support the Vendor lists in this part of its Proposal. The Vendor therefore should indicate whether its request for additional support is a requirement for its performance. If any part of the list is a requirement, the State may reject the Vendor's proposal, if DHHR is unwilling or unable to meet the requirements.

Optum Response:

Approach to Using State Staff

A close partnership with DHHR will be vital to the project's success. Our goal is to foster open communications, shared goals, a spirit of cooperation, and a positive working environment. We will work with you to implement a coordinated approach that includes regular communication and collaboration. We will schedule meetings with a focus on making the best use of DHHR staff time. The percentage of time we will need your staff available will vary based on their expertise and the number of staff involved. The following table shows the project support we anticipate needing from DHHR.

DHHR Staff Roles and Percentage	Responsibilities	Experience and Qualification Levels
Program-Level Governance Staff Less than 10%	Project meetings, change control, enterprise program oversight, finalizing project procurements for a successful implementation, budget, and State and federal contractual reporting requirements	Experience in program management, governance, change control, and reporting
Steering Committee Members Less than 5%	Steering Committee meetings, guidance, project oversight, review performance measurements including Key Performance Indicators (KPIs), SLAs, contract management, project consultation and decision-making, stakeholder roles and responsibilities, and project strategy approvals	Experience providing project direction and oversight
Enterprise Leadership Staff Less than 10%	In close collaboration with other vendors: project leadership, oversight of the project strategy, multi-party risk and issues management, communicating and establishing project priorities, and managing project goals and outcomes	Experience overseeing project strategy, issue management, prioritization, and project goal management across multiple vendors and stakeholders
Project Governance Staff Less than 10%	Integration of project management processes and governance structures to support State PMO guidelines and framework to include: • Project management oversight and schedule management • Multi-party risk and issue management and scope and requirements management • Quality management and CMS gate reviews • Status management and reporting • Enterprise deliverables management	Experience integrating project management processes and governance structures

DHHR Staff Roles and Percentage	Responsibilities	Experience and Qualification Levels
	• SME in each program area to validate reporting assumptions	
Technical Staff or ITO Less than 10%	Integration of the technical management processes and governance structures to include: • Review and approve performance monitoring and reporting • Monitor system performance • Review and approve system downtime requests • Participate in architectural reviews • Data analyst for each data source to validate our data profiling	Experience in technical solution management, data analysis, performance monitoring, and reporting
Functional Units Staff or State PMO Less than 25%	Discovery, project deliverable reviews, data gathering and reporting, business rules validation, requirements validation, test plan validation and product testing, and training participation	Experience in deliverable reviews, data gathering/ reporting, business rules and requirements validation, testing, training

3. KEY STAFF, RESUMES, AND REFERENCES

Key staff consist of the project's senior leadership for the EDS project. These resources are responsible for providing leadership, and creating the standards and processes required for the successful implementation, operation, and maintenance. Resumes for key staff named in the Vendor proposal should indicate the role of the staff on the EDS project and demonstrate how each staff member's experience and education will contribute to the successful implementation of the EDS. The Vendor should make the proposed key staff available for an in-person interview upon DHHR's request.

To ensure successful transition to the operations phase, the implementation activities should be led by key staff identified in the list below:

- Account Manager
- Project Manager
- Business Lead
- Technical Lead
- Implementation Manager
- Operations Manager
- Certification Lead
- Quality Assurance Manager

The qualifications, experience, and responsibilities for each key staff role are defined in ***Appendix 3: Staff Qualifications, Experience, and Responsibilities***.

3.1 Resumes

The Vendor should complete Table 16 and embed resumes of all proposed key staff to this section of the proposal. Each resume should demonstrate experience relevant to the position proposed. If applicable, resumes should include work on projects cited under the Vendor's corporate experience, and the specific functions performed on such projects.

Table 9: Resumes for Proposed Key Staff

Name	Proposed Role	Experience in Proposed Role
Mr. Steve Grimshaw	Account Manager	• 30 years of demonstrated experience in project management for a State Medicaid Agencies with operations similar to West Virginia • 30 years of demonstrated experience in project management for implementation of information systems • Bachelor of Science, computer sciences major, accounting minor, Southeast Missouri State University, and over 35 years related experience • PMI Certified PMP and CSM with more than 35 years of IT experience • 30 years of knowledge of Project Management standards and best practices

Name	Proposed Role	Experience in Proposed Role
		including PMBOK
Ms. Tami Mette	Project Manager	• 10 years of demonstrated experience in project management for a State Medicaid Agency with operations of a similar size to West Virginia • 10 years of demonstrated experience in project management for implementation of information systems • Bachelor of Science in computer science, Metropolitan State University, St. Paul, Minnesota, and 10 years related experience • PMI Certified PMP and CSM with 15 years of project management experience • 10 years of knowledge of project management standards and best practices including PMBOK
Mr. Abhishek Kumar	Business Lead	• Eight years of demonstrated experience working within a State Medicaid Agency with operations of similar size to West Virginia • Eight years of demonstrated experience in implementation of information systems • Eight years of experience managing project controls including issues, risks, requirements, scope, schedules • MBA, University of Albany - State University of New York and a Bachelor of Science, North Dakota State University with eight years of related experience • PMI Certified PMP with more than eight years of related experience • Eight years of knowledge of project management standards and best practices including PMBOK
Mr. Jack Swearingen	Technical Lead	• 29 years of demonstrated experience in delivering and maintaining large-scale solutions, with a 29 years in a progressively responsible supervisory or management role • Bachelor of Arts in Economics, St. John's University, Collegeville, Minnesota, and 29 years of related experience • More than 11 years of knowledge of applicable standards for health information systems, including Medicaid systems

Name	Proposed Role	Experience in Proposed Role
Mr. Raghu Mekala	Implementation Manager and Operations Manager	• 15 years of demonstrated experience in project management for a State Medicaid Agency for DHHR • 15 years of demonstrated experience in project management for implementation of information systems • Master of Science, technology management with an information technology emphasis, Marshall University, Huntington, West Virginia and a Bachelor of Science, computer science, Nagarjuna University, India • PMI Certified PMP with 15 years of related experience • 15 years of knowledge of project management standards and best practices, including the PMBOK
Ms. Brandy Spalding	Certification Lead	• More than 15 years of experience working in or with state government, including 11 years working for DHHR • Actively participated in the implementation and certification of the West Virginia Medicaid MMIS, a COTS-based Medicaid Enterprise Solution (MES) module certification project that replaced the legacy mainframe, and a demonstrated knowledge of current CMS IT certification standards • More than 15 years of experience with large scale IT implementations in the public or private sector • PMI PMP certification in process for an April 2020 completion • Associate Degree of Applied Science, Medical Administration, West Virginia State University, and more than 15 years of related experience
Mr. Sid Niaz	Quality Assurance Manager	• More than 10 years of demonstrated experience in developing and maintaining vigorous ongoing QC functions for system implementations or operations and business processes for an organization of comparable size implementing IT projects • Bachelor of Science, computer science, Western Illinois University, and more than 10 years related experience

Name	Proposed Role	Experience in Proposed Role
		• More than 10 years of knowledge of applicable standards for health information systems • More than 10 years of experience developing and maintaining QC functions that address quality checks throughout the life of a similar project

The following pages include the resumes of our key staff.

Steve Grimshaw, PMP, CSM
Account Manager

Experience Summary

Mr. Grimshaw is a certified Project Management Professional (PMP) and Certified Scrum Master (CSM) with more than 35 years of information technology (IT) experience. This includes more than 31 years of state Medicaid systems implementation experience with operations similar to West Virginia. He has more than 30 years of project management and leadership experience with large-scale Medicaid projects. Mr. Grimshaw is skilled at managing projects according to the Project Management Institute (PMI) Project Management Institute Book of Knowledge (PMBOK). As a director of IT project management with Optum, he manages the full system development life cycle (SDLC) for implementation and operations projects. These include EDS and DSS engagements for California, New Jersey, and Arkansas, as well as the West Virginia Integrated Eligibility System (WV IES) and Montana MMIS provider services projects. In addition to his project management skills, Mr. Grimshaw is knowledgeable in analytic problems and the semantic content of Medicaid and HHS data. His proven ability to work effectively with clients, executive leaders, and project staff contributes to the success of each project he leads.
His background and expertise include:

- 30 years of demonstrated experience in project management for a State Medicaid Agency with operations similar to West Virginia
- 30 years of demonstrated experience in project management for implementation of information systems
- Bachelor of Science, Computer Sciences major, Accounting minor, Southeast Missouri State University, and over 35 years related experience
- Project Management Institute Certified PMP and CSM with more than 35 years of IT experience.
- 30 years of knowledge of Project Management standards and best practices including PMBOK

Work Experience

Optum Government Solutions

Director of IT Project Management, California, 2017-Present

- Responsible for the California Department of Health Care Services (DHCS) Management Information System (MIS)/DSS project
- Work includes the full SDLC from initiation through post implementation on new development, O&M, and DDI projects that have included: New Jersey Business Data Warehouse new development project, New Jersey Shared Data Warehouse DDI projects, Arkansas Medicaid Enterprise Medicaid Management Information System (MMIS) DSS DDI Phase 2 new development, Arkansas Medicaid Enterprise MMIS DSS DDI and O&M projects, California DHCS Management Information System (MIS)/DSS DDI and O&M projects, West Virginia Integrated Eligibility System DDI project, and Montana Provider Services Module DDI project

Project Manager, California DHCS MIS/DSS Project, California, 2015-2017 and 2009-2013

- Served as the single point of contact for the State; directed project activities, planned the work, oversaw deliverable development, managed resources, oversaw issue resolution and other critical project tasks

Project/Account Manager, Arkansas MMIS DSS Project, Arkansas, 2014-2015

- Served as the primary point of contact with the State; managed the DDI manager, operations manager, and subcontractors; provisioned resources; presented all formal communication and correspondence to the State

Assistant Project Manager, California DHCS MIS/DSS Project, California, 2007-2008

- Served as the senior leader responsible for the day-to-day operations; helped the project manager with administrative duties including tracking metrics such as milestones, issues, and communicating progress

Systems Manager, ACS State Healthcare (now Conduent), Washington, D.C., 2006-2007

- Planned systems activities, both on-site and off-site, for the MMIS fiscal agent; validated the MMIS processed claims accurately and timely, and that online and batch jobs performed in compliance with the contract
- Provided leadership in project progress, methods, and technology for the project managers and systems staff; coordinated work efforts between the Medicaid Assistance Administration and ACS

Program Manager, Health and Human Services Practice, Bull Services, Washington, D.C., 2005-2006

- Led the product demonstration project; managed and tracked the development of demonstration software

Software Engineering Manager, Business Development, Unisys Corporation, Virginia, 2002-2005

- Used health care and Medicaid technical and subject matter expertise to provide product solutions, gap analysis, and work plan development, including schedules, statements of work, and resource assignments; led a matrix organization of project managers to develop work schedules and resource allocations (i.e., build of effort); developed document repositories accessible through web browser interfaces to staff

Technical Manager II, Verizon, Missouri, 1997-2002

- Planned systems activities, both on-site and off-site, for the Missouri MMIS to validate the MMIS processed claims accurately and timely; coordinated work between agencies; managed ongoing operations of the systems department; managed the implementation of 10 enhancements to the MMIS between 1999 and 2002

Systems Manager, Unisys, Oklahoma, 1995-1997

- Led projects that included the systems development and implementation of Oklahoma's statewide rural managed care program; developed project work plans for the maintenance and modification team
- Supervised two project managers responsible and a staff of more than 30 individuals; tracked actual to estimated work schedules; produced reports for management and staff; created statements of work for subcontractors

Senior Systems Engineer, Verizon, Florida, 1992-1995

- Provided senior technical support during information systems evaluation; formulated conceptual solutions to complex technical problems, documenting recommendations, developing standards, and verifying results; evaluated hardware and software products and recommended systems for implementation

Project Lead, Kansas Medicaid Project

- Led project managers and helped develop the requirement validation document for the provider, recipient, and Third Party Liability subsystems; developed project work plans, tracked progress, and reported weekly status

Data Warehousing Manager, Blue Cross Blue Shield of Maryland Project

- Led and assisted in the implementation design of data ware house support system products

Decomposition Manager, Medicare Transaction System Project

- Directed project planning activities for the decomposition of the Medicare Part B systems

Systems Supervisor, Verizon/GTE, Missouri, 1989-1992

- Validated accurate and timely development, implementation, maintenance, modification, and production of the Missouri MMIS; supervised two project managers who led five to seven programmer/analysts
- Led the design, programming, testing, and implementation of the pharmacy point of sale enhancement; led system testing of the new Missouri claims processing subsystem enhancements

Senior Programmer Analyst, Verizon/GTE, Missouri, 1988-1989

- Programmed, tested, implemented, and provided user training for system enhancement; helped with Missouri Medicaid implementation by recompiling system and making CICS changes for medical criteria online screens

Programmer Analyst, State of Missouri, Missouri, 1984-1988

- Worked on administrative accounting systems and instant gaming software for the Missouri State Lottery Commission; worked on payroll and accounting systems for the Missouri State Office of Administration

Education

Bachelor of Science, Computer Sciences major, Accounting minor, Southeast Missouri State University, Cape Girardeau, Missouri

Technical Skills

Hardware/Software	Microsoft Office Suite, Microsoft Visio, Microsoft Project, Microsoft SharePoint
Certifications	• Certified Project Management Professional, (PMP), Project Management Institute • Certified Scrum Master (CSM), Scrum Alliance

Tami Mette, PMP, CSM
Project Manager

Experience Summary

Ms. Mette is a certified Project Management Professional (PMP) and a Certified Scrum Master (CSM) with more than 15 years of project management experience. This includes 10 years of project management experience implementing information systems for state Medicaid agencies with similar operations to West Virginia. Ms. Mette is knowledgeable and experienced in applying Project Management Institute (PMI) Project Management Institute Book of Knowledge (PMBOK) project management standards and best practices to the projects she manages. As a director of technology program and project management for Optum, she leads engagements for next-generation applications and components. She holds key management positions on state contracts and participates in pre-award efforts, implementation, and operations transition and support. Before joining Optum, Ms. Mette led teams to design and implement IT projects for clients that included the State of West Virginia, Idaho, and the U.S. Virgin Islands. She managed the integration of the West Virginia Children's Health Insurance Program (WV CHIP) into the core West Virginia Medicaid Management Information System (MMIS), including requirements development, design, and implementation. Ms. Mette is effective directing Project Management Office (PMO) teams to develop high-quality programs that provide tangible results for enterprise financial and legacy workflow systems.
Her background and experience includes:

- 10 years of demonstrated experience in project management for a State Medicaid Agency with operations of a similar size to West Virginia
- 10 years of demonstrated experience in project management for implementation of information systems
- Bachelor of Science in Computer Science, Metropolitan State University, St. Paul, Minnesota, and 10 years related experience
- Project Management Institute Certified PMP and CSM with 15 years of project management experience
- 10 years of knowledge of Project Management standards and best practices including PMBOK
- Managed the integration of the West Virginia Children's Health Insurance Program (WV CHIP) into the core West Virginia MMIS solution, including requirements development, design, and implementation
- Served on the U.S. Virgin Islands MMIS re-procurement project leadership team for the first state-to-state MMIS fiscal agent hosting solution in the Medicaid industry

Work Experience

Director of Technical Program/Project Management, Optum, Minnesota, 2018-Present

- Serving as project manager for the Montana Provider Services Module (PSM) engagement
- Oversees the day-to-day activities of the PSM DDI
- Serves as the Department's primary point of contact for all project related matters
- Liaison for certification as well as collaborator with other contractors and stakeholders

Senior Program Manager, Architecture Support, Molina Medicaid Solutions, California, 2008-2018

- Led engagements for a next-generation MMIS fiscal agent application
- Held key management positions on multiple state contract awards; participated in pre-award efforts, implementation, and subsequent operations transition and support

West Virginia MMIS Re-procurement Project, 2012-2018

- Initiated the modernization of the provider management solution and operational protocols, resulting in an improved relationship with the State and an enhanced provider enrollment experience
- Led multi-functional technology teams; served as key contributor and mentor for a PMO with up to 10 cross-functional resources; managed development of innovative software systems and applications
- Managed the integration of the WV CHIP into the core West Virginia MMIS solution, including requirements development, design, and implementation; project required extensive coordination with State and third party vendors that supported provider validation, member eligibility and invoicing, and claims processing for the West Virginia CHIP member community
- Directed and remediated programs requiring complex architectural and operational process changes

- Hand-picked by the executive team to turn around underperforming programs

U.S. Virgin Islands MMIS Re-procurement Project, 2010-2012

- Served on the leadership team for the first state-to-state MMIS fiscal agent hosting solution in the Medicaid industry
- Generated additional $800,000 in revenue through close scope management of contractual requirements
- Presented material during monthly CMS status meetings on behalf of the client as needed
- Implemented the transition of the project plan toolset from Microsoft Project to Oracle Primavera; created, resourced, and maintained five ongoing site plans within a highly matrixed organization

Idaho MMIS Re-procurement Project, 2008-2010

- Managed team of 10 elite application subject matter experts who received and resolved issues that had been escalated to the press and government officials; established defect and release management protocols and best practices for distributed development and quality assurance teams

Software Project Manager and Program Consultant, Transportation Industry Solutions, Unisys, Minnesota, 2007-2008

- Led development project for next-generation Java 2 Platform, Enterprise Edition (J2EE) marketing, sales, and service solution suite designed to replace legacy airline reservations, inventory, and departure control systems (AirCore); project had a $64 million research and development budget and a five-year development plan
- Improved project management processes by implementing defect tracking and change management protocols
- Contributed to change request estimates based on Unified Modeling Language life cycle best practices
- Established and managed focused test phase for Business Acceptance Testing that resulted in measurable improvements in the quality of software fixes

Software Quality Assurance Manager, Public Sector, New York Division of Criminal Justice Services, Unisys, New York, 2006-2007

- Served as the project manager of quality assurance and testing to modernize a legacy mainframe application to next-generation J2EE system architecture; application maintained New York State's criminal history and fingerprint data, which are used to provide police departments and other agencies with criminal records of arrested individuals and civil applicants for employment or licensure
- Managed a team of 15-20 functional test analysts that developed and executed approximately 3,000 test cases
- Developed a test strategy that used multiple system artifacts (e.g., use cases, legacy artifacts, client interviews) to derive a set of extensive end-to-end business-based test cases
- Created low-cost test model by engaging a team of Unisys test leads and offshore subcontractor test analysts

Software Project Manager and Program Consultant, Transportation Industry Solutions, Unisys, Minnesota, 2002-2006

- Led development project for the next-generation J2EE marketing, sales, and service solution suite
- Managed team of 10 business analysts; responsibilities included hiring, promotions, mentoring, and discipline
- Worked with the client to negotiate requirements scope, priority, and scheduling
- Developed and implemented an offshore test model that reduced costs by 35 percent and increased the number of staff days available for test cycles

Education

- Bachelor of Science, Computer Science, Honors Graduate, Metropolitan State University, St. Paul, Minnesota

Technical Skills

Hardware/Software	Microsoft Office Suite, Microsoft Project, Microsoft SharePoint, Java, J2EE, SQL Server, Rational Enterprise Suite, HP Quality Center, Oracle Primavera
Certifications	Certified Project Management Professional (PMP), Project Management Institute Certified Scrum Master (CSM)

Abhishek Kumar, PMP

Business Lead

Experience Summary

Mr. Kumar is a Project Management Institute (PMI) certified Project Management Professional (PMP) knowledgeable of project management standards and best practices, including the Project Management Institute Book of Knowledge (PMBOK). He leads requirements management activities in support of state government clients. Mr. Kumar has worked closely with states such as New York, North Carolina, and North Dakota. He has a specialized focus on Medicare and Medicaid plans, the Children's Health Insurance Program (CHIP), the Supplemental Nutrition Assistance Program (SNAP), and Temporary Assistance for Needy Families (TANF). He has a strong understanding of Medicaid Management Information Systems (MMISs), health care reform, and health care legislation such as the Affordable Care Act.

Working for TEKsystems, Mr. Kumar conducted requirements gathering sessions with the New York State Department of Health (NYSDOH) and other stakeholders to capture scope for health exchange change requests. He is particularly skilled at working with users to identify their needs and translate their non-technical requirements into detailed technical specifications. Mr. Kumar's advanced collaboration skills enable him to mentor teams with diverse skill sets and lead effective joint application development (JAD) sessions to develop functional specifications.

His background and expertise include:

- Eight years of demonstrated experience working within a State Medicaid Agency with operations of similar size to West Virginia
- Eight years of demonstrated experience in implementation of information systems
- Eight years of experience managing project controls including issues, risks, requirements, scope, schedules
- Master of Business Administration, University of Albany - State University of New York and a Bachelor of Science, North Dakota State University with eight years of related experience
- Project Management Institute Certified PMP with more than eight years of related experience
- Eight years of knowledge of Project Management standards and best practices including PMBOK
- Applying various project management methodologies used in the Software Development Life Cycle (SDLC), including waterfall, Agile, Scrum, and Rapid Application Development (RAD)
- Authoring and reviewing Business Requirement Documents (BRDs), Functional Requirements Document (FRDs), Software Requirement Specifications (SRS), Technical Specification Documents (TSDs), and Technical Design Documents (TDDs)
- Leading analysis activities and performing root cause analysis; Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis; gap analysis; impact analysis; and risk analysis and mitigation

Work Experience

Lead Business Analyst and System Designer, General Dynamics Information Technology (GDIT) (formerly Computer Science Corporation and CSRA), New York, 2015-Present

- Worked on the GDIT project to provide New York State with design, development and implementation (DDI) services to operate the New York State of Health (NYSoH) health exchange
- Assisted the NYSoH requirements and development team with a focus on eligibility and enrollment modules and development and implementation of a back office and customer service application
- Led requirements sessions with NYSDOH to capture scope for change requests, identify business flow, and determine if new development efforts affected current or proposed system functionalities or applications
- Assisted with project management planning; conducted scheduling and cost estimation for change requests and enhancements that NYSDOH submitted to better track resource allocation and release timelines
- Prepared project cost estimates such as Rough Order of Magnitude (ROM) and Basis of Estimate (BOE) for change requests and enhancements during different SDLC stages
- Monitored risks associated with project schedule, resource allocation, and cost estimates; worked on risk mitigation strategies from inception to implementation for each scope item agreed upon with NYSDOH
- Mentored analysts on preparing Requirement Specification Documents (RSDs), Enhancement Specification Documents (ESDs), and TSD/TDDs for system functionality enhancement requests and new change requests

Lead Business System Analyst, Truven Health Analytics, North Carolina, 2015

- Worked on the Truven Health reporting and analytics contract for NCTracks, which has a collection of all the data from claims, member, provider, prior authorization, multi-payer, financial, third-party liability (TPL), and reference subject areas received from different North Carolina State affiliated health care agencies

- Implemented physical aspects of the model, tuning transaction volumes to 500-600 transactions per second
- Translated and communicated requirements between the business users, Truven's Extract, Transform, Load (ETL) team and the technical SAS team; conducted multiple requirements sessions with the State and vendors
- Conducted JAD sessions with team members from different functional areas (e.g., data integration programmers, database architects, ETL and data acquisition, project managers, and developers)
- Assisted project managers with project planning, initiation, and integration efforts
- Conducted System Integration Testing and User Acceptance Testing (UAT) for extract files delivered to the client; documented and communicated test results to the client; helped with user queries and downstream updates
- Assisted the ETL team with data acquisition from NCTracks and loading data to staging tables and the DW
- Produced reconciliation reports and field-level record count validations and data validations for each extract file using SQL Developer and DataStage tools

Systems Analyst/Systems Designer, North Dakota Department of Human Services (DHS) Information Technology Department (ITD), North Dakota, 2012-2015

- Worked on the DHS project to replace and modernize its Medicaid and Children's Health Insurance Program (CHIP) and Economic Assistance Program (EAP) eligibility systems and implement the Affordable Care Act (ACA) provisions for Medicaid eligibility, which will also support the Federally Facilitated Marketplace (FFM) model of the Health Insurance Exchange (HIX)
- Documented business and system requirements, including program-level and user-level documentation; created use case models and other analysis documents; produced business process models, data models, site maps, wire frames, and Web pages using tools such as Sybase Power Designer, Microsoft Visio, and Adobe Dreamweaver; performed gap analyses to assess as-is and to-be scenarios; created process flow diagrams for the scenarios; conducted JAD sessions to define project scope, identify business flow, and determine whether any current or proposed systems were affected by the new development efforts
- Prepared the BRD and FRD for the enhancement of the existing services; prepared and maintained the RTM throughout the project lifecycle; developed design concepts for applications, including operational features, user interface and interactions with other equipment using Business Service Documents (BSD) provided by CMS
- Produced Business Design Specifications and Technical Design Specifications to communicate business and functional requirements to the development team that were gathered during analysis
- Created and updated workflow diagrams, UML diagrams, process models, activity diagrams, and use cases; created detailed design specifications and led design sessions with stakeholders and peer reviewers; reviewed architecture diagrams; recommended updates for improving entity relationship diagrams
- Reviewed and modified physical data model and conceptual data model for client database with database team
- Maintained documents for change requests and implemented procedures for testing changes
- Identified risks and made recommendations for mitigating them; documented lessons learned

Research Analyst, North Dakota State University, North Dakota, 2011-2012

- Conducted plant pathology research in the plant pathology department for a federally funded program; reviewed, interpreted, and analyzed field data and results from laboratory experiments using statistical techniques and generated standardized reports; identified risks associated with the project and recommended mitigations

Education

- Master of Business Administration, University of Albany - State University of New York, Albany, New York
- Bachelor of Science, North Dakota State University, Fargo, North Dakota

Technical Skills

Hardware/Software/Other	Microsoft Project, Microsoft Office Suite, Microsoft SharePoint, Microsoft Visio, Rational Team Concert (Jazz), Rally, Rational Clear Quest, Rational DOORS, DB2, SQL Server, Agile, SDLC, Scrum, Waterfall, C, SQL, XML
Certifications	Certified Project Management Professional (PMP), Project Management Institute
Honors	Beta Gamma Sigma - The International Business Honor Society

Jack Swearingen
Technical Lead

Experience Summary

Mr. Swearingen is a lead architect with 29 years of management experience delivering and maintaining large-scale enterprise data solutions and providing operational decision support. He has 17 years of health care information technology (IT) experience that includes 11 years of Medicaid experience, giving him an in-depth knowledge of applicable standards for health information systems. Mr. Swearingen has substantial experience serving as the principal architect for full life cycle of development projects for enterprise data solutions, data marts, and operational data stores. As a senior architect with Optum, he leads information architecture projects and design, development, and implementation (DDI) engagements for state government clients. For the State of Arkansas, he served as the technical solution architect for the Arkansas Medicaid Decision Support System (DDS)/Enterprise Data Warehouse (EDW) EDS. He specializes in data quality management; Extract, Transform, Load (ETL) design and development; dimensional modeling; physical database implementation; database administration; SQL performance tuning; architecture optimization; and metadata architecture and design. Mr. Swearingen has spent several years managing assets he architected and deployed. This experience, and his understanding of how core infrastructure components interact, have given him a significant knowledge base of best practices and unique solutioning capabilities.

His background and expertise include:

- 29 years of demonstrated experience in delivering and maintaining large-scale solutions, with a 29 years in a progressively responsible supervisory or management role
- Bachelor of Arts in Economics, St. John's University, Collegeville, Minnesota, and 29 years of related experience
- More than 11 years of knowledge of applicable standards for health information systems, including Medicaid systems
- Developing solutions aligned with MITA 3.0 and the CMS Seven Conditions and Standards
- Provided best practices in data management architecting and building large scale data warehouse assets as data warehouse practice manager

Work Experience

Optum

Lead Architect, New York All Payer Database, New York, 2016–Present

- Leads the technical solution DDI for the New York All Payer Database, which integrates claims across Medicaid, Medicare, Commercial and the NYS Health Exchange
- Led the data center build out, including installing and configuring the physical and virtual server components, installation and configuration of the applications, and the interoperability of all application components
- Oversees secure business-to-business, managed file transfer, and federated connectivity between the State and data warehouse applications; responsible for implementation and evidence capture for all NIST 800-53 controls

Technical Solutions Architect, Arkansas Medicaid Enterprise Data Warehouse, Arkansas, 2014–2016

- Led the data center build out and the installation and configuration of the physical and virtual server components; led the installation and performance testing of storage arrays and application components
- Oversaw the secure B2B, managed file transfer and federated connectivity between the State and the data warehouse applications; responsible for implementation and evidence capture for NIST 800-53 security controls

Director, Data Fabric Architecture, Minnesota, 2011–2013

- Responsible for data intake, data storage, data enrichment, data integration, data quality, data de-identification, data security, and data provisioning through the use of common services

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Talent Consulting

Lead Architect, Minnesota, 2010–2011

- Served as lead architect for the Optum enterprise clinical operational data store (ODS) built to integrate clinical events across government and commercial entities
- Orchestrated and delivered the solution's logical and physical models; designed a security provisioning process to comply with HIPAA; deployed Oracle Virtual Private Database (VPD) to support HIPAA security requirements

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Domain Architect, Medica, Minnesota, 2009–2010

- Supported the conceptual, logical, and physical modeling of two complex problem domains—product and provider— for the UNET/COSMOS integration initiative
- Conformed final domain models to Medica's existing data architecture and standards to align with other domains that were already complete

Lead Architect, Optum, Minnesota, 2008–2009

- Orchestrated and delivered the conceptual, logical, and physical models for the OptumHealth ODS Phase 1 initiative; supported user acceptance testing to validate system outputs met business requirements

Principal Data Warehouse Architect, Medica, Minnesota, 2007–2008

- Identified business requirements for Medica's ODS
- Analyzed source data in reference to requirements, completed the target ODS data architecture; and assisted with ETL design complexities associated with health care data
- Implemented physical aspects of the model, tuning transaction volumes to 500-600 transactions per second

Data Warehouse Architect, Select Comfort, Minnesota, 2004–2007

- Analyzed requirements and designed and implemented Select Comfort's core data warehouse infrastructure for the Phase 1 data warehouse initiative
- Completed the logical and physical database design and the ETL design; created unit and integration test cases; oversaw testing of infrastructure components; created production roll-out schedule; oversaw the implementation

Chief Data Warehouse Architect, Agrillance (a division of Land o'Lakes), Minnesota, 2002–2004

- Responsible for the DDI of point of sale data warehouse

Consulting Architect, Best Buy, Minnesota, 2002

- Performed an assessment of Best Buy's data warehouse and CRM environment; documented the interfaces within the environment, assessing low latency, and high availability requirements of each interface
- Coordinated benchmarking of transaction characteristics for each environment; benchmarked the current size and growth expectations to assess scalability requirements

Principal Data Warehouse Architect, Medica, Minnesota, 1999–2002

- Interviewed users to obtain business requirements; designed and automated the process to capture inputs for data discovery; compressed data discovery timelines; defined source data extract requirements; designed data quality processes; designed and implemented health plan data warehouse; architected the metadata model

Project Lead/Principal Integration Architect, Allina Health System, Minnesota 1997–1999

- Integrated clinic, hospital, and plan; led requirements gathering; mapped operational requirements to source systems; wrote extract requirements; designed integration process; produced data mart

Electronic Data Systems (now DXC Technology)

Principal Data Warehouse Architect, General Motors, GM Credit Card, Michigan, 1992–1997

- Assisted with ETL design and sourcing strategies; led DW and data mart modeling efforts, implementing them

Research Analyst, General Motors, Buick Motors Division, Michigan, 1990–1992

- Used decision support tools, programmed ad hoc requests, extracted and reported data from external databases

Education	
Bachelor of Arts, Economics, St. John's University, Collegeville, Minnesota	
Technical Skills	
Hardware/Software	Data warehouse infrastructure components including Informatica PowerCenter, erwin, Ambeo Usage Tracker, Trillium, Unix System Administration, Open Systems Architecture
Training	• Informatica PowerCenter, erwin, Ambeo Usage Tracker, Trillium, Unix System Administration, Open Systems Architecture, and dimensional modeling design and implementation • Completed the Oracle database administrator masters curriculum • Electronic Data Systems, Systems Engineering Development program

Raghuram Mekala, PMP
Implementation and Operations Manager

Experience Summary

Mr. Mekala is a certified Project Management Professional (PMP) and long-time West Virginia resident with over 20 years of enterprise IT experience. He has consulted with DHHR for 17 years, which includes 15 years of project management experience implementing and operating information systems. Mr. Mekala manages projects according to the Project Management Institute (PMI) Project Management Institute Book of Knowledge (PMBOK), with a focus on requirements elicitation and management, systems and business analysis, design, development, implementation, operational support, and service level management. Mr. Mekala has a proven ability to identify and adopt the optimal processes, technologies, and tools for helping businesses achieve their strategic goals. As a director of client operations and system services with Optum, Mr. Mekala, is a maintenance and operations leader for the West Virginia Integrated Eligibility System (WV IES). He delivers operational support, application maintenance, program improvements, software maintenance, Statement of Work (SOW) management, stakeholder engagement, service level management, and leadership for more than 25 team members. His areas of expertise include project management, enterprise architecture, application performance management, infrastructure management, vendor management, master data management, and establishing teams to address new initiatives.

His background and experience include:

- 15 years of demonstrated experience in project management for a State Medicaid Agency for DHHR
- 15 years of demonstrated experience in project management for implementation of information systems
- Master of Science, Technology Management with an Information Technology emphasis, Marshall University, Huntington, West Virginia and a Bachelor of Science, Computer Science, Nagarjuna University, India
- Project Management Institute Certified PMP with 15 years of related experience
- 15 years of knowledge of Project Management standards and best practices, including the PMBOK®
- Experience providing operational support and maintenance of Medicaid, Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), Low-Income Home Energy Assistance Program (LIEAP), Child Welfare, Child Care, Adult Protective and Title IV-E eligibility systems
- 12 years of experience on the Statewide Automated Child Welfare Information System of West Virginia Department of Health and Human Resources known as the Families and Children Tracking System (FACTS)

Work Experience

Director, Client Operations and System Services, Optum, West Virginia, 2016-Present

- Identified and quickly implemented process improvements for smooth and efficient operation of critical system
- Developing a plan to improve system availability and stability with identified areas of improvement including current hardware and software support contracts, scheduled software maintenance, regular system backups, and monitoring system performance
- Supervised and mentored the Master Data Management (MDM) team, whose achievements included: improving productivity through work management and clearly defined roles, proactive client and stakeholder engagement, and encouraging team members to learn new skills and improve work efficiency
- Served as subject matter expert for MDM; performed detailed analysis and submitted proposals to client for improving MDM that are now included in the new WV IES implementation
- Created methodology to gather and provide all the data needed for dashboard reporting; identified and automated process to meet the tight monthly deadlines
- Met service level agreements; delivered reports on time and maintained the availability of MDM application
- Served as the lead architect for the WV IES implementation team; owned the implementation of the reporting and analytics solution across the Integrated Eligibility, Child Welfare, and Child Support program areas; managed cross-functional team of business analysts, project managers, data architects, and senior developers to perform the complex work
- Mentored and managed the implementation and M&O team members and their activities

Project Manager, CDI Professional Services, West Virginia, 2002-2008; 2009-2016

- Managed dynamic cross-functional project teams; responsible for project management, enterprise architecture, database design, development, testing, implementation, maintenance, system software maintenance, software and hardware evaluation, performance monitoring, production support, reporting, and quality assurance

- Developed and implemented strategy for modernizing the legacy application built in PowerBuilder
- Served as principal architect to integrate two large social welfare applications, which resulted in obtaining a unified picture of all the benefits (e.g., food stamps, Medicaid) that a client is receiving
- Prepared a comprehensive proposal for starting a Project Management office (PMO) at DHHR

Technical Consultant, Terradon Communications Group, West Virginia, 2009

- Served as a key member on a team involved in analysis, design and development of a large-scale customized Content Management System (CMS) for the West Virginia Department of Commerce
- Served as lead analyst on a project involved with designing and development of a unified coal production reporting application for the United Coal Company (UCC), Blountville, Tennessee

Consultant/Team Leader, ONE Community, Inc., Illinois, 2000-2002

- Served on a 125-person team that designed and implemented an enterprise order entry/order management system to manage the client's converging lines of telephony, telecommunications, and cable businesses
- Led a team of three to four developers and performed various management tasks; designed and developed various modules like cashing management, and accounting management among others

Software Engineer, DCR, Inc., Florida, 1998-2000

- Participated in the full System Development Lifecycle (SDLC) implementation (e.g., analysis, design, programming, testing, implementation) for projects using PowerBuilder 5.0, PFC, Oracle 7.3, Sybase System 10 / 11, Btrieve 6.15, and Crystal Reports
- Built interface for data conversion and loading data to a financial package running on a Btrieve database.
- Created an Ad Hoc reporting utility; prepared test plans, test cases, and end-user documentation

Software Engineer, Renaissance Informatics Ltd., India, 1995-1998

- Participated in full lifecycle analysis and design of the graphical user interface (GUI) using the Rapid Application Development methodology for rapid application prototyping; performed data modeling tasks, developed test plans, management information system reports, and system documentation

Education

- Master of Science, Technology Management with an Information Technology emphasis, Marshall University, Huntington, West Virginia
- Bachelor of Science, Computer Science, Nagarjuna University, India

Technical Skills

Hardware/Software/Other	ASP.Net, ASP.Net MVC, Java Server Pages, Windows Communication Foundation, AJAX, ASP, HTML, Bing Maps v7, Telerik RadControls, Kendo UI and Component Arts GUI controls, Oracle SOA Suite 11g/10, Service Oriented Architecture (SOA), Component-Based Scalable Logical Architecture (CSLA) Framework, Aspose.Total (Web Reporting tool), Cognos 11/10.1(BI Reporting tool), Mobile Web Applications, IIS Administration, Windows Server 2012/2008, Windows 7/XP, HP UNIX, Red Hat Linux Enterprise, Palm, Oracle 11g/10g, additional Modules: XML DB, Locator, Advanced Queuing, SQL Server 2008/2005, DB2, Sybase 10.x, Microsoft Access, Visual Studio .Net 2012/2010, Oracle JDeveloper 11g/10, PowerBuilder 12/10, Oracle Warehouse Builder 11, Cognos Framework Manager 10.1, erwin Data Modeler, PL/SQL Developer, TOAD, MS Visio, Microsoft SharePoint Server 2013/2010/2007, Microsoft Team Foundation Server 2010, PVCS, Dynatrace (Application Performance Management tool), QAS (Address Management tool), Corticon (Business Rules Engine), FxCop, Fiddler, Crystal Reports, and MS Office (Word, Excel, Outlook, PowerPoint, Access)
Certifications	• Certified Project Management Professional, (PMP), Project Management Institute • Sun Certified Programmer for Java 2
Honors	Received award in the Digital Government: Government to Business category during the 2009 Recognition Awards for Excellence in Information Technology presented by the West Virginia Office of Technology

Brandy Spaulding
Certification Lead

Experience Summary

Ms. Spaulding has nearly 20 years of health care leadership experience, including 11 years working for DHHR. She has in-depth knowledge of Medicaid and certifying systems against industry standards for projects similar in size and scope to this project. Ms. Spaulding is thoroughly familiar with MECT and the Medicaid Enterprise Certification Lifecycle (MECL). As a member of the Optum certification leadership team, Ms. Spaulding works with the West Virginia State Project Management Office (PMO) to achieve desired certification outcomes for the West Virginia Integrated Eligibility System (WV IES). She elicits, captures, analyzes, refines, articulates, and documents federal acceptance criteria and software documentation using approved processes. As an employee of DHHR, her roles included director of the Office of Medicaid Managed Care and Procurement Services and special programs manager. Ms. Spaulding managed regulatory compliance of the statewide Managed Care Organization (MCO) program for the West Virginia Medicaid program. She actively participated in the implementation and certification of the Medicaid Management Information System (MMIS), a COTS-based solution that replaced the legacy mainframe. She also participated in the initial implementation and certification activities for the current MMIS. Ms. Spaulding has exceptional oral and written communication skills for documenting and communicating certification information, status, and progress.

Her background and experience include:

- More than 15 years of experience working in or with state government, including 11 years working for DHHR
- Actively participated in the implementation and certification of the West Virginia Medicaid Management Information System (MMIS), a COTS-based Medicaid Enterprise Solution (MES) module certification project that replaced the legacy mainframe, and a demonstrated knowledge of current CMS IT certification standards
- More than 15 years of experience with large scale IT implementations in the public or private sector
- Project Management Institute Certified Project Management Professional (Certification in process for April 2020)
- Associate Degree of Applied Science, Medical Administration, West Virginia State University, and more than 15 years of related experience

Work Experience

Business Analyst, Certification, Optum, West Virginia, 2018-Present

- Works collaboratively with the West Virginia State PMO to achieve desired certification outcomes for the WV IES
- Serves as back-up for the certification manager; leads and manages federal criteria gathering and analysis activities with stakeholders, developers, designer, technical analysts, and internal and external customers
- Elicits, captures, analyzes, refines, articulates, and documents federal acceptance criteria and software documentation using approved processes
- Manages federal criteria mapping to validate requirements within the Agile project lifecycle; implements process or control improvements related to key federal certification and review on-site visits

Senior Quality Consultant, Aetna, West Virginia, 2018

- Led process improvement initiatives, including solutions to improve the quality and meet departmental goals
- Worked across organizations to provide support for training on the rollout or update of products and programs
- Identified gaps and recommended enhancements to new and existing workflows or programs; solicited and evaluated internal and external feedback to enhance continuous quality improvement
- Responsible for all claims projects ensuring reprocessing occurred and errors were corrected

Medicaid Contract Compliance Manager, The Health Plan, West Virginia, 2015-2018

- Served as backup to Medicaid Director; monitored and audited activities, functions, and reports for accuracy and compliance with the West Virginia State Medicaid contract requirements; recommended process improvements
- Reviewed and researched State and federal regulations and West Virginia State Plan Amendments and advised affected staff; helped develop and implement corrective action plans
- Conducted Medicare Compliance Audit, saving the organization $35,000
- Oversaw operations in a Medicaid service center that included claim, customer service, and outreach call staff
- Developed, monitored, and reviewed performance reports for 24 staff members

- Developed and monitored monthly and quarterly reports to validate service level agreements were met; reduced call hold times to meet contractual standards

Senior Quality Consultant, Coventry Cares of West Virginia (Aetna), West Virginia, 2015

- Led process improvement initiatives including delivery of solutions that improved quality
- Identified gaps and recommended enhancements for new and existing workflows or programs; solicited and evaluated internal and external feedback to enhance continuous quality improvement

West Virginia Department of Health and Human Resources, Bureau for Medical Services (BMS), West Virginia

Director of the Office of Medicaid Managed Care and Procurement Services, 2010-2015

- Managed regulatory compliance of the statewide MCO program for the West Virginia Medicaid program; monitored and coordinated MCO compliance with State regulatory contractual requirements and deliverables; implemented corrective action plans or imposed liquidated damages as needed
- Negotiated and managed provider contracts and agreements for physicians participating in the State's Primary Care Case Management (PCCM) program and MCOs that met enrollment and network standards
- Monitored MCOs for program compliance with State and federal statutes, regulations, and policies related to Medicaid Manage Care, submission of the 1915(b) waiver, direct communication with CMS, other State agencies, legislature, and the general public for program to mitigate potential risk
- Developed strong collaborative relationships with managed care companies, Enrollment Broker, External Quality Review Organization (EQRO) vendor, and the Actuarial Consulting vendor
- Monitored BMS vendor performance, including oversight of corrective action plans implemented as required
- Coordinated EQRO to audit MCO services provided to West Virginia Medicaid managed care enrollees
- Managed all procurement activities on behalf of the Bureau in compliance with the provisions of West Virginia State Code 9-2-9b, as well as the purchase and acquisition of all other commodities in accordance with Department of Health and Human Resources Office of Purchasing, the Department of Administration, Purchasing Division, and the West Virginia Auditor's Office Purchasing Card (PCard) policies and procedures; in total, these administrative contracts collectively represented approximately $50 million in annual expenditures

Special Programs Manager, 2005-2010

- Participated in the implementation and certification of the new MMIS
- Provided administrative coordination and technical assistance for the statewide managed care program and five other programs under the Bureau for Public Health, including, Right from the Start, Birth to Three, HealthCheck, Vaccines for Children, and the Lead Screening Program
- Developed policies and standards for the services rendered through the interagency contracts between the Bureau for Medical Services and the Bureau for Public Health
- Monitored and evaluated statewide programs, such as HealthCheck, and recommended changes to validate State and federal compliance; helped monitor regulatory compliance with contractual requirements
- Interpreted federal and State law for DHHR staff that provided Medicaid services
- Coordinated and conducted member and provider education related to all Medicaid programs

Health and Human Resources Associate, 2004–2005

- Maintained 24-hour access monitoring of providers in a PCCM program; tracked member and provider complaints to resolution; conducted member and provider education related to policy, procedures, and claims

Outreach Coordinator, Carelink Health Plans, West Virginia, 2001-2003

- Provided orientation to newly enrolled Medicaid recipients; coordinated pregnancy program within the company
- Entered prior authorizations into system; researched appeals filed by providers; hosted free health fairs

Education

Associate Degree of Applied Science, Medical Administration, West Virginia State University, Institute, West Virginia

Technical Skills

Hardware/Software	Microsoft Office Suite, Microsoft SharePoint
Certifications	PMI Project Management Professional (Certification in process for April 2020 completion)

Sid Niaz, CSM

Quality Assurance Manager

Experience Summary

Mr. Niaz is a Certified Scrum Master with more than 10 years of experience developing and maintaining comprehensive quality control (QC) functions for system implementations, operations, and business processes for organizations comparable in size to the West Virginia Medicaid Program. He has 10 years of experience developing and maintaining QC functions that address quality checks throughout each project phase for projects similar to this one. As a Six Sigma Yellow Belt, he applies Six Sigma methodology to projects with a focus on continuous process improvement. Mr. Niaz is knowledgeable of applicable standards for health information systems. He uses his understanding of the Software Development Life Cycle (SDLC) and project management methodologies to deliver flexible solutions. He is experienced in developing project plans, metrics reporting, and key performance indicators. As a senior quality assurance (QA) manager for Grant Thornton, he oversees QA and QC for a U.S. Department of Veterans Affair project. He validates data integrity, system inputs and outputs, and multiple data sources for the EDS. Mr. Niaz works to promote productivity and performance improvements while contributing to cost efficiencies. He has a record of success in budgeting, staffing, strategic business planning, and financial planning. Mr. Niaz is skilled in hands-on testing and test automation development using HP and IBM toolsets. His effective collaboration and communication skills enable him to mentor productive teams and build strong client relationships.

His background and experience include:

- More than 10 years of demonstrated experience in developing and maintaining vigorous ongoing QC functions for system implementations or operations and business processes for an organization of comparable size implementing IT projects
- Bachelor of Science, Computer Science, Western Illinois University, and more than 10 years related experience
- More than 10 years of knowledge of applicable standards for health information systems
- More than 10 years of experience developing and maintaining QC functions that address quality checks throughout the life of a similar project
- Skilled in product and software testing strategies and using root cause analysis and defect prevention techniques
- Provided expertise in designing and executing a data warehouse Extract, Transform, Load (ETL) framework and process with business intelligence (BI) tools
- Experienced in the Rational Unified Process, DevOps, and Continuous Integration/Continuous Delivery
- Knowledgeable in 508 Compliance

Work Experience

Senior Quality Assurance Manager, Grant Thornton, Maryland, 2018-Present

- Lead quality assurance (QA) for the U.S. Department of Veterans Affair project and serve as the point of contact
- Oversee and participate in the quality control (QC) process
- Develop functional and technical design documentation for a health-share referral system COTS product
- Create the Quality Control Plan and execute across multiple e-applications (e.g., e-pricing, e-billing, e-payment)
- Validate multiple data sources for the EDW as well as data integrity and system inputs and outputs
- Create internal controls user story traceability with functional and technical requirements
- Participate in QC process improvements to comply with internal Capability Maturity Model Integration (CMMI) audits and recommendations
- Participate in and execute quality review process for project deliverables and the accuracy of documents
- Manage information technology (IT) and supports project data and report requirements

Software QA Manager, JnG USA, Michigan, 2017

- Developed strategy and implementation plan for an Rx credit project for Blue Cross BlueShield of Michigan
- Defined and participated in the dental vendor transitioning process and validation plan

Senior IT/QA Product Manager, Geneia/Capital Blue Cross, Pennsylvania, 2014-2017

- Built and managed the IT/QA department with a multi-million dollar budget and cost center; led onshore and offshore teams of QA staff, business analysts, data analysts, and product subject matter experts (SMEs)

- Developed and executed QC process for the Geneia enterprise that increased QA efficiency by 30 percent
- Designed and developed automation framework using test-driven development and behavior-driven development approaches with Unified Functional Testing (UFT), Selenium, and Siesta integrated design
- Developed and implemented the defect process to improve resolution time by 20 percent
- Defined and participated the Dev/Ops model implementation for the enterprise
- Participated in the Agile methodology implementation in IT and business units
- Defined and executed the Agile process for the QA work stream
- Participated in selecting and implementing testing tools such as Application Lifecycle Management (ALM), LoadRunner, UFT, Siesta, Selenium, and Browser Stack-Mobile Tool
- Provided expertise in designing and executing the data warehouse ETL framework and process with BI tools

Senior Quality Assurance Manager, Blue Cross Blue Shield of Tennessee, Tennessee, 2013-2014

- Managed an IT project for ICD-10 conversion with a QA budget of $6 million with a focus on various testing phases and work streams that included provider, State bureau, and federal plan
- Effectively managed the financial payment system upgrade project with the general ledger system
- Managed more than 30 software quality assurance project teams
- Developed and implemented the automation framework for multiple applications using UFT and Selenium; helped develop and execute an Integrated Master Test Strategy and Plan
- Trained multiple teams (e.g., QA, business users, vendors) in application architecture, processes (e.g., defect, file transfer protocol, QA), methodology, testing tools, and policies

Test Manager/Quality Assurance Manager, Headstrong/Genpact, Illinois, 2010-2012

State Farm Insurance Project

- Managed onsite and offshore test team; coordinated with other project development teams; developed test strategy and task plan for the project ahead of schedule by two weeks; participated in developing and executing test scenarios and test cases for the system integration testing (SIT) phase

BMO Financial Project

- Executed SIT and user acceptance testing (UAT) for the $60 million online and mobile banking application project, which included bill pay, interactive voice response, online statements, and accounts management
- Created system test and QA integrated project plan, increasing resource utilization by 15 percent; participated in reviewing business and technical document development for developing test scenarios; managed and mentored QA team members; prepared resource plan and utilization report

Capital One Financial, Virginia

- Developed and implemented QA process for mortgage problem and loan conversion project from Green Point Mortgage application to the CARS Software-as-a-Service application, implemented the Six Sigma methodology and decreased service level agreement (SLA) times by an average of 30 percent

CVS/Caremark, Illinois

- Managed and monitored project deliverables in SAP environment according to provided timeline; implemented conversion project from AS400 application (i.e., Rx-Claim) to a Web-based application (i.e., enhanced client display) with multiple releases; value per release was over $1 million at four releases per year); application, with an approximate $250,000 QA budget, was for hospitals and clinical account managers to review claims and account detail through a Web-based portal
- Responsible for a QA budget of $300,000 for resource planning and allocation; developed in-house training plan, saving over $120,000; planned on-shore and offshore resource allocation, saving 20 percent

Education

- Bachelor of Science, Computer Science, Western Illinois University, Macomb, Illinois

Technical Skills

Hardware/Software/Other	Microsoft Project, Microsoft Office Suite, Microsoft SharePoint, HP ALM, LoadRunner, UFT, Siesta, Selenium, Browser Stack-Mobile
Certifications	CMMI Certificate v1.2, Certified Scrum Master, American Medical Informatics Association 10x10 Electronic Medical Records- HL7, Six Sigma Yellow Belt, HIPAA – ICD-10

3.2 References

The Vendor should provide three (3) references for which each proposed key staff candidate has successfully demonstrated meeting the requirements of the RFP. The name of the person to be contacted, phone number, client name, address, brief description of work, and date (month and year) of employment should be given for each reference. These references should be able to attest to the candidate's specific qualifications. The reference given should be a person within a client's organization and not a co-worker or a contact within the Vendor's organization.

Vendors should use the format provided. Please repeat the rows and tables as necessary.

The following tables contain three professional client references for each of our key staff.

Table 10: Key Staff References

Key Personnel Reference Form							
Key Personnel Name:	Mr. Steve Grimshaw			**Proposed Role:**	Account Manager		
Reference 1							
Client Name:	California Department of Healthcare Services	**Client Address:**	Ms. Lopez's address: 2055 Paul Courter Way Sacramento, CA 95835				
Contact Name:	Mary Lou Lopez	**Contact Title:**	Project Oversight and Initiation Section, Retired				
Contact Phone:	(530) 601-0864	**Contact E-mail:**	marylouurquizo@gmail.com				
Project Name: California Management Information System/Decision Support System (MIS/DSS)				**Start Date:**	**MM/YYYY** 02/2007	**End Date:**	**MM/YYYY** 06/2023
Project Description: Optum provides Medicaid program administrative functions, operations, and IT services and support for the MIS/DSS. The MIS/DSS is the largest Medicaid/CHIP data warehouse in the nation by membership, with more than 13 million recipients enrolled in 2019.							
Project Role and Responsibilities: Served as the project manager to implement and operate the California MIS/DSS by following the PMI PMBOK. Led the project team in meeting all deliverables and time frames according to the project work plan. Directed project activities, managed the work plan, managed Optum and subcontractor resources, and oversaw issue resolution and decision-making.							
Reference 2							
Client Name:	California Department of Healthcare Services	**Client Address:**	1615 Capital Avenue Sacramento, CA 95815				
Contact Name:	Nettie Johnson	**Contact Title:**	Former Chief of the Management Information Services Section				
Contact Phone:	(916) 713-8085	**Contact E-mail:**	Nettie.Johnson@dhcs.ca.gov				
Project Name: California MIS/DSS				**Start Date:**	**MM/YYYY** 02/2007	**End Date:**	**MM/YYYY** 06/2023

Key Personnel Reference Form							
Project Description: Optum provides Medicaid program administrative functions, operations, and IT services and support for the MIS/DSS. The MIS/DSS is the largest Medicaid/CHIP data warehouse in the nation by membership, with more than 13 million recipients enrolled in 2019.							
Project Role and Responsibilities: Mr. Grimshaw served as the project manager to implement and operate the California MIS/DSS by following PMBOK. He led the project team in meeting all deliverables and time frames according to the project work plan. He directed project activities, managed the work plan, managed Optum and subcontractor resources, and oversaw issue resolution and decision-making.							
Reference 3							
Client Name:	State of Arkansas	**Client Address:**	Ms. Harkin's address: 2803 Arbors Circle Bryant, AR 72022				
Contact Name:	Drenda Harkins	**Contact Title:**	Former Assistant Director for the Arkansas Medicaid Enterprise Project Management Office				
Contact Phone:	(501) 317-9950	**Contact E-mail:**	drendaharkins@yahoo.com				
Project Name: Arkansas Medicaid Data Warehouse				**Start Date:**	**MM/YYYY** 12/2013	**End Date:**	**MM/YYYY** 06/2020
Project Description: Optum implemented and still operates the Arkansas Medicaid Enterprise DSS solution that supports and uses the health information for thousands of Arkansas health services members who receive both fee-for-service or managed care services. The DSS uses the health information of thousands of Arkansas residents who receive fee-for-service or managed care services.							
Project Role and Responsibilities: Mr. Grimshaw served as the project manager to implement and operate the Arkansas Medicaid Data Warehouse by following PMBOK. He led the project team in meeting all deliverables and time frames according to the project work plan. He served as the primary point of contact with the State and the senior leader responsible for the implementation and operations.							

Key Personnel Reference Form							
Key Personnel Name:	Ms. Tami Mette		**Proposed Role:**	Project Manager			
Reference 1							
Client Name:	West Virginia Bureau for Medical Services	**Client Address:**	350 Capitol Street, Room 251, Charleston, WV 25301				
Contact Name:	Joy Dalton	**Contact Title:**	Director of Provider Services				
Contact Phone:	(304) 382-4919	**Contact E-mail:**	joy.dalton@yahoo.com				
Project Name: WV MMIS – MED13006				**Start Date:**	**MM/YYYY** 10/2013	**End Date:**	**MM/YYYY** 11/2018
Project Description: MMIS modernization project for the WV Bureau for Medical Services							

Key Personnel Reference Form							
Project Role and Responsibilities: Ms. Dalton is the State customer representing the West Virginia operations and provider enrollment teams. Ms. Mette has served in various capacities for this project, including project lead for the provider enrollment application. Ms. Mette updated the system requirements and managed the resources to complete the scope of work in a timely fashion.							
Reference 2							
Client Name:	Molina Medicaid Solutions	**Client Address:**	Mr. Matina's address: 4050 Innslake Dr., #202 Glen Allen, VA 23060				
Contact Name:	Frank Matina	**Contact Title:**	Former Director of Implementations				
Contact Phone:	(407) 212-2656	**Contact E-mail:**	fmatina@aol.com				
Project Name: WV MMIS – MED13006			**Start Date:**	**MM/YYYY** 10/2013	**End Date:**	**MM/YYYY** 1/2018	
Project Description: MMIS modernization project for the West Virginia Bureau for Medical Services							
Project Role and Responsibilities: Ms. Mette was a senior member of Mr. Matina's project management team responsible for the delivery of the MMIS in West Virginia. Ms. Mette worked with other project managers to develop strategies and workable plans that contributed to the on-time delivery of the MMIS with minimal impact to stakeholders.							
Reference 3							
Client Name:	DXC Technology	**Client Address:**	4050 Innslake Dr., #202 Glen Allen, VA 23060				
Contact Name:	Dave Stankiewicz	**Contact Title:**	Senior Project Manager				
Contact Phone:	(804) 346-1115	**Contact E-mail:**	dstankie1@hotmail.com				
Project Name: WV MMIS – MED13006			**Start Date:**	**MM/YYYY** 10/2013	**End Date:**	**MM/YYYY** 11/2018	
Project Description: MMIS modernization project for the WV Bureau for Medical Services							
Project Role and Responsibilities: Ms. Mette was a senior manager who oversaw the design and development of key state initiatives related to the MMIS and CHIP solutions.							

Key Personnel Reference Form							
Key Personnel Name:	Mr. Abhishek Kumar		**Proposed Role:**	Business Lead			
Reference 1							
Client Name:	GDIT	**Client Address:**	327 Columbia Turnpike Rensselaer, NY 12144				
Contact Name:	Michael R. Haverly	**Contact Title:**	Program Senior Manager				
Contact Phone:	(518) 256-9849	**Contact E-mail:**	Michael.Haverly@gdit.com				
Project Name: New York State of Health			**Start Date:**	**MM/YYYY** 07/2015	**End Date:**	**MM/YYYY** 02/2019	
Project Description: Multiple change requests and enhancements for New York State of Health client-facing and back office portals							
Project Role and Responsibilities: Mr. Kumar served as the functional manager responsible for managing the business analysis team and their day-to-day activities.							
Reference 2							
Client Name:	GDIT	**Client Address:**	327 Columbia Turnpike Rensselaer, NY 12144				
Contact Name:	Peter Tholl	**Contact Title:**	Information Systems Senior Manager				
Contact Phone:	(518) 545-2430	**Contact E-mail:**	Peter.Tholl@gdit.com				
Project Name: New York State of Health			**Start Date:**	**MM/YYYY** 04/2018	**End Date:**	**MM/YYYY** 01/2020	
Project Description: Multiple change requests and enhancements for New York State of Health client-facing and back office portals							
Project Role and Responsibilities: Mr. Kumar served as the functional manager responsible for managing the system design team and their day-to-day activities.							
Reference 3							
Client Name:	GDIT	**Client Address:**	327 Columbia Turnpike Rensselaer, NY 12144				
Contact Name:	Thomas Ragosta	**Contact Title:**	Requirements & Business Analysis Manager				
Contact Phone:	(518) 610-2497	**Contact E-mail:**	tim.ragosta@gdit.com				
Project Name: New York State of Health			**Start Date:**	**MM/YYYY** 06/2017	**End Date:**	**MM/YYYY** 01/2020	
Project Description: Multiple change requests and enhancements for New York State of Health client-facing and back office portals							

Key Personnel Reference Form
Project Role and Responsibilities: Mr. Kumar served as the requirements manager responsible for requirements gathering and requirements validation activities.

Key Personnel Reference Form							
Key Personnel Name:	Mr. Jack Swearingen		**Proposed Role:**	Technical Lead			
Reference 1							
Client Name:	Select Comfort through Talent Corporation	**Client Address:**	Ms. Hanley's Address: 4308 South Ash Grove Ave. Sioux Falls, South Dakota 57103				
Contact Name:	Susan Hanley	**Contact Title:**	Former Director/Vice President, Talent Software Solutions				
Contact Phone:	(612) 616-6503	**Contact E-mail:**	sfhanley49@gmail.com				
Project Name: Select Comfort Data Warehouse			**Start Date:**	**MM/YYYY** 02/2005	**End Date:**	**MM/YYYY** 06/2007	
Project Description: Implementation of Select Comfort's enterprise data warehouse							
Project Role and Responsibilities: Mr. Swearingen served as the data warehouse architect responsible for analyzing requirements and designing and implementing the core data warehouse infrastructure. He was responsible for the logical and physical database design and the ETL design as well as the production rollout schedule and other project tasks.							
Reference 2							
Client Name:	Best Buy & Land O'Lakes/Agriliance through Talent Corporation	**Client Address:**	Mr. Young's Address: 910 1/2 Mainstreet, Suite B Hopkins, MN 55343				
Contact Name:	Peter Young	**Contact Title:**	Former Director/Vice President, Talent Corporation				
Contact Phone:	(612) 242-9085	**Contact E-mail:**	pyoung@berghuishunt.com				
Project Name: Land O' Lakes/Agriliance Enterprise Data Warehouse and Best Buy Data Warehouse Assessment			**Start Date:**	**MM/YYYY** 07/2002	**End Date:**	**MM/YYYY** 04/2004	
Project Description: **Land O' Lakes/Agriliance:** DDI for the enterprise data warehouse that was an industrywide point of sale data warehouse containing data from Agriliance and competitor retail storefronts **Best Buy:** An assessment was performed of Best Buy's data warehouse and customer relationship management (CRM) environment and infrastructure to improve efficiency.							

Key Personnel Reference Form							
Project Role and Responsibilities: **Land O' Lakes/Agriliance:** Mr. Swearingen served as the chief data warehouse architect responsible for the DDI of the point of sale data warehouse. **Best Buy:** Mr. Swearingen served as the consulting architect responsible for performing an assessment of Best Buy's data warehouse and CRM. This included documenting the interfaces within the environment and assessing low latency and high availability requirements of each interface.							
Reference 3							
Client Name:	Talent Corporation	**Client Address:**	Mr. Talbot's address is: 1660 Highway 100 South, Suite 200 St Louis Park, MN 55416				
Contact Name:	Mitch Talbot	**Contact Title:**	Former Director of Business Development, Talent Corporation				
Contact Phone:	(612) 207-6162	**Contact E-mail:**	mtalbot@horizontal.com				
Project Name: Multiple Enterprise data warehouse initiatives				**Start Date:**	**MM/YYYY** 04/1997	**End Date:**	**MM/YYYY** 08/2011
Project Descriptions: • Multiple Operational Data Stores (ODSs) for Optum, one to integrate clinical events across government and commercial entities and one for OptumHealth to demonstrate the value and outcomes that clinical management programs have delivered to consumers over time • Multiple projects for Medica, one to support complex domains (i.e., product, provider) for the UNET/COSMOS integration initiative, one project for an ODS that supports Web-based and interactive voice response portal inquiries, and one project to design and implement Allina's health plan data warehouse • Project for integrating clinic, hospital, and plan data to provide an enterprise view of the Allina Health System							
Project Role and Responsibilities: **Optum:** Mr. Swearingen served as the lead architect for ODS projects. His responsibilities included working across teams; orchestrating and delivering conceptual, logical, and physical models; designing a HIPAA-compliant security provisioning process; deploying a virtual private database; and deploying solutions into production. **Medica:** Mr. Swearingen served as a domain architect and principal architect on multiple projects. His responsibilities included working across teams; validating requirements; analyzing source data; supporting the conceptual, logical, and physical modeling; conforming final domain models to the existing data architecture and standards; and supporting user acceptance testing. **Allina Health System:** Mr. Swearingen served as the project lead and principal integration architect to integrate clinic, hospital, and plan data to provide an enterprise view of the Allina Health System. His responsibilities included gathering requirements, mapping operational requirements to source systems, writing source system extract requirements, designing an integration process, and producing a data mart.							

Key Personnel Reference Form			
Key Personnel Name:	Mr. Raghuram Mekala	**Proposed Role:**	Implementation and Operations Manager

Key Personnel Reference Form							
Reference 1							
Client Name:	West Virginia Department of Health and Human Resources	**Client Address:**	Mr. Johnson's address: 113 Angel Terrace Charleston, WV 25314				
Contact Name:	Mr. Michael Johnson	**Contact Title:**	Former Child Welfare System Director				
Contact Phone:	(304) 543-8444	**Contact E-mail:**	mijohnson@pcgus.com				
Project Name: Families and Children Tracking System (FACTS)				**Start Date:**	**MM/YYYY** 03/2000	**End Date:**	**MM/YYYY** 10/2016
Project Description: WV Statewide Child Welfare Information System (SACWIS)							
Project Role and Responsibilities: Mr. Michael Johnson coordinated the efforts of project management and technical staff to develop and maintain the state's SACWIS system, all ancillary support applications, and all data and analytic functions. A significant part of the analytic solution set was the development of BI dashboards and reporting to support mandated federal data measures, compliance data, and fiscal performance indicators. Mr. Mekala was a designated lead in the development of the Title IV-E eligibility dashboards, the associated KPI's, and the structured compliance reporting.							
Reference 2							
Client Name:	West Virginia Department of Health and Human Resources	**Client Address:**	FACTS Project One Davis Square, Suite 200, Charleston, WV 25301				
Contact Name:	Ms. Traci Dean	**Contact Title:**	DHHR Program Manager, FACTS Project Manager				
Contact Phone:	(304) 558-5863	**Contact E-mail:**	Traci.a.dean@wv.gov				
Project Name: West Virginia Department of Health & Human Resources - Families and Children Tracking System (FACTS)				**Start Date:**	**MM/YYYY** 03/2000	**End Date:**	**MM/YYYY** 10/2016
Project Description: WV Statewide Child Welfare Information System (SACWIS)							
Project Role and Responsibilities: Ms. Dean provides management, planning, and oversite for all Bureau for Children and Families (BCF) Child Welfare and Adult Service Program Functionality to validate state and federal compliance. Areas of responsibility include intake and assessment processing, case management and treatment planning, foster care, court and placement, adoption, legal guardianship, subsidy, Medicaid eligibility, mobile initiatives, and master data management. Mr. Mekala served as the contracted lead technical designer for the two-tier client/server system with a PowerBuilder front-end and Oracle database. He participated in modernizing multiple modules of the application with Microsoft .Net technologies. Mr. Mekala also served as technical team lead for multiple initiatives such as Title IV-E modifications, Master Data Management project, Client Identity Management and Data Clean-up. In addition, he assisted the project director in project planning and implementation.							

Key Personnel Reference Form							
Reference 3							
Client Name:	West Virginia Department of Health and Human Resources	**Client Address:**	RAPIDS Project One Davis Square, Suite 200 Charleston, WV 25301				
Contact Name:	Mr. Terry Harvey	**Contact Title:**	Program Manager, Manager of Management Information System (MIS) Help Desk				
Contact Phone:	(304) 356-5409 cell: (304) 545-1412	**Contact E-mail:**	terry.w.harvey@wv.gov				
Project Name: Recipient Automated Payment and Information Data System (RAPIDS)				**Start Date:**	**MM/YYYY** 10/2016	**End Date:**	**MM/YYYY** 12/2017
Project Description: West Virginia Integrated Eligibility System							
Project Role and Responsibilities: Mr. Harvey is the manager of MIS Help Desk and serves as the RAPIDS reporting liaison for Optum. As the director of the M&O, Mr. Mekala works with Mr. Harvey and stakeholders to assess the Department's business processes and day-to-day work to provide information for reports that meets the Department's needs. Mr. Mekala also stays current on key reporting requirements from the Department's State and federal partners.							

Key Personnel Reference Form							
Key Personnel Name:	Ms. Brandy Spaulding		**Proposed Role:**	Certification Lead			
Reference 1							
Client Name:	DXC Technology (formerly Unisys and Molina)	**Client Address:**	1600 Pennsylvania Avenue Charleston, WV 25302				
Contact Name:	Amanda Hiser	**Contact Title:**	Deputy Account Manager				
Contact Phone:	(304) 348-3225	**Contact E-mail:**	ahiser@dxc.com				
Project Name: West Virginia MMIS				**Start Date:**	**MM/YYYY** 01/2004	**End Date:**	**MM/YYYY** 12/2006
Project Description: Development, implementation, and certification of West Virginia's MMIS							
Project Role and Responsibilities: Ms. Spaulding served as the program manager. She managed program documentation and validated the system set up complied with the policies and procedures defined in the managed care contract. She reviewed test plans and all test cases related to managed care operations. She prepared documentation for review by CMS, performed system demonstrations for CMS, and participated in interviews by CMS.							

Key Personnel Reference Form							
Reference 2							
Client Name:	DXC Technology (formerly Unisys and Molina)	**Client Address:**	1600 Pennsylvania Avenue Charleston, WV 25302				
Contact Name:	Tony Kazan	**Contact Title:**	Deputy Account Manager				
Contact Phone:	(304) 348-3200	**Contact E-mail:**	tkazan@dxc.com				
Project Name: West Virginia MMIS				**Start Date:**	**MM/YYYY** 01/2004	**End Date:**	**MM/YYYY** 12/2006
Project Description: Development, Implementation and Certification of West Virginia's MMIS							
Project Role and Responsibilities: Ms. Spaulding served as program manager. She managed program documentation and validated the system set up complied with the policies and procedures defined in the managed care contract. She reviewed test plans and all test cases related to managed care operations. She prepared documentation for review by CMS, performed system demonstrations for CMS, and participated in interviews by CMS.							
Reference 3							
Client Name:	DXC Technology (formerly Unisys and Molina)	**Client Address:**	1600 Pennsylvania Avenue, Charleston, WV 25302				
Contact Name:	Renee Chalfant	**Contact Title:**	Business Analyst				
Contact Phone:	(304) 348-3206	**Contact E-mail:**	rchalfant@dxc.com				
Project Name: West Virginia WVMMIS				**Start Date:**	**MM/YYYY** 01/2004	**End Date:**	**MM/YYYY** 12/2006
Project Description: Development, Implementation and Certification of West Virginia's MMIS							
Project Role and Responsibilities: Ms. Spaulding served as program manager. She managed program documentation and validated the system set up complied with the policies and procedures defined in the managed care contract. She reviewed test plans and all test cases related to managed care operations. She prepared documentation for review by CMS, performed system demonstrations for CMS, and participated in interviews by CMS.							

Key Personnel Reference Form			
Key Personnel Name:	Sid Niaz	**Proposed Role:**	Quality Assurance Manager
Reference 1			
Client Name:	VA/Trilogy Federal	**Client Address:**	1001 Wilson Ave. Alexandria, VA

Key Personnel Reference Form							
Contact Name:	Albert Ahn	**Contact Title:**	Program Manager				
Contact Phone:	(703) 589-4984	**Contact E-mail:**	Albert.ahn@trilogyfederal.com				
Project Name: Electronic Data Interchange (EDI)				**Start Date:**	**MM/YYYY** 12/2018	**End Date:**	**MM/YYYY** 06/2019
Project Description: Implement EDI data feed for federal compliance							
Project Role and Responsibilities: Mr. Niaz served as the QA Manager responsible for overseeing quality assurance for the project. He served as the subject matter expert for data integration and served as the point of contact for business users.							
Reference 2							
Client Name:	VA/Cognosante	**Client Address:**	3110 Fairview Park Dr. Falls Church, VA 22042				
Contact Name:	Sue Burke	**Contact Title:**	Program Director				
Contact Phone:	(813) 203-0770	**Contact E-mail:**	Susan.burk@cognosante.com				
Project Name: CCRA – Health Share Referral Manager				**Start Date:**	**MM/YYYY** 01/2018	**End Date:**	**MM/YYYY** 09/2019
Project Description: Implement the Health Share Referral Manager, a COTS product, into the VA Referral system							
Project Role and Responsibilities: Mr. Niaz served as the QA/Quality Control Manager responsible for designing the QA process and monitoring and executing quality plans. He coordinated with the training team and collaborated on user communication. He monitored the CMMI process and conducted internal audit to be compliant.							
Reference 3							
Client Name:	Geneia/Capital Blue Cross	**Client Address:**	1000 N. Cameron St., Harrisburg, PA 17103				
Contact Name:	Scott Hanke	**Contact Title:**	Development Manager				
Contact Phone:	(239) 980-4767	**Contact E-mail:**	scott.hanke@geneia.com				
Project Name: Theon Product Development				**Start Date:**	**MM/YYYY** 08/2016	**End Date:**	**MM/YYYY** 04/2017
Project Description: Develop multiple Theon products for care management, population health, and home health solutions.							
Project Role and Responsibilities: Mr. Niaz served as the QA Manager responsible for establishing and managing all quality assurance processes for the project. He oversaw quality for data warehouse, ETL, training, and external client relation activities. Mr. Niaz was responsible for vendor audit and management. He reviewed project documentation, data analysis, data anomalies, and maintained State and federal compliance. He also supported the training team.							

ATTACHMENT E: INITIAL WORK PLAN

Instructions: The Vendor should provide an Initial Work Plan and Work Breakdown Structure (WBS) by project phase and task group. Each task group is defined in ***Section 4.6: Project Task Groups and Deliverables*** of this RFP.

This Work Plan and WBS should show all task details with responsibilities, timelines, durations, milestone dates, deliverable dates, and Vendor personnel hours by deliverables for each project phase, State personnel hours by phase deliverable, and all critical dependencies for the project's milestones and deliverables. The Initial Work Plan should be provided as an attachment to the Vendor's Technical Proposal and tabbed as such in the submission. The Vendor should also provide an electronic version of the Microsoft Project® version in the Vendor's electronic submission of the Technical Proposal.

At a minimum, the Vendor's proposed Work Plan should include the following:

- Detailed tasks and timelines, outlining the major project phases planned by the Vendor. These should include, at a minimum, the timeline and tasks associated with **full deployment of functionality**
- The WBS
- The project schedule for all project deliverables and milestones
- Identification of resources assigned the responsibility for each deliverable within the WBS to the level at which control will be exercised
- Identification of deliverables that require a more prompt State acceptance than described in the RFP, including the proposed acceptance period for the deliverable

Optum Response:

The Work Plan can be found on the following pages.

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1	1	**WV_Medicaid Enterprise Data Solutions (EDS)_DHHR_CRFP 0511 HHR2000000001**	**2/10/20**	**8/18/21**	**387.39 days**	**72,609.7 hrs**			
2	1.1	***Milestone: Contract Signed***	2/10/20	2/10/20	0 days	0 hrs		3FS+16 days	
3	1.2	***Milestone: 2020 & Contract Start Date: 03/02/2020 - 8/18/2022 (Phase 1 EDS 3/02/2020 - 2/28/2021 & Phase 2 PI/FADS***	3/2/20	3/2/20	0 days	0 hrs	2FS+16 days	121,221,299 edays,627F	
4	1.3	**Payment Milestones**	3/2/20	8/18/21	371.39 days	3,084.34 hrs			
5	1.3.1	**Task Group 1 - Project Initiation and Planning (3/1/2020 - 5/31/20**	3/12/20	5/29/20	55.63 days	0 hrs			
6	1.3.1.1	D001-Project Kick-off Meeting	3/12/20	3/12/20	0 days	0 hrs	753	22	Account - Project Manager or Asst PM
7	1.3.1.2	D002-Change Management Plan	4/3/20	4/3/20	0 days	0 hrs	871	22	Account - Project Manager or Asst PM
8	1.3.1.3	D003-Communication Management Plan	4/22/20	4/22/20	0 days	0 hrs	885	22	Account - Project Manager or Asst PM
9	1.3.1.4	D004-Cost Management Plan	4/22/20	4/22/20	0 days	0 hrs	899	22	Account - Project Manager or Asst PM
10	1.3.1.5	D005-Human Resources Plan	4/28/20	4/28/20	0 days	0 hrs	941	22	Account - Project Manager or Asst PM
11	1.3.1.6	D006-Modularity and Reusability Plan	4/9/20	4/9/20	0 days	0 hrs	955	22	Account - Project Manager or Asst PM
12	1.3.1.7	D007-Project Work Plan	5/29/20	5/29/20	0 days	0 hrs	969	22	Account - Project Manager or Asst PM
13	1.3.1.8	D008-Quality Management Plan	5/7/20	5/7/20	0 days	0 hrs	982	22	Account - Project Manager or Asst PM
14	1.3.1.9	D009-Documentation Management Plan	3/31/20	3/31/20	0 days	0 hrs	913	22	Account - Project Manager or Asst PM
15	1.3.1.10	D010-Risk and Issue Management Plan	5/7/20	5/7/20	0 days	0 hrs	995	22	Account - Project Manager or Asst PM
16	1.3.1.11	D011-Schedule Management Plan	5/6/20	5/6/20	0 days	0 hrs	1008	22	Account - Project Manager or Asst PM
17	1.3.1.12	D012-Scope Management Plan	4/27/20	4/27/20	0 days	0 hrs	1021	22	Account - Project Manager or Asst PM
18	1.3.1.13	D013-Stakeholder Management Plan/Stakeholder Analysis	4/30/20	4/30/20	0 days	0 hrs	1034	22	Account - Project Manager or Asst PM
19	1.3.1.14	D014-Staffing Management Plan	5/1/20	5/1/20	0 days	0 hrs	1048	22	Account - Project Manager or Asst PM
20	1.3.1.15	D015-Reconciliation Plan	5/14/20	5/14/20	0 days	0 hrs	1063	22	Account - Project Manager or Asst PM
21	1.3.1.16	D016-Facility Management Plan	5/1/20	5/1/20	0 days	0 hrs	927	22	Account - Project Manager or Asst PM
22	1.3.1.17	Payment Milestone 1: Project Initiation Complete	5/29/20	5/29/20	0 days	0 hrs	6,7,8,9,10,11,1457		Account - Project Manager or Asst PM
23	1.3.2	**Task Group 2 - Solution Planning (4/1/2020 - 8/31/2020)**	**4/29/20**	**8/26/20**	**82.85 days**	**0 hrs**			
24	1.3.2.1	D017-Data Management Plan	6/3/20	6/3/20	0 days	0 hrs	1082	30	Account - Project Manager or Asst PM
25	1.3.2.2	D018-Incident Management Plan	6/22/20	6/22/20	0 days	0 hrs	1096	30	Account - Project Manager or Asst PM
26	1.3.2.3	D019-Master Test Plan	6/26/20	6/26/20	0 days	0 hrs	1109	30	Account - Project Manager or Asst PM
27	1.3.2.4	D020-Privacy Impact Analysis	6/23/20	6/23/20	0 days	0 hrs	1122	30	Account - Project Manager or Asst PM
28	1.3.2.5	D021-Requirements Gap Analysis Document	7/16/20	7/16/20	0 days	0 hrs	1304	30	Account - Project Manager or Asst PM
29	1.3.2.6	D022-Requirements Management Plan	7/17/20	7/17/20	0 days	0 hrs	1316	30	Account - Project Manager or Asst PM
30	1.3.2.7	Payment Milestone 2: Solution Planning 1	7/31/20	7/31/20	0 days	0 hrs	24,25,26,27,28,457		Account - Project Manager or Asst PM
31	1.3.2.8	D023-Requirements Specification Document	7/17/20	7/17/20	0 days	0 hrs	1352	38	Account - Project Manager or Asst PM
32	1.3.2.9	D024-Requirements Traceability Matrix	7/28/20	7/28/20	0 days	0 hrs	1328	38	Account - Project Manager or Asst PM
33	1.3.2.10	D025-Safeguard Procedures Report	7/21/20	7/21/20	0 days	0 hrs	1135	38	Account - Project Manager or Asst PM
34	1.3.2.11	D026-Security Plan	8/26/20	8/26/20	0 days	0 hrs	1149	38	Account - Project Manager or Asst PM
35	1.3.2.12	D027-Security, Privacy, and Confidentiality Plan	4/29/20	4/29/20	0 days	0 hrs	1162	38	Account - Project Manager or Asst PM
36	1.3.2.13	D028-System Back-up and Record Retention	7/10/20	7/10/20	0 days	0 hrs	1176	38	Account - Project Manager or Asst PM
37	1.3.2.14	D029-System Requirement Document/Back-log User Stories or Use Cases	8/19/20	8/19/20	0 days	0 hrs	1340	38	Account - Project Manager or Asst PM
38	1.3.2.15	Payment Milestone 3: Solution Planning 2	8/26/20	8/26/20	0 days	0 hrs	31,32,33,34,35,457		Account - Project Manager or Asst PM
39	1.3.3	**Task Group 3 - Solution Design, Testing, and Operations (5/1/2020 - 2/28/2021)**	**6/4/20**	**2/24/21**	**183.13 days**	**0 hrs**			
40	1.3.3.1	D030-Business Process Models	6/4/20	6/4/20	0 days	0 hrs	1708	49	Account - Project Manager or Asst PM
41	1.3.3.2	D031-Capacity Plan	6/4/20	6/4/20	0 days	0 hrs	1720	49	Account - Project Manager or Asst PM
42	1.3.3.3	D032-Configuration Management	7/7/20	7/7/20	0 days	0 hrs	1732	49	Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
43	1.3.3.4	D033-Data Conversion Plan	7/14/20	7/14/20	0 days	0 hrs	1744	49	Account - Project Manager or Asst PM
44	1.3.3.5	D034-Data Conversion Test Cases	9/2/20	9/2/20	0 days	0 hrs	1975	49	Account - Project Manager or Asst PM
45	1.3.3.6	D035-Data Test Results	8/4/20	8/4/20	0 days	0 hrs	2086	49	Account - Project Manager or Asst PM
46	1.3.3.7	D036-Database Design Document and Data Models	9/2/20	9/2/20	0 days	0 hrs	2097	49	Account - Project Manager or Asst PM
47	1.3.3.8	D037-Detailed System Design Document	10/22/20	10/22/20	0 days	0 hrs	2123	49	Account - Project Manager or Asst PM
48	1.3.3.9	D038-Disaster Recovery and Business Continuity	12/3/20	12/3/20	0 days	0 hrs	2135	49	Account - Project Manager or Asst PM
49	1.3.3.10	Payment Milestone 4: Solution Design, Testing, and Operations 1	12/3/20	12/3/20	0 days	0 hrs	40,41,42,43,44,45,5		Account - Project Manager or Asst PM
50	1.3.3.11	D039-Federal Certification and Review Management Plan	7/10/20	7/10/20	0 days	0 hrs	638	57	Account - Project Manager or Asst PM
51	1.3.3.12	D040-Interface Inventory	6/17/20	6/17/20	0 days	0 hrs	1756	57	Account - Project Manager or Asst PM
52	1.3.3.13	D041-Load and Stress Test Cases	10/20/20	10/20/20	0 days	0 hrs	2329	57	Account - Project Manager or Asst PM
53	1.3.3.14	D042-Load and Stress Test Results	12/4/20	12/4/20	0 days	0 hrs	2343	57	Account - Project Manager or Asst PM
54	1.3.3.15	D043-Operational Readiness Plan	12/1/20	12/1/20	0 days	0 hrs	2587	57	Account - Project Manager or Asst PM
55	1.3.3.16	D044-Operational Readiness Test Scripts	1/19/21	1/19/21	0 days	0 hrs	2598	57	Account - Project Manager or Asst PM
56	1.3.3.17	D045-Operational Readiness Test Results	2/24/21	2/24/21	0 days	0 hrs	2609	57	Account - Project Manager or Asst PM
57	1.3.3.18	Payment Milestone 5: Solution Design, Testing, and Operations 2	2/24/21	2/24/21	0 days	0 hrs	50,51,52,53,54,457		Account - Project Manager or Asst PM
58	1.3.3.19	D046-Regression Test Cases	9/2/20	9/2/20	0 days	0 hrs	2290	67	Account - Project Manager or Asst PM
59	1.3.3.20	D047-Regression Test Results	12/21/20	12/21/20	0 days	0 hrs	2309	67	Account - Project Manager or Asst PM
60	1.3.3.21	D048-Reports and Forms Inventory	9/15/20	9/15/20	0 days	0 hrs	1768	67	Account - Project Manager or Asst PM
61	1.3.3.22	D049-System Integration Plan	8/3/20	8/3/20	0 days	0 hrs	2273	67	Account - Project Manager or Asst PM
62	1.3.3.23	D050-System Integration Test Cases	10/23/20	10/23/20	0 days	0 hrs	2260	67	Account - Project Manager or Asst PM
63	1.3.3.24	D051-System Integration Test Results	12/21/20	12/21/20	0 days	0 hrs	2301	67	Account - Project Manager or Asst PM
64	1.3.3.25	D052-Training Management Plan	8/14/20	8/14/20	0 days	0 hrs	2387	67	Account - Project Manager or Asst PM
65	1.3.3.26	D053-User Acceptance Test Cases	12/16/20	12/16/20	0 days	0 hrs	2544	67	Account - Project Manager or Asst PM
66	1.3.3.27	D054-User Acceptance Test Results and Letter	2/4/21	2/4/21	0 days	0 hrs	2569	67	Account - Project Manager or Asst PM
67	1.3.3.28	Payment Milestone 6: Solution Design, Testing, and Operations 3	2/4/21	2/4/21	0 days	0 hrs	58,59,60,61,62,457		Account - Project Manager or Asst PM
68	**1.3.4**	**Task Group 4 - Solution Deployment (12/1/2020 - 3/31/2021)**	**10/6/20**	**3/2/21**	**100.7 days**	**0 hrs**			
69	1.3.4.1	D055-Cut over Play Book	12/18/20	12/18/20	0 days	0 hrs	2625	74	Account - Project Manager or Asst PM
70	1.3.4.2	D056-Federal Review Supporting Documentation	1/26/21	1/26/21	0 days	0 hrs	698	74	Account - Project Manager or Asst PM
71	1.3.4.3	D057-Implementation Plan (Roll-out Plan)	12/15/20	12/15/20	0 days	0 hrs	2637	74	Account - Project Manager or Asst PM
72	1.3.4.4	D058-Implementation Certification Letter	2/26/21	2/26/21	0 days	0 hrs	2755	74	Account - Project Manager or Asst PM
73	1.3.4.5	D059-Operations Change Management Plan	12/11/20	12/11/20	0 days	0 hrs	2649	74	Account - Project Manager or Asst PM
74	1.3.4.6	Payment Milestone 7: Deployment 1	2/26/21	2/26/21	0 days	0 hrs	69,70,71,73,457		Account - Project Manager or Asst PM
75	1.3.4.7	D060-Operational Milestone Review	2/16/21	2/16/21	0 days	0 hrs	2662	80	Account - Project Manager or Asst PM
76	1.3.4.8	D061-Product Screenshots, Reports and Data Certification	1/26/21	1/26/21	0 days	0 hrs	723	80	Account - Project Manager or Asst PM
77	1.3.4.9	D062-Report Distribution Schedule	12/9/20	12/9/20	0 days	0 hrs	2674	80	Account - Project Manager or Asst PM
78	1.3.4.10	D063-Solution Health Monitoring Plan	1/5/21	1/5/21	0 days	0 hrs	2686	80	Account - Project Manager or Asst PM
79	1.3.4.11	D064-System Operations Plan	11/23/20	11/23/20	0 days	0 hrs	2698	80	Account - Project Manager or Asst PM
80	1.3.4.12	Payment Milestone 8: Deployment 2	2/16/21	2/16/21	0 days	0 hrs	75,76,77,78,79,457		Account - Project Manager or Asst PM
81	1.3.4.13	D065-System and User Documentation	2/25/21	2/25/21	0 days	0 hrs	2424	86	Account - Project Manager or Asst PM
82	1.3.4.14	D066-Training Materials	12/29/20	12/29/20	0 days	0 hrs	2411	86	Account - Project Manager or Asst PM
83	1.3.4.15	D067-Training Report	3/2/21	3/2/21	0 days	0 hrs	2561	86	Account - Project Manager or Asst PM
84	1.3.4.16	D068-Training Schedule	10/6/20	10/6/20	0 days	0 hrs	2397	86	Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
85	1.3.4.17	D069-Turnover and Closeout Management Plan	12/7/20	12/7/20	0 days	0 hrs	2710	86	Account - Project Manager or Asst PM
86	1.3.4.18	Payment Milestone 9: Deployment 3	8/18/21	8/18/21	0 days	0 hrs	114,117,115,11	457	Account - Project Manager or Asst PM
87	1.3.5	**FADS Task Group 1 - Project Initiation and Planning**	**8/13/20**	**8/13/20**	**0 days**	**0 hrs**			
88	1.3.5.1	D001-FADS Project Kick-off Meeting	8/13/20	8/13/20	0 days	0 hrs	2785	89	Account - Project Manager or Asst PM
89	1.3.5.2	FADS Payment Milestone 1: Project Initiation Complete	8/13/20	8/13/20	0 days	0 hrs	88	457	Account - Project Manager or Asst PM
90	1.3.6	**FADS Task Group 2 - Solution Planning**	**9/18/20**	**9/18/20**	**0 days**	**0 hrs**			
91	1.3.6.1	D021-FADS Requirements Gap Analysis Document	9/18/20	9/18/20	0 days	0 hrs	2852	92	Account - Project Manager or Asst PM
92	1.3.6.2	FADS Payment Milestone 2: Solution Planning 1	9/18/20	9/18/20	0 days	0 hrs	91	457	Account - Project Manager or Asst PM
93	1.3.6.3	D023-FADS Requirements Specification Document	9/18/20	9/18/20	0 days	0 hrs	2860	95	Account - Project Manager or Asst PM
94	1.3.6.4	D024-FADS Requirements Traceability Matrix	9/18/20	9/18/20	0 days	0 hrs	2868	95	Account - Project Manager or Asst PM
95	1.3.6.5	FADS Payment Milestone 3: Solution Planning 2	9/18/20	9/18/20	0 days	0 hrs	93,94	457	Account - Project Manager or Asst PM
96	1.3.7	**FADS Task Group 3 - Solution Design, Testing, and Operations**	**10/9/20**	**7/1/21**	**182.54 days**	**0 hrs**			
97	1.3.7.1	D030-FADS Business Process Models	11/5/20	11/5/20	0 days	0 hrs	2915	100	Account - Project Manager or Asst PM
98	1.3.7.2	D036-FADS Database Design Document and Data Models	10/9/20	10/9/20	0 days	0 hrs	2945	100	Account - Project Manager or Asst PM
99	1.3.7.3	D037-FADS Detailed System Design Document	11/5/20	11/5/20	0 days	0 hrs	2923	100	Account - Project Manager or Asst PM
100	1.3.7.4	FADS Payment Milestone 4: Solution Design, Testing, and Operations 1	11/5/20	11/5/20	0 days	0 hrs	97,98,99	457	Account - Project Manager or Asst PM
101	1.3.7.5	D046-FADS Regression Test Cases	12/4/20	12/4/20	0 days	0 hrs	3088	108	Account - Project Manager or Asst PM
102	1.3.7.6	D047-FADS Regression Test Results	4/9/21	4/9/21	0 days	0 hrs	3142	108	Account - Project Manager or Asst PM
103	1.3.7.7	D050-FADS System Integration Test Cases	12/4/20	12/4/20	0 days	0 hrs	3080	108	Account - Project Manager or Asst PM
104	1.3.7.8	D051-FADS System Integration Test Results	4/9/21	4/9/21	0 days	0 hrs	3134	108	Account - Project Manager or Asst PM
105	1.3.7.9	D052-FADS Training Management Plan	11/23/20	11/23/20	0 days	0 hrs	3151	108	Account - Project Manager or Asst PM
106	1.3.7.10	D053-FADS User Acceptance Test Cases	5/28/21	5/28/21	0 days	0 hrs	3197	108	Account - Project Manager or Asst PM
107	1.3.7.11	D054-FADS User Acceptance Test Results and Letter	7/1/21	7/1/21	0 days	0 hrs	3243	108	Account - Project Manager or Asst PM
108	1.3.7.12	FADS Payment Milestone 6: Solution Design, Testing, and Operations 3	7/1/21	7/1/21	0 days	0 hrs	101,102,103,10	457	Account - Project Manager or Asst PM
109	1.3.8	**FADS Task Group 4 - Solution Deployment**	**12/2/20**	**8/18/21**	**180.1 days**	**0 hrs**			
110	1.3.8.1	D055-FADS Cut over Play Book	7/9/21	7/9/21	0 days	0 hrs	3262	112	Account - Project Manager or Asst PM
111	1.3.8.2	D057-FADS Implementation Plan (Roll-out Plan)	7/1/21	7/1/21	0 days	0 hrs	3307	112	Account - Project Manager or Asst PM
112	1.3.8.3	FADS Payment Milestone 7: Deployment 1	7/9/21	7/9/21	0 days	0 hrs	110,111	457	Account - Project Manager or Asst PM
113	1.3.8.4	D065-FADS System and User Documentation	3/30/21	3/30/21	0 days	0 hrs	3167	117	Account - Project Manager or Asst PM
114	1.3.8.5	D066-FADS Training Materials	4/21/21	4/21/21	0 days	0 hrs	3175	117	Account - Project Manager or Asst PM
115	1.3.8.6	D067-FADS Training Report	7/5/21	7/5/21	0 days	0 hrs	3250	117	Account - Project Manager or Asst PM
116	1.3.8.7	D068-FADS Training Schedule	12/2/20	12/2/20	0 days	0 hrs	3159	117	Account - Project Manager or Asst PM
117	1.3.8.8	FADS Payment Milestone 8: Deployment 2	8/18/21	8/18/21	0 days	0 hrs	113,114,115,11	457	Account - Project Manager or Asst PM
118	1.3.9	**Task Group 5- Project Monitor & Control**	**3/2/20**	**8/18/21**	**371.39 days**	**3,084.34 hrs**			
119	1.3.9.1	**Project Management Recurring Deliverables and Maintenance**	**3/2/20**	**7/6/21**	**340 days**	**3,084.34 hrs**			
120	1.3.9.1.	**D070 - Project Status Reporting (Weekly and Monthly)**	**3/3/20**	**6/29/21**	**336.4 days**	**894.41 hrs**			
121	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 1	3/3/20	3/3/20	0.17 days	13.32 hrs	3	122	Quality Assurance Manager,Account - Project Manager or Asst PM[2
122	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 2	3/10/20	3/10/20	0.4 days	12.77 hrs	121	123	Quality Assurance Manager,Account - Project Manager or Asst PM[2

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
123	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 3	3/17/20	3/17/20	0.4 days	12.77 hrs	122	124	Quality Assurance Manager,Account - Project Manager or Asst PM[2
124	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 4	3/24/20	3/24/20	0.4 days	12.77 hrs	123	125	Quality Assurance Manager,Account - Project Manager or Asst PM[2
125	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 5	3/31/20	3/31/20	0.4 days	12.77 hrs	124	126	Quality Assurance Manager,Account - Project Manager or Asst PM[2
126	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 6	4/7/20	4/7/20	0.4 days	12.77 hrs	125	127	Quality Assurance Manager,Account - Project Manager or Asst PM[2
127	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 7	4/14/20	4/14/20	0.4 days	12.77 hrs	126	128	Quality Assurance Manager,Account - Project Manager or Asst PM[2
128	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 8	4/21/20	4/21/20	0.4 days	12.77 hrs	127	129	Quality Assurance Manager,Account - Project Manager or Asst PM[2
129	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 9	4/28/20	4/28/20	0.4 days	12.77 hrs	128	130	Quality Assurance Manager,Account - Project Manager or Asst PM[2
130	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 10	5/5/20	5/5/20	0.4 days	12.77 hrs	129	131	Quality Assurance Manager,Account - Project Manager or Asst PM[2
131	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 11	5/12/20	5/12/20	0.4 days	12.77 hrs	130	132	Quality Assurance Manager,Account - Project Manager or Asst PM[2
132	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 12	5/19/20	5/19/20	0.4 days	12.77 hrs	131	133	Quality Assurance Manager,Account - Project Manager or Asst PM[2
133	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 13	5/26/20	5/26/20	0.4 days	12.77 hrs	132	134	Quality Assurance Manager,Account - Project Manager or Asst PM[2
134	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 14	6/2/20	6/2/20	0.4 days	12.77 hrs	133	135	Quality Assurance Manager,Account - Project Manager or Asst PM[2
135	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 15	6/9/20	6/9/20	0.4 days	12.77 hrs	134	136	Quality Assurance Manager,Account - Project Manager or Asst PM[2
136	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 16	6/16/20	6/16/20	0.4 days	12.77 hrs	135	137	Quality Assurance Manager,Account - Project Manager or Asst PM[2
137	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 17	6/23/20	6/23/20	0.4 days	12.77 hrs	136	138	Quality Assurance Manager,Account - Project Manager or Asst PM[2
138	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 18	6/30/20	6/30/20	0.4 days	12.77 hrs	137	139	Quality Assurance Manager,Account - Project Manager or Asst PM[2
139	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 19	7/7/20	7/7/20	0.4 days	12.77 hrs	138	140	Quality Assurance Manager,Account - Project Manager or Asst PM[2
140	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 20	7/14/20	7/14/20	0.4 days	12.77 hrs	139	141	Quality Assurance Manager,Account - Project Manager or Asst PM[2
141	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 21	7/21/20	7/21/20	0.4 days	12.77 hrs	140	142	Quality Assurance Manager,Account - Project Manager or Asst PM[2
142	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 22	7/28/20	7/28/20	0.4 days	12.77 hrs	141	143	Quality Assurance Manager,Account - Project Manager or Asst PM[2
143	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 23	8/4/20	8/4/20	0.4 days	12.77 hrs	142	144	Quality Assurance Manager,Account - Project Manager or Asst PM[2
144	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 24	8/11/20	8/11/20	0.4 days	12.77 hrs	143	145	Quality Assurance Manager,Account - Project Manager or Asst PM[2
145	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 25	8/18/20	8/18/20	0.4 days	12.77 hrs	144	146	Quality Assurance Manager,Account - Project Manager or Asst PM[2
146	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 26	8/25/20	8/25/20	0.4 days	12.77 hrs	145	147	Quality Assurance Manager,Account - Project Manager or Asst PM[2
147	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 27	9/1/20	9/1/20	0.4 days	12.77 hrs	146	148	Quality Assurance Manager,Account - Project Manager or Asst PM[2
148	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 28	9/8/20	9/8/20	0.4 days	12.77 hrs	147	149	Quality Assurance Manager,Account - Project Manager or Asst PM[2
149	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 29	9/15/20	9/15/20	0.4 days	12.77 hrs	148	150	Quality Assurance Manager,Account - Project Manager or Asst PM[2
150	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 30	9/22/20	9/22/20	0.4 days	12.77 hrs	149	151	Quality Assurance Manager,Account - Project Manager or Asst PM[2
151	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 31	9/29/20	9/29/20	0.4 days	12.77 hrs	150	152	Quality Assurance Manager,Account - Project Manager or Asst PM[2
152	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 32	10/6/20	10/6/20	0.4 days	12.77 hrs	151	153	Quality Assurance Manager,Account - Project Manager or Asst PM[2
153	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 33	10/13/20	10/13/20	0.4 days	12.77 hrs	152	154	Quality Assurance Manager,Account - Project Manager or Asst PM[2
154	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 34	10/20/20	10/20/20	0.4 days	12.77 hrs	153	155	Quality Assurance Manager,Account - Project Manager or Asst PM[2
155	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 35	10/27/20	10/27/20	0.4 days	12.77 hrs	154	156	Quality Assurance Manager,Account - Project Manager or Asst PM[2
156	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 36	11/3/20	11/3/20	0.4 days	12.77 hrs	155	157	Quality Assurance Manager,Account - Project Manager or Asst PM[2
157	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 37	11/10/20	11/10/20	0.4 days	12.77 hrs	156	158	Quality Assurance Manager,Account - Project Manager or Asst PM[2
158	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 38	11/17/20	11/17/20	0.4 days	12.77 hrs	157	159	Quality Assurance Manager,Account - Project Manager or Asst PM[2
159	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 39	11/24/20	11/24/20	0.4 days	12.77 hrs	158	160	Quality Assurance Manager,Account - Project Manager or Asst PM[2
160	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 40	12/1/20	12/1/20	0.4 days	12.77 hrs	159	161	Quality Assurance Manager,Account - Project Manager or Asst PM[2
161	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 41	12/8/20	12/8/20	0.4 days	12.77 hrs	160	162	Quality Assurance Manager,Account - Project Manager or Asst PM[2
162	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 42	12/15/20	12/15/20	0.4 days	12.77 hrs	161	163	Quality Assurance Manager,Account - Project Manager or Asst PM[2
163	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 43	12/22/20	12/22/20	0.4 days	12.77 hrs	162	164	Quality Assurance Manager,Account - Project Manager or Asst PM[2
164	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 44	12/29/20	12/29/20	0.4 days	12.77 hrs	163	165	Quality Assurance Manager,Account - Project Manager or Asst PM[2
165	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 45	1/5/21	1/5/21	0.4 days	12.77 hrs	164	166	Quality Assurance Manager,Account - Project Manager or Asst PM[2
166	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 46	1/12/21	1/12/21	0.4 days	12.77 hrs	165	167	Quality Assurance Manager,Account - Project Manager or Asst PM[2
167	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 47	1/19/21	1/19/21	0.4 days	12.77 hrs	166	168	Quality Assurance Manager,Account - Project Manager or Asst PM[2
168	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 48	1/26/21	1/26/21	0.4 days	12.77 hrs	167	169	Quality Assurance Manager,Account - Project Manager or Asst PM[2
169	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 49	2/2/21	2/2/21	0.4 days	12.77 hrs	168	170	Quality Assurance Manager,Account - Project Manager or Asst PM[2
170	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 50	2/9/21	2/9/21	0.4 days	12.77 hrs	169	171	Quality Assurance Manager,Account - Project Manager or Asst PM[2
171	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 51	2/16/21	2/16/21	0.4 days	12.77 hrs	170	172	Quality Assurance Manager,Account - Project Manager or Asst PM[2
172	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 52	2/23/21	2/23/21	0.4 days	12.77 hrs	171	173	Quality Assurance Manager,Account - Project Manager or Asst PM[2
173	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 53	3/2/21	3/2/21	0.4 days	12.77 hrs	172	174	Quality Assurance Manager,Account - Project Manager or Asst PM[2
174	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 54	3/9/21	3/9/21	0.4 days	12.77 hrs	173	175	Quality Assurance Manager,Account - Project Manager or Asst PM[2
175	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 55	3/16/21	3/16/21	0.4 days	12.77 hrs	174	176	Quality Assurance Manager,Account - Project Manager or Asst PM[2
176	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 56	3/23/21	3/23/21	0.4 days	12.77 hrs	175	177	Quality Assurance Manager,Account - Project Manager or Asst PM[2

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
177	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 57	3/30/21	3/30/21	0.4 days	12.77 hrs	176	178	Quality Assurance Manager,Account - Project Manager or Asst PM[2
178	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 58	4/6/21	4/6/21	0.4 days	12.77 hrs	177	179	Quality Assurance Manager,Account - Project Manager or Asst PM[2
179	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 59	4/13/21	4/13/21	0.4 days	12.77 hrs	178	180	Quality Assurance Manager,Account - Project Manager or Asst PM[2
180	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 60	4/20/21	4/20/21	0.4 days	12.77 hrs	179	181	Quality Assurance Manager,Account - Project Manager or Asst PM[2
181	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 61	4/27/21	4/27/21	0.4 days	12.77 hrs	180	182	Quality Assurance Manager,Account - Project Manager or Asst PM[2
182	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 62	5/4/21	5/4/21	0.4 days	12.77 hrs	181	183	Quality Assurance Manager,Account - Project Manager or Asst PM[2
183	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 63	5/11/21	5/11/21	0.4 days	12.77 hrs	182	184	Quality Assurance Manager,Account - Project Manager or Asst PM[2
184	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 64	5/18/21	5/18/21	0.4 days	12.77 hrs	183	185	Quality Assurance Manager,Account - Project Manager or Asst PM[2
185	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 65	5/25/21	5/25/21	0.4 days	12.77 hrs	184	186	Quality Assurance Manager,Account - Project Manager or Asst PM[2
186	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 66	6/1/21	6/1/21	0.4 days	12.77 hrs	185	187	Quality Assurance Manager,Account - Project Manager or Asst PM[2
187	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 67	6/8/21	6/8/21	0.4 days	12.77 hrs	186	188	Quality Assurance Manager,Account - Project Manager or Asst PM[2
188	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 68	6/15/21	6/15/21	0.4 days	12.77 hrs	187	189	Quality Assurance Manager,Account - Project Manager or Asst PM[2
189	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 69	6/22/21	6/22/21	0.4 days	12.77 hrs	188	190	Quality Assurance Manager,Account - Project Manager or Asst PM[2
190	1.3.9.1.	D070 - Project Status Reporting (Weekly and Monthly) 70	6/29/21	6/29/21	0.4 days	12.77 hrs	189	3311	Quality Assurance Manager,Account - Project Manager or Asst PM[2
191	**1.3.9.1.**	**D071 - Project Schedule and Work Plan (Bi-Weekly)**	**5/29/20**	**6/25/21**	**272 days**	**781.94 hrs**			
192	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 1	5/29/20	6/12/20	14 edays	187.94 hrs	969	193	Quality Assurance Manager,Account - Project Manager or Asst PM[2
193	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 2	6/12/20	6/26/20	14 edays	22 hrs	192	194	Quality Assurance Manager,Account - Project Manager or Asst PM[2
194	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 3	6/26/20	7/10/20	14 edays	22 hrs	193	195	Quality Assurance Manager,Account - Project Manager or Asst PM[2
195	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 4	7/10/20	7/24/20	14 edays	22 hrs	194	196	Quality Assurance Manager,Account - Project Manager or Asst PM[2
196	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 5	7/24/20	8/7/20	14 edays	22 hrs	195	197	Quality Assurance Manager,Account - Project Manager or Asst PM[2
197	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 6	8/7/20	8/21/20	14 edays	22 hrs	196	198	Quality Assurance Manager,Account - Project Manager or Asst PM[2
198	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 7	8/21/20	9/4/20	14 edays	22 hrs	197	199	Quality Assurance Manager,Account - Project Manager or Asst PM[2
199	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 8	9/4/20	9/18/20	14 edays	22 hrs	198	200	Quality Assurance Manager,Account - Project Manager or Asst PM[2
200	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 9	9/18/20	10/2/20	14 edays	22 hrs	199	201	Quality Assurance Manager,Account - Project Manager or Asst PM[2
201	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 10	10/2/20	10/16/20	14 edays	22 hrs	200	202	Quality Assurance Manager,Account - Project Manager or Asst PM[2
202	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 11	10/16/20	10/30/20	14 edays	22 hrs	201	203	Quality Assurance Manager,Account - Project Manager or Asst PM[2
203	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 12	10/30/20	11/13/20	14 edays	22 hrs	202	204	Quality Assurance Manager,Account - Project Manager or Asst PM[2
204	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 13	11/13/20	11/27/20	14 edays	22 hrs	203	205	Quality Assurance Manager,Account - Project Manager or Asst PM[2
205	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 14	11/27/20	12/11/20	14 edays	22 hrs	204	206	Quality Assurance Manager,Account - Project Manager or Asst PM[2
206	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 15	12/11/20	12/25/20	14 edays	22 hrs	205	207	Quality Assurance Manager,Account - Project Manager or Asst PM[2
207	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 16	12/25/20	1/8/21	14 edays	22 hrs	206	208	Quality Assurance Manager,Account - Project Manager or Asst PM[2
208	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 17	1/8/21	1/22/21	14 edays	22 hrs	207	209	Quality Assurance Manager,Account - Project Manager or Asst PM[2
209	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 18	1/22/21	2/5/21	14 edays	22 hrs	208	210	Quality Assurance Manager,Account - Project Manager or Asst PM[2
210	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 19	2/5/21	2/19/21	14 edays	22 hrs	209	211	Quality Assurance Manager,Account - Project Manager or Asst PM[2
211	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 20	2/19/21	3/5/21	14 edays	22 hrs	210	212	Quality Assurance Manager,Account - Project Manager or Asst PM[2
212	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 21	3/5/21	3/19/21	14 edays	22 hrs	211	213	Quality Assurance Manager,Account - Project Manager or Asst PM[2
213	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 22	3/19/21	4/2/21	14 edays	22 hrs	212	214	Quality Assurance Manager,Account - Project Manager or Asst PM[2
214	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 23	4/2/21	4/16/21	14 edays	22 hrs	213	215	Quality Assurance Manager,Account - Project Manager or Asst PM[2
215	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 24	4/16/21	4/30/21	14 edays	22 hrs	214	216	Quality Assurance Manager,Account - Project Manager or Asst PM[2
216	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 25	4/30/21	5/14/21	14 edays	22 hrs	215	217	Quality Assurance Manager,Account - Project Manager or Asst PM[2
217	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 26	5/14/21	5/28/21	14 edays	22 hrs	216	218	Quality Assurance Manager,Account - Project Manager or Asst PM[2
218	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 27	5/28/21	6/11/21	14 edays	22 hrs	217	219	Quality Assurance Manager,Account - Project Manager or Asst PM[2
219	1.3.9.1.	D071 - Project Schedule and Work Plan (Bi-Weekly) 28	6/11/21	6/25/21	14 edays	22 hrs	218	3311	Quality Assurance Manager,Account - Project Manager or Asst PM[2
220	**1.3.9.1.**	**D072 - Risk Register Updates and Maintenance (as needed)**	**3/3/20**	**7/6/21**	**340 days**	**700 hrs**			
221	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/3/20	3/10/20	7 edays	10 hrs	3	222	Quality Assurance Manager,Account - Project Manager or Asst PM[2
222	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/10/20	3/17/20	7 edays	10 hrs	221	223	Quality Assurance Manager,Account - Project Manager or Asst PM[2
223	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/17/20	3/24/20	7 edays	10 hrs	222	224	Quality Assurance Manager,Account - Project Manager or Asst PM[2
224	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/24/20	3/31/20	7 edays	10 hrs	223	225	Quality Assurance Manager,Account - Project Manager or Asst PM[2
225	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/31/20	4/7/20	7 edays	10 hrs	224	226	Quality Assurance Manager,Account - Project Manager or Asst PM[2
226	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	4/7/20	4/14/20	7 edays	10 hrs	225	227	Quality Assurance Manager,Account - Project Manager or Asst PM[2
227	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	4/14/20	4/21/20	7 edays	10 hrs	226	228	Quality Assurance Manager,Account - Project Manager or Asst PM[2
228	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	4/21/20	4/28/20	7 edays	10 hrs	227	229	Quality Assurance Manager,Account - Project Manager or Asst PM[2
229	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	4/28/20	5/5/20	7 edays	10 hrs	228	230	Quality Assurance Manager,Account - Project Manager or Asst PM[2
230	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	5/5/20	5/12/20	7 edays	10 hrs	229	231	Quality Assurance Manager,Account - Project Manager or Asst PM[2

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
231	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	5/12/20	5/19/20	7 edays	10 hrs	230	232	Quality Assurance Manager,Account - Project Manager or Asst PM[2
232	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	5/19/20	5/26/20	7 edays	10 hrs	231	233	Quality Assurance Manager,Account - Project Manager or Asst PM[2
233	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	5/26/20	6/2/20	7 edays	10 hrs	232	234	Quality Assurance Manager,Account - Project Manager or Asst PM[2
234	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/2/20	6/9/20	7 edays	10 hrs	233	235	Quality Assurance Manager,Account - Project Manager or Asst PM[2
235	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/9/20	6/16/20	7 edays	10 hrs	234	236	Quality Assurance Manager,Account - Project Manager or Asst PM[2
236	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/16/20	6/23/20	7 edays	10 hrs	235	237	Quality Assurance Manager,Account - Project Manager or Asst PM[2
237	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/23/20	6/30/20	7 edays	10 hrs	236	238	Quality Assurance Manager,Account - Project Manager or Asst PM[2
238	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/30/20	7/7/20	7 edays	10 hrs	237	239	Quality Assurance Manager,Account - Project Manager or Asst PM[2
239	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	7/7/20	7/14/20	7 edays	10 hrs	238	240	Quality Assurance Manager,Account - Project Manager or Asst PM[2
240	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	7/14/20	7/21/20	7 edays	10 hrs	239	241	Quality Assurance Manager,Account - Project Manager or Asst PM[2
241	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	7/21/20	7/28/20	7 edays	10 hrs	240	242	Quality Assurance Manager,Account - Project Manager or Asst PM[2
242	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	7/28/20	8/4/20	7 edays	10 hrs	241	243	Quality Assurance Manager,Account - Project Manager or Asst PM[2
243	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	8/4/20	8/11/20	7 edays	10 hrs	242	244	Quality Assurance Manager,Account - Project Manager or Asst PM[2
244	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	8/11/20	8/18/20	7 edays	10 hrs	243	245	Quality Assurance Manager,Account - Project Manager or Asst PM[2
245	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	8/18/20	8/25/20	7 edays	10 hrs	244	246	Quality Assurance Manager,Account - Project Manager or Asst PM[2
246	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	8/25/20	9/1/20	7 edays	10 hrs	245	247	Quality Assurance Manager,Account - Project Manager or Asst PM[2
247	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	9/1/20	9/8/20	7 edays	10 hrs	246	248	Quality Assurance Manager,Account - Project Manager or Asst PM[2
248	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	9/8/20	9/15/20	7 edays	10 hrs	247	249	Quality Assurance Manager,Account - Project Manager or Asst PM[2
249	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	9/15/20	9/22/20	7 edays	10 hrs	248	250	Quality Assurance Manager,Account - Project Manager or Asst PM[2
250	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	9/22/20	9/29/20	7 edays	10 hrs	249	251	Quality Assurance Manager,Account - Project Manager or Asst PM[2
251	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	9/29/20	10/6/20	7 edays	10 hrs	250	252	Quality Assurance Manager,Account - Project Manager or Asst PM[2
252	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	10/6/20	10/13/20	7 edays	10 hrs	251	253	Quality Assurance Manager,Account - Project Manager or Asst PM[2
253	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	10/13/20	10/20/20	7 edays	10 hrs	252	254	Quality Assurance Manager,Account - Project Manager or Asst PM[2
254	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	10/20/20	10/27/20	7 edays	10 hrs	253	255	Quality Assurance Manager,Account - Project Manager or Asst PM[2
255	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	10/27/20	11/3/20	7 edays	10 hrs	254	256	Quality Assurance Manager,Account - Project Manager or Asst PM[2
256	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	11/3/20	11/10/20	7 edays	10 hrs	255	257	Quality Assurance Manager,Account - Project Manager or Asst PM[2
257	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	11/10/20	11/17/20	7 edays	10 hrs	256	258	Quality Assurance Manager,Account - Project Manager or Asst PM[2
258	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	11/17/20	11/24/20	7 edays	10 hrs	257	259	Quality Assurance Manager,Account - Project Manager or Asst PM[2
259	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	11/24/20	12/1/20	7 edays	10 hrs	258	260	Quality Assurance Manager,Account - Project Manager or Asst PM[2
260	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	12/1/20	12/8/20	7 edays	10 hrs	259	261	Quality Assurance Manager,Account - Project Manager or Asst PM[2
261	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	12/8/20	12/15/20	7 edays	10 hrs	260	262	Quality Assurance Manager,Account - Project Manager or Asst PM[2
262	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	12/15/20	12/22/20	7 edays	10 hrs	261	263	Quality Assurance Manager,Account - Project Manager or Asst PM[2
263	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	12/22/20	12/29/20	7 edays	10 hrs	262	264	Quality Assurance Manager,Account - Project Manager or Asst PM[2
264	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	12/29/20	1/5/21	7 edays	10 hrs	263	265	Quality Assurance Manager,Account - Project Manager or Asst PM[2
265	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	1/5/21	1/12/21	7 edays	10 hrs	264	266	Quality Assurance Manager,Account - Project Manager or Asst PM[2
266	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	1/12/21	1/19/21	7 edays	10 hrs	265	267	Quality Assurance Manager,Account - Project Manager or Asst PM[2
267	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	1/19/21	1/26/21	7 edays	10 hrs	266	268	Quality Assurance Manager,Account - Project Manager or Asst PM[2
268	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	1/26/21	2/2/21	7 edays	10 hrs	267	269	Quality Assurance Manager,Account - Project Manager or Asst PM[2
269	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	2/2/21	2/9/21	7 edays	10 hrs	268	270	Quality Assurance Manager,Account - Project Manager or Asst PM[2
270	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	2/9/21	2/16/21	7 edays	10 hrs	269	271	Quality Assurance Manager,Account - Project Manager or Asst PM[2
271	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	2/16/21	2/23/21	7 edays	10 hrs	270	272	Quality Assurance Manager,Account - Project Manager or Asst PM[2
272	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	2/23/21	3/2/21	7 edays	10 hrs	271	273	Quality Assurance Manager,Account - Project Manager or Asst PM[2
273	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/2/21	3/9/21	7 edays	10 hrs	272	274	Quality Assurance Manager,Account - Project Manager or Asst PM[2
274	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/9/21	3/16/21	7 edays	10 hrs	273	275	Quality Assurance Manager,Account - Project Manager or Asst PM[2
275	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/16/21	3/23/21	7 edays	10 hrs	274	276	Quality Assurance Manager,Account - Project Manager or Asst PM[2
276	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/23/21	3/30/21	7 edays	10 hrs	275	277	Quality Assurance Manager,Account - Project Manager or Asst PM[2
277	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	3/30/21	4/6/21	7 edays	10 hrs	276	278	Quality Assurance Manager,Account - Project Manager or Asst PM[2
278	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	4/6/21	4/13/21	7 edays	10 hrs	277	279	Quality Assurance Manager,Account - Project Manager or Asst PM[2
279	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	4/13/21	4/20/21	7 edays	10 hrs	278	280	Quality Assurance Manager,Account - Project Manager or Asst PM[2
280	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	4/20/21	4/27/21	7 edays	10 hrs	279	281	Quality Assurance Manager,Account - Project Manager or Asst PM[2
281	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	4/27/21	5/4/21	7 edays	10 hrs	280	282	Quality Assurance Manager,Account - Project Manager or Asst PM[2
282	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	5/4/21	5/11/21	7 edays	10 hrs	281	283	Quality Assurance Manager,Account - Project Manager or Asst PM[2
283	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	5/11/21	5/18/21	7 edays	10 hrs	282	284	Quality Assurance Manager,Account - Project Manager or Asst PM[2
284	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	5/18/21	5/25/21	7 edays	10 hrs	283	285	Quality Assurance Manager,Account - Project Manager or Asst PM[2

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
285	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	5/25/21	6/1/21	7 edays	10 hrs	284	286	Quality Assurance Manager,Account - Project Manager or Asst PM[2
286	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/1/21	6/8/21	7 edays	10 hrs	285	287	Quality Assurance Manager,Account - Project Manager or Asst PM[2
287	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/8/21	6/15/21	7 edays	10 hrs	286	288	Quality Assurance Manager,Account - Project Manager or Asst PM[2
288	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/15/21	6/22/21	7 edays	10 hrs	287	289	Quality Assurance Manager,Account - Project Manager or Asst PM[2
289	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/22/21	6/29/21	7 edays	10 hrs	288	290	Quality Assurance Manager,Account - Project Manager or Asst PM[2
290	1.3.9.1.	D072 - Risk Register Updates and Maintenance (as needed)	6/29/21	7/6/21	7 edays	10 hrs	289	3311	Quality Assurance Manager,Account - Project Manager or Asst PM[2
291	**1.3.9.1.**	**D073 - Updated Training Management Plan (As needed)**	**3/10/20**	**6/14/21**	**321 days**	**288 hrs**			
292	1.3.9.1.	D073 - Updated Training Management Plan (As needed) 1	3/10/20	3/12/20	3 days	48 hrs	3	293	Training Lead,Business Lead or Analysts
293	1.3.9.1.	D073 - Updated Training Management Plan (As needed) 2	6/10/20	6/12/20	3 days	48 hrs	292	294	Training Lead,Business Lead or Analysts
294	1.3.9.1.	D073 - Updated Training Management Plan (As needed) 3	9/10/20	9/14/20	3 days	48 hrs	293	295	Training Lead,Business Lead or Analysts
295	1.3.9.1.	D073 - Updated Training Management Plan (As needed) 4	12/10/20	12/14/20	3 days	48 hrs	294	296	Training Lead,Business Lead or Analysts
296	1.3.9.1.	D073 - Updated Training Management Plan (As needed) 5	3/10/21	3/12/21	3 days	48 hrs	295	297	Training Lead,Business Lead or Analysts
297	1.3.9.1.	D073 - Updated Training Management Plan (As needed) 6	6/10/21	6/14/21	3 days	48 hrs	296	3311	Training Lead,Business Lead or Analysts
298	**1.3.9.1.**	**D074 - Update RTM (as needed)**	**3/2/20**	**6/29/21**	**337 days**	**210 hrs**			
299	1.3.9.1.	D074 - Update RTM (as needed) 1	3/2/20	3/3/20	1 day	3 hrs	3	300	Quality Assurance Manager[1%],Account - Project Manager or Asst P
300	1.3.9.1.	D074 - Update RTM (as needed) 2	3/10/20	3/10/20	1 day	3 hrs	299	301	Quality Assurance Manager[1%],Account - Project Manager or Asst P
301	1.3.9.1.	D074 - Update RTM (as needed) 3	3/17/20	3/17/20	1 day	3 hrs	300	302	Quality Assurance Manager[1%],Account - Project Manager or Asst P
302	1.3.9.1.	D074 - Update RTM (as needed) 4	3/24/20	3/24/20	1 day	3 hrs	301	303	Quality Assurance Manager[1%],Account - Project Manager or Asst P
303	1.3.9.1.	D074 - Update RTM (as needed) 5	3/31/20	3/31/20	1 day	3 hrs	302	304	Quality Assurance Manager[1%],Account - Project Manager or Asst P
304	1.3.9.1.	D074 - Update RTM (as needed) 6	4/7/20	4/7/20	1 day	3 hrs	303	305	Quality Assurance Manager[1%],Account - Project Manager or Asst P
305	1.3.9.1.	D074 - Update RTM (as needed) 7	4/14/20	4/14/20	1 day	3 hrs	304	306	Quality Assurance Manager[1%],Account - Project Manager or Asst P
306	1.3.9.1.	D074 - Update RTM (as needed) 8	4/21/20	4/21/20	1 day	3 hrs	305	307	Quality Assurance Manager[1%],Account - Project Manager or Asst P
307	1.3.9.1.	D074 - Update RTM (as needed) 9	4/28/20	4/28/20	1 day	3 hrs	306	308	Quality Assurance Manager[1%],Account - Project Manager or Asst P
308	1.3.9.1.	D074 - Update RTM (as needed) 10	5/5/20	5/5/20	1 day	3 hrs	307	309	Quality Assurance Manager[1%],Account - Project Manager or Asst P
309	1.3.9.1.	D074 - Update RTM (as needed) 11	5/12/20	5/12/20	1 day	3 hrs	308	310	Quality Assurance Manager[1%],Account - Project Manager or Asst P
310	1.3.9.1.	D074 - Update RTM (as needed) 12	5/19/20	5/19/20	1 day	3 hrs	309	311	Quality Assurance Manager[1%],Account - Project Manager or Asst P
311	1.3.9.1.	D074 - Update RTM (as needed) 13	5/26/20	5/26/20	1 day	3 hrs	310	312	Quality Assurance Manager[1%],Account - Project Manager or Asst P
312	1.3.9.1.	D074 - Update RTM (as needed) 14	6/2/20	6/2/20	1 day	3 hrs	311	313	Quality Assurance Manager[1%],Account - Project Manager or Asst P
313	1.3.9.1.	D074 - Update RTM (as needed) 15	6/9/20	6/9/20	1 day	3 hrs	312	314	Quality Assurance Manager[1%],Account - Project Manager or Asst P
314	1.3.9.1.	D074 - Update RTM (as needed) 16	6/16/20	6/16/20	1 day	3 hrs	313	315	Quality Assurance Manager[1%],Account - Project Manager or Asst P
315	1.3.9.1.	D074 - Update RTM (as needed) 17	6/23/20	6/23/20	1 day	3 hrs	314	316	Quality Assurance Manager[1%],Account - Project Manager or Asst P
316	1.3.9.1.	D074 - Update RTM (as needed) 18	6/30/20	6/30/20	1 day	3 hrs	315	317	Quality Assurance Manager[1%],Account - Project Manager or Asst P
317	1.3.9.1.	D074 - Update RTM (as needed) 19	7/7/20	7/7/20	1 day	3 hrs	316	318	Quality Assurance Manager[1%],Account - Project Manager or Asst P
318	1.3.9.1.	D074 - Update RTM (as needed) 20	7/14/20	7/14/20	1 day	3 hrs	317	319	Quality Assurance Manager[1%],Account - Project Manager or Asst P
319	1.3.9.1.	D074 - Update RTM (as needed) 21	7/21/20	7/21/20	1 day	3 hrs	318	320	Quality Assurance Manager[1%],Account - Project Manager or Asst P
320	1.3.9.1.	D074 - Update RTM (as needed) 22	7/28/20	7/28/20	1 day	3 hrs	319	321	Quality Assurance Manager[1%],Account - Project Manager or Asst P
321	1.3.9.1.	D074 - Update RTM (as needed) 23	8/4/20	8/4/20	1 day	3 hrs	320	322	Quality Assurance Manager[1%],Account - Project Manager or Asst P
322	1.3.9.1.	D074 - Update RTM (as needed) 24	8/11/20	8/11/20	1 day	3 hrs	321	323	Quality Assurance Manager[1%],Account - Project Manager or Asst P
323	1.3.9.1.	D074 - Update RTM (as needed) 25	8/18/20	8/18/20	1 day	3 hrs	322	324	Quality Assurance Manager[1%],Account - Project Manager or Asst P
324	1.3.9.1.	D074 - Update RTM (as needed) 26	8/25/20	8/25/20	1 day	3 hrs	323	325	Quality Assurance Manager[1%],Account - Project Manager or Asst P
325	1.3.9.1.	D074 - Update RTM (as needed) 27	9/1/20	9/1/20	1 day	3 hrs	324	326	Quality Assurance Manager[1%],Account - Project Manager or Asst P
326	1.3.9.1.	D074 - Update RTM (as needed) 28	9/8/20	9/8/20	1 day	3 hrs	325	327	Quality Assurance Manager[1%],Account - Project Manager or Asst P
327	1.3.9.1.	D074 - Update RTM (as needed) 29	9/15/20	9/15/20	1 day	3 hrs	326	328	Quality Assurance Manager[1%],Account - Project Manager or Asst P
328	1.3.9.1.	D074 - Update RTM (as needed) 30	9/22/20	9/22/20	1 day	3 hrs	327	329	Quality Assurance Manager[1%],Account - Project Manager or Asst P
329	1.3.9.1.	D074 - Update RTM (as needed) 31	9/29/20	9/29/20	1 day	3 hrs	328	330	Quality Assurance Manager[1%],Account - Project Manager or Asst P
330	1.3.9.1.	D074 - Update RTM (as needed) 32	10/6/20	10/6/20	1 day	3 hrs	329	331	Quality Assurance Manager[1%],Account - Project Manager or Asst P
331	1.3.9.1.	D074 - Update RTM (as needed) 33	10/13/20	10/13/20	1 day	3 hrs	330	332	Quality Assurance Manager[1%],Account - Project Manager or Asst P
332	1.3.9.1.	D074 - Update RTM (as needed) 34	10/20/20	10/20/20	1 day	3 hrs	331	333	Quality Assurance Manager[1%],Account - Project Manager or Asst P
333	1.3.9.1.	D074 - Update RTM (as needed) 35	10/27/20	10/27/20	1 day	3 hrs	332	334	Quality Assurance Manager[1%],Account - Project Manager or Asst P
334	1.3.9.1.	D074 - Update RTM (as needed) 36	11/3/20	11/3/20	1 day	3 hrs	333	335	Quality Assurance Manager[1%],Account - Project Manager or Asst P
335	1.3.9.1.	D074 - Update RTM (as needed) 37	11/10/20	11/10/20	1 day	3 hrs	334	336	Quality Assurance Manager[1%],Account - Project Manager or Asst P
336	1.3.9.1.	D074 - Update RTM (as needed) 38	11/17/20	11/17/20	1 day	3 hrs	335	337	Quality Assurance Manager[1%],Account - Project Manager or Asst P
337	1.3.9.1.	D074 - Update RTM (as needed) 39	11/24/20	11/24/20	1 day	3 hrs	336	338	Quality Assurance Manager[1%],Account - Project Manager or Asst P
338	1.3.9.1.	D074 - Update RTM (as needed) 40	12/1/20	12/1/20	1 day	3 hrs	337	339	Quality Assurance Manager[1%],Account - Project Manager or Asst P

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
339	1.3.9.1.	D074 - Update RTM (as needed) 41	12/8/20	12/8/20	1 day	3 hrs	338	340	Quality Assurance Manager[1%],Account - Project Manager or Asst P
340	1.3.9.1.	D074 - Update RTM (as needed) 42	12/15/20	12/15/20	1 day	3 hrs	339	341	Quality Assurance Manager[1%],Account - Project Manager or Asst P
341	1.3.9.1.	D074 - Update RTM (as needed) 43	12/22/20	12/22/20	1 day	3 hrs	340	342	Quality Assurance Manager[1%],Account - Project Manager or Asst P
342	1.3.9.1.	D074 - Update RTM (as needed) 44	12/29/20	12/29/20	1 day	3 hrs	341	343	Quality Assurance Manager[1%],Account - Project Manager or Asst P
343	1.3.9.1.	D074 - Update RTM (as needed) 45	1/5/21	1/5/21	1 day	3 hrs	342	344	Quality Assurance Manager[1%],Account - Project Manager or Asst P
344	1.3.9.1.	D074 - Update RTM (as needed) 46	1/12/21	1/12/21	1 day	3 hrs	343	345	Quality Assurance Manager[1%],Account - Project Manager or Asst P
345	1.3.9.1.	D074 - Update RTM (as needed) 47	1/19/21	1/19/21	1 day	3 hrs	344	346	Quality Assurance Manager[1%],Account - Project Manager or Asst P
346	1.3.9.1.	D074 - Update RTM (as needed) 48	1/26/21	1/26/21	1 day	3 hrs	345	347	Quality Assurance Manager[1%],Account - Project Manager or Asst P
347	1.3.9.1.	D074 - Update RTM (as needed) 49	2/2/21	2/2/21	1 day	3 hrs	346	348	Quality Assurance Manager[1%],Account - Project Manager or Asst P
348	1.3.9.1.	D074 - Update RTM (as needed) 50	2/9/21	2/9/21	1 day	3 hrs	347	349	Quality Assurance Manager[1%],Account - Project Manager or Asst P
349	1.3.9.1.	D074 - Update RTM (as needed) 51	2/16/21	2/16/21	1 day	3 hrs	348	350	Quality Assurance Manager[1%],Account - Project Manager or Asst P
350	1.3.9.1.	D074 - Update RTM (as needed) 52	2/23/21	2/23/21	1 day	3 hrs	349	351	Quality Assurance Manager[1%],Account - Project Manager or Asst P
351	1.3.9.1.	D074 - Update RTM (as needed) 53	3/2/21	3/2/21	1 day	3 hrs	350	352	Quality Assurance Manager[1%],Account - Project Manager or Asst P
352	1.3.9.1.	D074 - Update RTM (as needed) 54	3/9/21	3/9/21	1 day	3 hrs	351	353	Quality Assurance Manager[1%],Account - Project Manager or Asst P
353	1.3.9.1.	D074 - Update RTM (as needed) 55	3/16/21	3/16/21	1 day	3 hrs	352	354	Quality Assurance Manager[1%],Account - Project Manager or Asst P
354	1.3.9.1.	D074 - Update RTM (as needed) 56	3/23/21	3/23/21	1 day	3 hrs	353	355	Quality Assurance Manager[1%],Account - Project Manager or Asst P
355	1.3.9.1.	D074 - Update RTM (as needed) 57	3/30/21	3/30/21	1 day	3 hrs	354	356	Quality Assurance Manager[1%],Account - Project Manager or Asst P
356	1.3.9.1.	D074 - Update RTM (as needed) 58	4/6/21	4/6/21	1 day	3 hrs	355	357	Quality Assurance Manager[1%],Account - Project Manager or Asst P
357	1.3.9.1.	D074 - Update RTM (as needed) 59	4/13/21	4/13/21	1 day	3 hrs	356	358	Quality Assurance Manager[1%],Account - Project Manager or Asst P
358	1.3.9.1.	D074 - Update RTM (as needed) 60	4/20/21	4/20/21	1 day	3 hrs	357	359	Quality Assurance Manager[1%],Account - Project Manager or Asst P
359	1.3.9.1.	D074 - Update RTM (as needed) 61	4/27/21	4/27/21	1 day	3 hrs	358	360	Quality Assurance Manager[1%],Account - Project Manager or Asst P
360	1.3.9.1.	D074 - Update RTM (as needed) 62	5/4/21	5/4/21	1 day	3 hrs	359	361	Quality Assurance Manager[1%],Account - Project Manager or Asst P
361	1.3.9.1.	D074 - Update RTM (as needed) 63	5/11/21	5/11/21	1 day	3 hrs	360	362	Quality Assurance Manager[1%],Account - Project Manager or Asst P
362	1.3.9.1.	D074 - Update RTM (as needed) 64	5/18/21	5/18/21	1 day	3 hrs	361	363	Quality Assurance Manager[1%],Account - Project Manager or Asst P
363	1.3.9.1.	D074 - Update RTM (as needed) 65	5/25/21	5/25/21	1 day	3 hrs	362	364	Quality Assurance Manager[1%],Account - Project Manager or Asst P
364	1.3.9.1.	D074 - Update RTM (as needed) 66	6/1/21	6/1/21	1 day	3 hrs	363	365	Quality Assurance Manager[1%],Account - Project Manager or Asst P
365	1.3.9.1.	D074 - Update RTM (as needed) 67	6/8/21	6/8/21	1 day	3 hrs	364	366	Quality Assurance Manager[1%],Account - Project Manager or Asst P
366	1.3.9.1.	D074 - Update RTM (as needed) 68	6/15/21	6/15/21	1 day	3 hrs	365	367	Quality Assurance Manager[1%],Account - Project Manager or Asst P
367	1.3.9.1.	D074 - Update RTM (as needed) 69	6/22/21	6/22/21	1 day	3 hrs	366	368	Quality Assurance Manager[1%],Account - Project Manager or Asst P
368	1.3.9.1.	D074 - Update RTM (as needed) 70	6/29/21	6/29/21	1 day	3 hrs	367	3311	Quality Assurance Manager[1%],Account - Project Manager or Asst P
369	**1.3.9.1.**	**D075 - Update Project Management Components (as needed**	**3/3/20**	**6/29/21**	**336.24 days**	**210 hrs**			
370	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/3/20	3/3/20	0.24 days	3 hrs	3	371	Quality Assurance Manager[1%],Account - Project Manager or Asst P
371	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/10/20	3/10/20	0.24 days	3 hrs	370	372	Quality Assurance Manager[1%],Account - Project Manager or Asst P
372	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/17/20	3/17/20	0.24 days	3 hrs	371	373	Quality Assurance Manager[1%],Account - Project Manager or Asst P
373	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/24/20	3/24/20	0.24 days	3 hrs	372	374	Quality Assurance Manager[1%],Account - Project Manager or Asst P
374	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/31/20	3/31/20	0.24 days	3 hrs	373	375	Quality Assurance Manager[1%],Account - Project Manager or Asst P
375	1.3.9.1.(	D075 - Update Project Management Components (as neede	4/7/20	4/7/20	0.24 days	3 hrs	374	376	Quality Assurance Manager[1%],Account - Project Manager or Asst P
376	1.3.9.1.(	D075 - Update Project Management Components (as neede	4/14/20	4/14/20	0.24 days	3 hrs	375	377	Quality Assurance Manager[1%],Account - Project Manager or Asst P
377	1.3.9.1.(	D075 - Update Project Management Components (as neede	4/21/20	4/21/20	0.24 days	3 hrs	376	378	Quality Assurance Manager[1%],Account - Project Manager or Asst P
378	1.3.9.1.(	D075 - Update Project Management Components (as neede	4/28/20	4/28/20	0.24 days	3 hrs	377	379	Quality Assurance Manager[1%],Account - Project Manager or Asst P
379	1.3.9.1.(	D075 - Update Project Management Components (as neede	5/5/20	5/5/20	0.24 days	3 hrs	378	380	Quality Assurance Manager[1%],Account - Project Manager or Asst P
380	1.3.9.1.(	D075 - Update Project Management Components (as neede	5/12/20	5/12/20	0.24 days	3 hrs	379	381	Quality Assurance Manager[1%],Account - Project Manager or Asst P
381	1.3.9.1.(	D075 - Update Project Management Components (as neede	5/19/20	5/19/20	0.24 days	3 hrs	380	382	Quality Assurance Manager[1%],Account - Project Manager or Asst P
382	1.3.9.1.(	D075 - Update Project Management Components (as neede	5/26/20	5/26/20	0.24 days	3 hrs	381	383	Quality Assurance Manager[1%],Account - Project Manager or Asst P
383	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/2/20	6/2/20	0.24 days	3 hrs	382	384	Quality Assurance Manager[1%],Account - Project Manager or Asst P
384	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/9/20	6/9/20	0.24 days	3 hrs	383	385	Quality Assurance Manager[1%],Account - Project Manager or Asst P
385	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/16/20	6/16/20	0.24 days	3 hrs	384	386	Quality Assurance Manager[1%],Account - Project Manager or Asst P
386	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/23/20	6/23/20	0.24 days	3 hrs	385	387	Quality Assurance Manager[1%],Account - Project Manager or Asst P
387	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/30/20	6/30/20	0.24 days	3 hrs	386	388	Quality Assurance Manager[1%],Account - Project Manager or Asst P
388	1.3.9.1.(	D075 - Update Project Management Components (as neede	7/7/20	7/7/20	0.24 days	3 hrs	387	389	Quality Assurance Manager[1%],Account - Project Manager or Asst P
389	1.3.9.1.(	D075 - Update Project Management Components (as neede	7/14/20	7/14/20	0.24 days	3 hrs	388	390	Quality Assurance Manager[1%],Account - Project Manager or Asst P
390	1.3.9.1.(	D075 - Update Project Management Components (as neede	7/21/20	7/21/20	0.24 days	3 hrs	389	391	Quality Assurance Manager[1%],Account - Project Manager or Asst P
391	1.3.9.1.(	D075 - Update Project Management Components (as neede	7/28/20	7/28/20	0.24 days	3 hrs	390	392	Quality Assurance Manager[1%],Account - Project Manager or Asst P
392	1.3.9.1.(	D075 - Update Project Management Components (as neede	8/4/20	8/4/20	0.24 days	3 hrs	391	393	Quality Assurance Manager[1%],Account - Project Manager or Asst P

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
393	1.3.9.1.(	D075 - Update Project Management Components (as neede	8/11/20	8/11/20	0.24 days	3 hrs	392	394	Quality Assurance Manager[1%],Account - Project Manager or Asst P
394	1.3.9.1.(	D075 - Update Project Management Components (as neede	8/18/20	8/18/20	0.24 days	3 hrs	393	395	Quality Assurance Manager[1%],Account - Project Manager or Asst P
395	1.3.9.1.(	D075 - Update Project Management Components (as neede	8/25/20	8/25/20	0.24 days	3 hrs	394	396	Quality Assurance Manager[1%],Account - Project Manager or Asst P
396	1.3.9.1.(	D075 - Update Project Management Components (as neede	9/1/20	9/1/20	0.24 days	3 hrs	395	397	Quality Assurance Manager[1%],Account - Project Manager or Asst P
397	1.3.9.1.(	D075 - Update Project Management Components (as neede	9/8/20	9/8/20	0.24 days	3 hrs	396	398	Quality Assurance Manager[1%],Account - Project Manager or Asst P
398	1.3.9.1.(	D075 - Update Project Management Components (as neede	9/15/20	9/15/20	0.24 days	3 hrs	397	399	Quality Assurance Manager[1%],Account - Project Manager or Asst P
399	1.3.9.1.(	D075 - Update Project Management Components (as neede	9/22/20	9/22/20	0.24 days	3 hrs	398	400	Quality Assurance Manager[1%],Account - Project Manager or Asst P
400	1.3.9.1.(	D075 - Update Project Management Components (as neede	9/29/20	9/29/20	0.24 days	3 hrs	399	401	Quality Assurance Manager[1%],Account - Project Manager or Asst P
401	1.3.9.1.(	D075 - Update Project Management Components (as neede	10/6/20	10/6/20	0.24 days	3 hrs	400	402	Quality Assurance Manager[1%],Account - Project Manager or Asst P
402	1.3.9.1.(	D075 - Update Project Management Components (as neede	10/13/20	10/13/20	0.24 days	3 hrs	401	403	Quality Assurance Manager[1%],Account - Project Manager or Asst P
403	1.3.9.1.(	D075 - Update Project Management Components (as neede	10/20/20	10/20/20	0.24 days	3 hrs	402	404	Quality Assurance Manager[1%],Account - Project Manager or Asst P
404	1.3.9.1.(	D075 - Update Project Management Components (as neede	10/27/20	10/27/20	0.24 days	3 hrs	403	405	Quality Assurance Manager[1%],Account - Project Manager or Asst P
405	1.3.9.1.(	D075 - Update Project Management Components (as neede	11/3/20	11/3/20	0.24 days	3 hrs	404	406	Quality Assurance Manager[1%],Account - Project Manager or Asst P
406	1.3.9.1.(	D075 - Update Project Management Components (as neede	11/10/20	11/10/20	0.24 days	3 hrs	405	407	Quality Assurance Manager[1%],Account - Project Manager or Asst P
407	1.3.9.1.(	D075 - Update Project Management Components (as neede	11/17/20	11/17/20	0.24 days	3 hrs	406	408	Quality Assurance Manager[1%],Account - Project Manager or Asst P
408	1.3.9.1.(	D075 - Update Project Management Components (as neede	11/24/20	11/24/20	0.24 days	3 hrs	407	409	Quality Assurance Manager[1%],Account - Project Manager or Asst P
409	1.3.9.1.(	D075 - Update Project Management Components (as neede	12/1/20	12/1/20	0.24 days	3 hrs	408	410	Quality Assurance Manager[1%],Account - Project Manager or Asst P
410	1.3.9.1.(	D075 - Update Project Management Components (as neede	12/8/20	12/8/20	0.24 days	3 hrs	409	411	Quality Assurance Manager[1%],Account - Project Manager or Asst P
411	1.3.9.1.(	D075 - Update Project Management Components (as neede	12/15/20	12/15/20	0.24 days	3 hrs	410	412	Quality Assurance Manager[1%],Account - Project Manager or Asst P
412	1.3.9.1.(	D075 - Update Project Management Components (as neede	12/22/20	12/22/20	0.24 days	3 hrs	411	413	Quality Assurance Manager[1%],Account - Project Manager or Asst P
413	1.3.9.1.(	D075 - Update Project Management Components (as neede	12/29/20	12/29/20	0.24 days	3 hrs	412	414	Quality Assurance Manager[1%],Account - Project Manager or Asst P
414	1.3.9.1.(	D075 - Update Project Management Components (as neede	1/5/21	1/5/21	0.24 days	3 hrs	413	415	Quality Assurance Manager[1%],Account - Project Manager or Asst P
415	1.3.9.1.(	D075 - Update Project Management Components (as neede	1/12/21	1/12/21	0.24 days	3 hrs	414	416	Quality Assurance Manager[1%],Account - Project Manager or Asst P
416	1.3.9.1.(	D075 - Update Project Management Components (as neede	1/19/21	1/19/21	0.24 days	3 hrs	415	417	Quality Assurance Manager[1%],Account - Project Manager or Asst P
417	1.3.9.1.(	D075 - Update Project Management Components (as neede	1/26/21	1/26/21	0.24 days	3 hrs	416	418	Quality Assurance Manager[1%],Account - Project Manager or Asst P
418	1.3.9.1.(	D075 - Update Project Management Components (as neede	2/2/21	2/2/21	0.24 days	3 hrs	417	419	Quality Assurance Manager[1%],Account - Project Manager or Asst P
419	1.3.9.1.(	D075 - Update Project Management Components (as neede	2/9/21	2/9/21	0.24 days	3 hrs	418	420	Quality Assurance Manager[1%],Account - Project Manager or Asst P
420	1.3.9.1.(	D075 - Update Project Management Components (as neede	2/16/21	2/16/21	0.24 days	3 hrs	419	421	Quality Assurance Manager[1%],Account - Project Manager or Asst P
421	1.3.9.1.(	D075 - Update Project Management Components (as neede	2/23/21	2/23/21	0.24 days	3 hrs	420	422	Quality Assurance Manager[1%],Account - Project Manager or Asst P
422	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/2/21	3/2/21	0.24 days	3 hrs	421	423	Quality Assurance Manager[1%],Account - Project Manager or Asst P
423	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/9/21	3/9/21	0.24 days	3 hrs	422	424	Quality Assurance Manager[1%],Account - Project Manager or Asst P
424	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/16/21	3/16/21	0.24 days	3 hrs	423	425	Quality Assurance Manager[1%],Account - Project Manager or Asst P
425	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/23/21	3/23/21	0.24 days	3 hrs	424	426	Quality Assurance Manager[1%],Account - Project Manager or Asst P
426	1.3.9.1.(	D075 - Update Project Management Components (as neede	3/30/21	3/30/21	0.24 days	3 hrs	425	427	Quality Assurance Manager[1%],Account - Project Manager or Asst P
427	1.3.9.1.(	D075 - Update Project Management Components (as neede	4/6/21	4/6/21	0.24 days	3 hrs	426	428	Quality Assurance Manager[1%],Account - Project Manager or Asst P
428	1.3.9.1.(	D075 - Update Project Management Components (as neede	4/13/21	4/13/21	0.24 days	3 hrs	427	429	Quality Assurance Manager[1%],Account - Project Manager or Asst P
429	1.3.9.1.(	D075 - Update Project Management Components (as neede	4/20/21	4/20/21	0.24 days	3 hrs	428	430	Quality Assurance Manager[1%],Account - Project Manager or Asst P
430	1.3.9.1.(	D075 - Update Project Management Components (as neede	4/27/21	4/27/21	0.24 days	3 hrs	429	431	Quality Assurance Manager[1%],Account - Project Manager or Asst P
431	1.3.9.1.(	D075 - Update Project Management Components (as neede	5/4/21	5/4/21	0.24 days	3 hrs	430	432	Quality Assurance Manager[1%],Account - Project Manager or Asst P
432	1.3.9.1.(	D075 - Update Project Management Components (as neede	5/11/21	5/11/21	0.24 days	3 hrs	431	433	Quality Assurance Manager[1%],Account - Project Manager or Asst P
433	1.3.9.1.(	D075 - Update Project Management Components (as neede	5/18/21	5/18/21	0.24 days	3 hrs	432	434	Quality Assurance Manager[1%],Account - Project Manager or Asst P
434	1.3.9.1.(	D075 - Update Project Management Components (as neede	5/25/21	5/25/21	0.24 days	3 hrs	433	435	Quality Assurance Manager[1%],Account - Project Manager or Asst P
435	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/1/21	6/1/21	0.24 days	3 hrs	434	436	Quality Assurance Manager[1%],Account - Project Manager or Asst P
436	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/8/21	6/8/21	0.24 days	3 hrs	435	437	Quality Assurance Manager[1%],Account - Project Manager or Asst P
437	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/15/21	6/15/21	0.24 days	3 hrs	436	438	Quality Assurance Manager[1%],Account - Project Manager or Asst P
438	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/22/21	6/22/21	0.24 days	3 hrs	437	439	Quality Assurance Manager[1%],Account - Project Manager or Asst P
439	1.3.9.1.(	D075 - Update Project Management Components (as neede	6/29/21	6/29/21	0.24 days	3 hrs	438	3311	Quality Assurance Manager[1%],Account - Project Manager or Asst P
440	1.3.9.2	**Payment - Monthly Implementation Project Management Invol**	3/26/20	6/24/21	316 days	0 hrs			
441	1.3.9.2..	Payment - Monthly Implementation Project Management Invoice 1	3/26/20	3/26/20	0 days	0 hrs	3	442	Account - Project Manager or Asst PM[25%]
442	1.3.9.2..	Payment - Monthly Implementation Project Management Invoice 2	4/30/20	4/30/20	0 days	0 hrs	441	443	Account - Project Manager or Asst PM[25%]
443	1.3.9.2..	Payment - Monthly Implementation Project Management Invoice 3	5/28/20	5/28/20	0 days	0 hrs	442	444	Account - Project Manager or Asst PM[25%]

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
444	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 4	6/25/20	6/25/20	0 days	0 hrs	443	445	Account - Project Manager or Asst PM[25%]
445	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 5	7/30/20	7/30/20	0 days	0 hrs	444	446	Account - Project Manager or Asst PM[25%]
446	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 6	8/27/20	8/27/20	0 days	0 hrs	445	447	Account - Project Manager or Asst PM[25%]
447	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 7	9/24/20	9/24/20	0 days	0 hrs	446	448	Account - Project Manager or Asst PM[25%]
448	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 8	10/29/20	10/29/20	0 days	0 hrs	447	449	Account - Project Manager or Asst PM[25%]
449	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 9	11/26/20	11/26/20	0 days	0 hrs	448	450	Account - Project Manager or Asst PM[25%]
450	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 10	12/31/20	12/31/20	0 days	0 hrs	449	451	Account - Project Manager or Asst PM[25%]
451	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 11	1/28/21	1/28/21	0 days	0 hrs	450	452	Account - Project Manager or Asst PM[25%]
452	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 12	2/25/21	2/25/21	0 days	0 hrs	451	453	Account - Project Manager or Asst PM[25%]
453	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 13	3/25/21	3/25/21	0 days	0 hrs	452	454	Account - Project Manager or Asst PM[25%]
454	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 14	4/29/21	4/29/21	0 days	0 hrs	453	455	Account - Project Manager or Asst PM[25%]
455	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 15	5/27/21	5/27/21	0 days	0 hrs	454	456	Account - Project Manager or Asst PM[25%]
456	1.3.9.2.	Payment - Monthly Implementation Project Management Invoice 16	6/24/21	6/24/21	0 days	0 hrs	455	3311	Account - Project Manager or Asst PM[25%]
457	1.3.9.3	*Milestone End of Project Management Recurring Deliverables and Maintenance*	8/18/21	8/18/21	0 days	0 hrs	22,30,38,57,67,		Account - Project Manager or Asst PM
458	**1.4**	**Key Dates**	**4/1/20**	**1/19/21**	**201.78 days**	**0 hrs**			
459	**1.4.1**	**D027 Submit Security, Privacy and Confidentiality Plan**	**4/1/20**	**1/19/21**	**201.78 days**	**0 hrs**			
460	1.4.1.1	SM002 - D027 Submit Security, Privacy and Confidentiality Plan to DHHR For Review within 30 days after contract start-up [Scheduled]	4/1/20	4/1/20	0 days	0 hrs	3FS+30 edays	3311	Account - Project Manager or Asst PM
461	1.4.1.2	SM002 - D027 Submit Security, Privacy and Confidentiality Plan to DHHR For Review within 30 days after contract start-up [Actual]	4/1/20	4/1/20	0 days	0 hrs	1158FS-10 days	3311	Account - Project Manager or Asst PM
462	1.4.1.3	SM003 - D027 Amend EDS Approved Deliverable For Security, Privacy, and Confidentiality Plan [Scheduled]	1/19/21	1/19/21	0 days	0 hrs	2756FS-30 days	3311	Account - Project Manager or Asst PM
463	1.4.1.4	SM003 - D027 Amend EDS Approved Deliverable For Security, Privacy, and Confidentiality Plan [Actual]	1/19/21	1/19/21	0 days	0 hrs	2718	3311	Account - Project Manager or Asst PM
464	**1.5**	**Phase 1 and 2: Project Monitor and Control Implementation (EDS / PI/FADS)**	**3/3/20**	**6/29/21**	**336.14 days**	**4,815.02 hrs**			
465	**1.5.1**	**Optum Internal Teams Project Collaboration (Recurring)**	**3/3/20**	**6/29/21**	**336.14 days**	**3,058 hrs**			
466	**1.5.1.1**	**Schedule and Conduct Internal Project Meetings**	**3/3/20**	**6/29/21**	**336.14 days**	**3,058 hrs**			
467	1.5.1.1.	Schedule and Conduct Internal Project Meetings 1	3/3/20	3/3/20	0.14 days	22 hrs	3	468	Account - Project Manager or Asst PM[200%],Business Lead or Analy
468	1.5.1.1.	Schedule and Conduct Internal Project Meetings 2	3/5/20	3/5/20	0.14 days	22 hrs	467	469	Account - Project Manager or Asst PM[200%],Business Lead or Analy
469	1.5.1.1.	Schedule and Conduct Internal Project Meetings 3	3/10/20	3/10/20	0.14 days	22 hrs	468	470	Account - Project Manager or Asst PM[200%],Business Lead or Analy
470	1.5.1.1.	Schedule and Conduct Internal Project Meetings 4	3/12/20	3/12/20	0.14 days	22 hrs	469	471	Account - Project Manager or Asst PM[200%],Business Lead or Analy
471	1.5.1.1.	Schedule and Conduct Internal Project Meetings 5	3/17/20	3/17/20	0.14 days	22 hrs	470	472	Account - Project Manager or Asst PM[200%],Business Lead or Analy
472	1.5.1.1.	Schedule and Conduct Internal Project Meetings 6	3/19/20	3/19/20	0.14 days	22 hrs	471	473	Account - Project Manager or Asst PM[200%],Business Lead or Analy
473	1.5.1.1.	Schedule and Conduct Internal Project Meetings 7	3/24/20	3/24/20	0.14 days	22 hrs	472	474	Account - Project Manager or Asst PM[200%],Business Lead or Analy
474	1.5.1.1.	Schedule and Conduct Internal Project Meetings 8	3/26/20	3/26/20	0.14 days	22 hrs	473	475	Account - Project Manager or Asst PM[200%],Business Lead or Analy
475	1.5.1.1.	Schedule and Conduct Internal Project Meetings 9	3/31/20	3/31/20	0.14 days	22 hrs	474	476	Account - Project Manager or Asst PM[200%],Business Lead or Analy
476	1.5.1.1.	Schedule and Conduct Internal Project Meetings 10	4/2/20	4/2/20	0.14 days	22 hrs	475	477	Account - Project Manager or Asst PM[200%],Business Lead or Analy

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
477	1.5.1.1.	Schedule and Conduct Internal Project Meetings 11	4/7/20	4/7/20	0.14 days	22 hrs	476	478	Account - Project Manager or Asst PM[200%],Business Lead or Analy
478	1.5.1.1.	Schedule and Conduct Internal Project Meetings 12	4/9/20	4/9/20	0.14 days	22 hrs	477	479	Account - Project Manager or Asst PM[200%],Business Lead or Analy
479	1.5.1.1.	Schedule and Conduct Internal Project Meetings 13	4/14/20	4/14/20	0.14 days	22 hrs	478	480	Account - Project Manager or Asst PM[200%],Business Lead or Analy
480	1.5.1.1.	Schedule and Conduct Internal Project Meetings 14	4/16/20	4/16/20	0.14 days	22 hrs	479	481	Account - Project Manager or Asst PM[200%],Business Lead or Analy
481	1.5.1.1.	Schedule and Conduct Internal Project Meetings 15	4/21/20	4/21/20	0.14 days	22 hrs	480	482	Account - Project Manager or Asst PM[200%],Business Lead or Analy
482	1.5.1.1.	Schedule and Conduct Internal Project Meetings 16	4/23/20	4/23/20	0.14 days	22 hrs	481	483	Account - Project Manager or Asst PM[200%],Business Lead or Analy
483	1.5.1.1.	Schedule and Conduct Internal Project Meetings 17	4/28/20	4/28/20	0.14 days	22 hrs	482	484	Account - Project Manager or Asst PM[200%],Business Lead or Analy
484	1.5.1.1.	Schedule and Conduct Internal Project Meetings 18	4/30/20	4/30/20	0.14 days	22 hrs	483	485	Account - Project Manager or Asst PM[200%],Business Lead or Analy
485	1.5.1.1.	Schedule and Conduct Internal Project Meetings 19	5/5/20	5/5/20	0.14 days	22 hrs	484	486	Account - Project Manager or Asst PM[200%],Business Lead or Analy
486	1.5.1.1.	Schedule and Conduct Internal Project Meetings 20	5/7/20	5/7/20	0.14 days	22 hrs	485	487	Account - Project Manager or Asst PM[200%],Business Lead or Analy
487	1.5.1.1.	Schedule and Conduct Internal Project Meetings 21	5/12/20	5/12/20	0.14 days	22 hrs	486	488	Account - Project Manager or Asst PM[200%],Business Lead or Analy
488	1.5.1.1.	Schedule and Conduct Internal Project Meetings 22	5/14/20	5/14/20	0.14 days	22 hrs	487	489	Account - Project Manager or Asst PM[200%],Business Lead or Analy
489	1.5.1.1.	Schedule and Conduct Internal Project Meetings 23	5/19/20	5/19/20	0.14 days	22 hrs	488	490	Account - Project Manager or Asst PM[200%],Business Lead or Analy
490	1.5.1.1.	Schedule and Conduct Internal Project Meetings 24	5/21/20	5/21/20	0.14 days	22 hrs	489	491	Account - Project Manager or Asst PM[200%],Business Lead or Analy
491	1.5.1.1.	Schedule and Conduct Internal Project Meetings 25	5/26/20	5/26/20	0.14 days	22 hrs	490	492	Account - Project Manager or Asst PM[200%],Business Lead or Analy
492	1.5.1.1.	Schedule and Conduct Internal Project Meetings 26	5/28/20	5/28/20	0.14 days	22 hrs	491	493	Account - Project Manager or Asst PM[200%],Business Lead or Analy
493	1.5.1.1.	Schedule and Conduct Internal Project Meetings 27	6/2/20	6/2/20	0.14 days	22 hrs	492	494	Account - Project Manager or Asst PM[200%],Business Lead or Analy
494	1.5.1.1.	Schedule and Conduct Internal Project Meetings 28	6/4/20	6/4/20	0.14 days	22 hrs	493	495	Account - Project Manager or Asst PM[200%],Business Lead or Analy
495	1.5.1.1.	Schedule and Conduct Internal Project Meetings 29	6/9/20	6/9/20	0.14 days	22 hrs	494	496	Account - Project Manager or Asst PM[200%],Business Lead or Analy
496	1.5.1.1.	Schedule and Conduct Internal Project Meetings 30	6/11/20	6/11/20	0.14 days	22 hrs	495	497	Account - Project Manager or Asst PM[200%],Business Lead or Analy
497	1.5.1.1.	Schedule and Conduct Internal Project Meetings 31	6/16/20	6/16/20	0.14 days	22 hrs	496	498	Account - Project Manager or Asst PM[200%],Business Lead or Analy
498	1.5.1.1.	Schedule and Conduct Internal Project Meetings 32	6/18/20	6/18/20	0.14 days	22 hrs	497	499	Account - Project Manager or Asst PM[200%],Business Lead or Analy
499	1.5.1.1.	Schedule and Conduct Internal Project Meetings 33	6/23/20	6/23/20	0.14 days	22 hrs	498	500	Account - Project Manager or Asst PM[200%],Business Lead or Analy
500	1.5.1.1.	Schedule and Conduct Internal Project Meetings 34	6/25/20	6/25/20	0.14 days	22 hrs	499	501	Account - Project Manager or Asst PM[200%],Business Lead or Analy
501	1.5.1.1.	Schedule and Conduct Internal Project Meetings 35	6/30/20	6/30/20	0.14 days	22 hrs	500	502	Account - Project Manager or Asst PM[200%],Business Lead or Analy
502	1.5.1.1.	Schedule and Conduct Internal Project Meetings 36	7/2/20	7/2/20	0.14 days	22 hrs	501	503	Account - Project Manager or Asst PM[200%],Business Lead or Analy
503	1.5.1.1.	Schedule and Conduct Internal Project Meetings 37	7/7/20	7/7/20	0.14 days	22 hrs	502	504	Account - Project Manager or Asst PM[200%],Business Lead or Analy
504	1.5.1.1.	Schedule and Conduct Internal Project Meetings 38	7/9/20	7/9/20	0.14 days	22 hrs	503	505	Account - Project Manager or Asst PM[200%],Business Lead or Analy
505	1.5.1.1.	Schedule and Conduct Internal Project Meetings 39	7/14/20	7/14/20	0.14 days	22 hrs	504	506	Account - Project Manager or Asst PM[200%],Business Lead or Analy
506	1.5.1.1.	Schedule and Conduct Internal Project Meetings 40	7/16/20	7/16/20	0.14 days	22 hrs	505	507	Account - Project Manager or Asst PM[200%],Business Lead or Analy
507	1.5.1.1.	Schedule and Conduct Internal Project Meetings 41	7/21/20	7/21/20	0.14 days	22 hrs	506	508	Account - Project Manager or Asst PM[200%],Business Lead or Analy
508	1.5.1.1.	Schedule and Conduct Internal Project Meetings 42	7/23/20	7/23/20	0.14 days	22 hrs	507	509	Account - Project Manager or Asst PM[200%],Business Lead or Analy
509	1.5.1.1.	Schedule and Conduct Internal Project Meetings 43	7/28/20	7/28/20	0.14 days	22 hrs	508	510	Account - Project Manager or Asst PM[200%],Business Lead or Analy
510	1.5.1.1.	Schedule and Conduct Internal Project Meetings 44	7/30/20	7/30/20	0.14 days	22 hrs	509	511	Account - Project Manager or Asst PM[200%],Business Lead or Analy
511	1.5.1.1.	Schedule and Conduct Internal Project Meetings 45	8/4/20	8/4/20	0.14 days	22 hrs	510	512	Account - Project Manager or Asst PM[200%],Business Lead or Analy
512	1.5.1.1.	Schedule and Conduct Internal Project Meetings 46	8/6/20	8/6/20	0.14 days	22 hrs	511	513	Account - Project Manager or Asst PM[200%],Business Lead or Analy
513	1.5.1.1.	Schedule and Conduct Internal Project Meetings 47	8/11/20	8/11/20	0.14 days	22 hrs	512	514	Account - Project Manager or Asst PM[200%],Business Lead or Analy
514	1.5.1.1.	Schedule and Conduct Internal Project Meetings 48	8/13/20	8/13/20	0.14 days	22 hrs	513	515	Account - Project Manager or Asst PM[200%],Business Lead or Analy
515	1.5.1.1.	Schedule and Conduct Internal Project Meetings 49	8/18/20	8/18/20	0.14 days	22 hrs	514	516	Account - Project Manager or Asst PM[200%],Business Lead or Analy
516	1.5.1.1.	Schedule and Conduct Internal Project Meetings 50	8/20/20	8/20/20	0.14 days	22 hrs	515	517	Account - Project Manager or Asst PM[200%],Business Lead or Analy
517	1.5.1.1.	Schedule and Conduct Internal Project Meetings 51	8/25/20	8/25/20	0.14 days	22 hrs	516	518	Account - Project Manager or Asst PM[200%],Business Lead or Analy
518	1.5.1.1.	Schedule and Conduct Internal Project Meetings 52	8/27/20	8/27/20	0.14 days	22 hrs	517	519	Account - Project Manager or Asst PM[200%],Business Lead or Analy
519	1.5.1.1.	Schedule and Conduct Internal Project Meetings 53	9/1/20	9/1/20	0.14 days	22 hrs	518	520	Account - Project Manager or Asst PM[200%],Business Lead or Analy
520	1.5.1.1.	Schedule and Conduct Internal Project Meetings 54	9/3/20	9/3/20	0.14 days	22 hrs	519	521	Account - Project Manager or Asst PM[200%],Business Lead or Analy
521	1.5.1.1.	Schedule and Conduct Internal Project Meetings 55	9/8/20	9/8/20	0.14 days	22 hrs	520	522	Account - Project Manager or Asst PM[200%],Business Lead or Analy
522	1.5.1.1.	Schedule and Conduct Internal Project Meetings 56	9/10/20	9/10/20	0.14 days	22 hrs	521	523	Account - Project Manager or Asst PM[200%],Business Lead or Analy
523	1.5.1.1.	Schedule and Conduct Internal Project Meetings 57	9/15/20	9/15/20	0.14 days	22 hrs	522	524	Account - Project Manager or Asst PM[200%],Business Lead or Analy
524	1.5.1.1.	Schedule and Conduct Internal Project Meetings 58	9/17/20	9/17/20	0.14 days	22 hrs	523	525	Account - Project Manager or Asst PM[200%],Business Lead or Analy
525	1.5.1.1.	Schedule and Conduct Internal Project Meetings 59	9/22/20	9/22/20	0.14 days	22 hrs	524	526	Account - Project Manager or Asst PM[200%],Business Lead or Analy
526	1.5.1.1.	Schedule and Conduct Internal Project Meetings 60	9/24/20	9/24/20	0.14 days	22 hrs	525	527	Account - Project Manager or Asst PM[200%],Business Lead or Analy
527	1.5.1.1.	Schedule and Conduct Internal Project Meetings 61	9/29/20	9/29/20	0.14 days	22 hrs	526	528	Account - Project Manager or Asst PM[200%],Business Lead or Analy
528	1.5.1.1.	Schedule and Conduct Internal Project Meetings 62	10/1/20	10/1/20	0.14 days	22 hrs	527	529	Account - Project Manager or Asst PM[200%],Business Lead or Analy
529	1.5.1.1.	Schedule and Conduct Internal Project Meetings 63	10/6/20	10/6/20	0.14 days	22 hrs	528	530	Account - Project Manager or Asst PM[200%],Business Lead or Analy
530	1.5.1.1.	Schedule and Conduct Internal Project Meetings 64	10/8/20	10/8/20	0.14 days	22 hrs	529	531	Account - Project Manager or Asst PM[200%],Business Lead or Analy

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
531	1.5.1.1.	Schedule and Conduct Internal Project Meetings 65	10/13/20	10/13/20	0.14 days	22 hrs	530	532	Account - Project Manager or Asst PM[200%],Business Lead or Analy
532	1.5.1.1.	Schedule and Conduct Internal Project Meetings 66	10/15/20	10/15/20	0.14 days	22 hrs	531	533	Account - Project Manager or Asst PM[200%],Business Lead or Analy
533	1.5.1.1.	Schedule and Conduct Internal Project Meetings 67	10/20/20	10/20/20	0.14 days	22 hrs	532	534	Account - Project Manager or Asst PM[200%],Business Lead or Analy
534	1.5.1.1.	Schedule and Conduct Internal Project Meetings 68	10/22/20	10/22/20	0.14 days	22 hrs	533	535	Account - Project Manager or Asst PM[200%],Business Lead or Analy
535	1.5.1.1.	Schedule and Conduct Internal Project Meetings 69	10/27/20	10/27/20	0.14 days	22 hrs	534	536	Account - Project Manager or Asst PM[200%],Business Lead or Analy
536	1.5.1.1.	Schedule and Conduct Internal Project Meetings 70	10/29/20	10/29/20	0.14 days	22 hrs	535	537	Account - Project Manager or Asst PM[200%],Business Lead or Analy
537	1.5.1.1.	Schedule and Conduct Internal Project Meetings 71	11/3/20	11/3/20	0.14 days	22 hrs	536	538	Account - Project Manager or Asst PM[200%],Business Lead or Analy
538	1.5.1.1.	Schedule and Conduct Internal Project Meetings 72	11/5/20	11/5/20	0.14 days	22 hrs	537	539	Account - Project Manager or Asst PM[200%],Business Lead or Analy
539	1.5.1.1.	Schedule and Conduct Internal Project Meetings 73	11/10/20	11/10/20	0.14 days	22 hrs	538	540	Account - Project Manager or Asst PM[200%],Business Lead or Analy
540	1.5.1.1.	Schedule and Conduct Internal Project Meetings 74	11/12/20	11/12/20	0.14 days	22 hrs	539	541	Account - Project Manager or Asst PM[200%],Business Lead or Analy
541	1.5.1.1.	Schedule and Conduct Internal Project Meetings 75	11/17/20	11/17/20	0.14 days	22 hrs	540	542	Account - Project Manager or Asst PM[200%],Business Lead or Analy
542	1.5.1.1.	Schedule and Conduct Internal Project Meetings 76	11/19/20	11/19/20	0.14 days	22 hrs	541	543	Account - Project Manager or Asst PM[200%],Business Lead or Analy
543	1.5.1.1.	Schedule and Conduct Internal Project Meetings 77	11/24/20	11/24/20	0.14 days	22 hrs	542	544	Account - Project Manager or Asst PM[200%],Business Lead or Analy
544	1.5.1.1.	Schedule and Conduct Internal Project Meetings 78	11/30/20	11/30/20	0.14 days	22 hrs	543	545	Account - Project Manager or Asst PM[200%],Business Lead or Analy
545	1.5.1.1.	Schedule and Conduct Internal Project Meetings 79	12/1/20	12/1/20	0.14 days	22 hrs	544	546	Account - Project Manager or Asst PM[200%],Business Lead or Analy
546	1.5.1.1.	Schedule and Conduct Internal Project Meetings 80	12/3/20	12/3/20	0.14 days	22 hrs	545	547	Account - Project Manager or Asst PM[200%],Business Lead or Analy
547	1.5.1.1.	Schedule and Conduct Internal Project Meetings 81	12/8/20	12/8/20	0.14 days	22 hrs	546	548	Account - Project Manager or Asst PM[200%],Business Lead or Analy
548	1.5.1.1.	Schedule and Conduct Internal Project Meetings 82	12/10/20	12/10/20	0.14 days	22 hrs	547	549	Account - Project Manager or Asst PM[200%],Business Lead or Analy
549	1.5.1.1.	Schedule and Conduct Internal Project Meetings 83	12/15/20	12/15/20	0.14 days	22 hrs	548	550	Account - Project Manager or Asst PM[200%],Business Lead or Analy
550	1.5.1.1.	Schedule and Conduct Internal Project Meetings 84	12/17/20	12/17/20	0.14 days	22 hrs	549	551	Account - Project Manager or Asst PM[200%],Business Lead or Analy
551	1.5.1.1.	Schedule and Conduct Internal Project Meetings 85	12/22/20	12/22/20	0.14 days	22 hrs	550	552	Account - Project Manager or Asst PM[200%],Business Lead or Analy
552	1.5.1.1.	Schedule and Conduct Internal Project Meetings 86	12/24/20	12/24/20	0.14 days	22 hrs	551	553	Account - Project Manager or Asst PM[200%],Business Lead or Analy
553	1.5.1.1.	Schedule and Conduct Internal Project Meetings 87	12/29/20	12/29/20	0.14 days	22 hrs	552	554	Account - Project Manager or Asst PM[200%],Business Lead or Analy
554	1.5.1.1.	Schedule and Conduct Internal Project Meetings 88	12/31/20	12/31/20	0.14 days	22 hrs	553	555	Account - Project Manager or Asst PM[200%],Business Lead or Analy
555	1.5.1.1.	Schedule and Conduct Internal Project Meetings 89	1/5/21	1/5/21	0.14 days	22 hrs	554	556	Account - Project Manager or Asst PM[200%],Business Lead or Analy
556	1.5.1.1.	Schedule and Conduct Internal Project Meetings 90	1/7/21	1/7/21	0.14 days	22 hrs	555	557	Account - Project Manager or Asst PM[200%],Business Lead or Analy
557	1.5.1.1.	Schedule and Conduct Internal Project Meetings 91	1/12/21	1/12/21	0.14 days	22 hrs	556	558	Account - Project Manager or Asst PM[200%],Business Lead or Analy
558	1.5.1.1.	Schedule and Conduct Internal Project Meetings 92	1/14/21	1/14/21	0.14 days	22 hrs	557	559	Account - Project Manager or Asst PM[200%],Business Lead or Analy
559	1.5.1.1.	Schedule and Conduct Internal Project Meetings 93	1/19/21	1/19/21	0.14 days	22 hrs	558	560	Account - Project Manager or Asst PM[200%],Business Lead or Analy
560	1.5.1.1.	Schedule and Conduct Internal Project Meetings 94	1/21/21	1/21/21	0.14 days	22 hrs	559	561	Account - Project Manager or Asst PM[200%],Business Lead or Analy
561	1.5.1.1.	Schedule and Conduct Internal Project Meetings 95	1/26/21	1/26/21	0.14 days	22 hrs	560	562	Account - Project Manager or Asst PM[200%],Business Lead or Analy
562	1.5.1.1.	Schedule and Conduct Internal Project Meetings 96	1/28/21	1/28/21	0.14 days	22 hrs	561	563	Account - Project Manager or Asst PM[200%],Business Lead or Analy
563	1.5.1.1.	Schedule and Conduct Internal Project Meetings 97	2/2/21	2/2/21	0.14 days	22 hrs	562	564	Account - Project Manager or Asst PM[200%],Business Lead or Analy
564	1.5.1.1.	Schedule and Conduct Internal Project Meetings 98	2/4/21	2/4/21	0.14 days	22 hrs	563	565	Account - Project Manager or Asst PM[200%],Business Lead or Analy
565	1.5.1.1.	Schedule and Conduct Internal Project Meetings 99	2/9/21	2/9/21	0.14 days	22 hrs	564	566	Account - Project Manager or Asst PM[200%],Business Lead or Analy
566	1.5.1.1.	Schedule and Conduct Internal Project Meetings 100	2/11/21	2/11/21	0.14 days	22 hrs	565	567	Account - Project Manager or Asst PM[200%],Business Lead or Analy
567	1.5.1.1.	Schedule and Conduct Internal Project Meetings 101	2/16/21	2/16/21	0.14 days	22 hrs	566	568	Account - Project Manager or Asst PM[200%],Business Lead or Analy
568	1.5.1.1.	Schedule and Conduct Internal Project Meetings 102	2/18/21	2/18/21	0.14 days	22 hrs	567	569	Account - Project Manager or Asst PM[200%],Business Lead or Analy
569	1.5.1.1.	Schedule and Conduct Internal Project Meetings 103	2/23/21	2/23/21	0.14 days	22 hrs	568	570	Account - Project Manager or Asst PM[200%],Business Lead or Analy
570	1.5.1.1.	Schedule and Conduct Internal Project Meetings 104	2/25/21	2/25/21	0.14 days	22 hrs	569	571	Account - Project Manager or Asst PM[200%],Business Lead or Analy
571	1.5.1.1.	Schedule and Conduct Internal Project Meetings 105	3/2/21	3/2/21	0.14 days	22 hrs	570	572	Account - Project Manager or Asst PM[200%],Business Lead or Analy
572	1.5.1.1.	Schedule and Conduct Internal Project Meetings 106	3/4/21	3/4/21	0.14 days	22 hrs	571	573	Account - Project Manager or Asst PM[200%],Business Lead or Analy
573	1.5.1.1.	Schedule and Conduct Internal Project Meetings 107	3/9/21	3/9/21	0.14 days	22 hrs	572	574	Account - Project Manager or Asst PM[200%],Business Lead or Analy
574	1.5.1.1.	Schedule and Conduct Internal Project Meetings 108	3/11/21	3/11/21	0.14 days	22 hrs	573	575	Account - Project Manager or Asst PM[200%],Business Lead or Analy
575	1.5.1.1.	Schedule and Conduct Internal Project Meetings 109	3/16/21	3/16/21	0.14 days	22 hrs	574	576	Account - Project Manager or Asst PM[200%],Business Lead or Analy
576	1.5.1.1.	Schedule and Conduct Internal Project Meetings 110	3/18/21	3/18/21	0.14 days	22 hrs	575	577	Account - Project Manager or Asst PM[200%],Business Lead or Analy
577	1.5.1.1.	Schedule and Conduct Internal Project Meetings 111	3/23/21	3/23/21	0.14 days	22 hrs	576	578	Account - Project Manager or Asst PM[200%],Business Lead or Analy
578	1.5.1.1.	Schedule and Conduct Internal Project Meetings 112	3/25/21	3/25/21	0.14 days	22 hrs	577	579	Account - Project Manager or Asst PM[200%],Business Lead or Analy
579	1.5.1.1.	Schedule and Conduct Internal Project Meetings 113	3/30/21	3/30/21	0.14 days	22 hrs	578	580	Account - Project Manager or Asst PM[200%],Business Lead or Analy
580	1.5.1.1.	Schedule and Conduct Internal Project Meetings 114	4/1/21	4/1/21	0.14 days	22 hrs	579	581	Account - Project Manager or Asst PM[200%],Business Lead or Analy
581	1.5.1.1.	Schedule and Conduct Internal Project Meetings 115	4/6/21	4/6/21	0.14 days	22 hrs	580	582	Account - Project Manager or Asst PM[200%],Business Lead or Analy
582	1.5.1.1.	Schedule and Conduct Internal Project Meetings 116	4/8/21	4/8/21	0.14 days	22 hrs	581	583	Account - Project Manager or Asst PM[200%],Business Lead or Analy
583	1.5.1.1.	Schedule and Conduct Internal Project Meetings 117	4/13/21	4/13/21	0.14 days	22 hrs	582	584	Account - Project Manager or Asst PM[200%],Business Lead or Analy
584	1.5.1.1.	Schedule and Conduct Internal Project Meetings 118	4/15/21	4/15/21	0.14 days	22 hrs	583	585	Account - Project Manager or Asst PM[200%],Business Lead or Analy

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
585	1.5.1.1.	Schedule and Conduct Internal Project Meetings 119	4/20/21	4/20/21	0.14 days	22 hrs	584	586	Account - Project Manager or Asst PM[200%],Business Lead or Analy
586	1.5.1.1.	Schedule and Conduct Internal Project Meetings 120	4/22/21	4/22/21	0.14 days	22 hrs	585	587	Account - Project Manager or Asst PM[200%],Business Lead or Analy
587	1.5.1.1.	Schedule and Conduct Internal Project Meetings 121	4/27/21	4/27/21	0.14 days	22 hrs	586	588	Account - Project Manager or Asst PM[200%],Business Lead or Analy
588	1.5.1.1.	Schedule and Conduct Internal Project Meetings 122	4/29/21	4/29/21	0.14 days	22 hrs	587	589	Account - Project Manager or Asst PM[200%],Business Lead or Analy
589	1.5.1.1.	Schedule and Conduct Internal Project Meetings 123	5/4/21	5/4/21	0.14 days	22 hrs	588	590	Account - Project Manager or Asst PM[200%],Business Lead or Analy
590	1.5.1.1.	Schedule and Conduct Internal Project Meetings 124	5/6/21	5/6/21	0.14 days	22 hrs	589	591	Account - Project Manager or Asst PM[200%],Business Lead or Analy
591	1.5.1.1.	Schedule and Conduct Internal Project Meetings 125	5/11/21	5/11/21	0.14 days	22 hrs	590	592	Account - Project Manager or Asst PM[200%],Business Lead or Analy
592	1.5.1.1.	Schedule and Conduct Internal Project Meetings 126	5/13/21	5/13/21	0.14 days	22 hrs	591	593	Account - Project Manager or Asst PM[200%],Business Lead or Analy
593	1.5.1.1.	Schedule and Conduct Internal Project Meetings 127	5/18/21	5/18/21	0.14 days	22 hrs	592	594	Account - Project Manager or Asst PM[200%],Business Lead or Analy
594	1.5.1.1.	Schedule and Conduct Internal Project Meetings 128	5/20/21	5/20/21	0.14 days	22 hrs	593	595	Account - Project Manager or Asst PM[200%],Business Lead or Analy
595	1.5.1.1.	Schedule and Conduct Internal Project Meetings 129	5/25/21	5/25/21	0.14 days	22 hrs	594	596	Account - Project Manager or Asst PM[200%],Business Lead or Analy
596	1.5.1.1.	Schedule and Conduct Internal Project Meetings 130	5/27/21	5/27/21	0.14 days	22 hrs	595	597	Account - Project Manager or Asst PM[200%],Business Lead or Analy
597	1.5.1.1.	Schedule and Conduct Internal Project Meetings 131	6/1/21	6/1/21	0.14 days	22 hrs	596	598	Account - Project Manager or Asst PM[200%],Business Lead or Analy
598	1.5.1.1.	Schedule and Conduct Internal Project Meetings 132	6/3/21	6/3/21	0.14 days	22 hrs	597	599	Account - Project Manager or Asst PM[200%],Business Lead or Analy
599	1.5.1.1.	Schedule and Conduct Internal Project Meetings 133	6/8/21	6/8/21	0.14 days	22 hrs	598	600	Account - Project Manager or Asst PM[200%],Business Lead or Analy
600	1.5.1.1.	Schedule and Conduct Internal Project Meetings 134	6/10/21	6/10/21	0.14 days	22 hrs	599	601	Account - Project Manager or Asst PM[200%],Business Lead or Analy
601	1.5.1.1.	Schedule and Conduct Internal Project Meetings 135	6/15/21	6/15/21	0.14 days	22 hrs	600	602	Account - Project Manager or Asst PM[200%],Business Lead or Analy
602	1.5.1.1.	Schedule and Conduct Internal Project Meetings 136	6/17/21	6/17/21	0.14 days	22 hrs	601	603	Account - Project Manager or Asst PM[200%],Business Lead or Analy
603	1.5.1.1.	Schedule and Conduct Internal Project Meetings 137	6/22/21	6/22/21	0.14 days	22 hrs	602	604	Account - Project Manager or Asst PM[200%],Business Lead or Analy
604	1.5.1.1.	Schedule and Conduct Internal Project Meetings 138	6/24/21	6/24/21	0.14 days	22 hrs	603	605	Account - Project Manager or Asst PM[200%],Business Lead or Analy
605	1.5.1.1.	Schedule and Conduct Internal Project Meetings 139	6/29/21	6/29/21	0.14 days	22 hrs	604	3311	Account - Project Manager or Asst PM[200%],Business Lead or Analy
606	**1.5.2**	**Project Management Governance and Oversight**	**3/3/20**	**5/7/20**	**47.37 days**	**520 hrs**			
607	1.5.2.1	DHHR Finger Printing, Background Checks and Training - Optum	3/3/20	5/5/20	45 days	64.8 hrs	727	1064	Information Security Architect / Privacy Data Protection Officer[18%]
608	1.5.2.2	Schedule Optum Project Team Finger Printing / Background Che	3/3/20	5/5/20	45 days	399.6 hrs	727	1064	Information Security Architect / Privacy Data Protection Officer[11%],
609	1.5.2.3	Completion of Required DHHR Training Courses (Confidentiality, Privacy, etc.) & Authorization Forms	3/3/20	5/5/20	45 days	39.6 hrs	727	1064	Information Security Architect / Privacy Data Protection Officer[11%]
610	1.5.2.4	Monitor, Track and Report Optum Team Training Completion to D	3/3/20	5/7/20	47.37 days	16 hrs	727	1064	DHHR[2%],Information Security Architect / Privacy Data Protection O
611	**1.5.3**	**Organizational Change Management (OCM)**	**3/26/20**	**2/26/21**	**234 days**	**448.73 hrs**			
612	**1.5.3.1**	**OCM Support**	**3/26/20**	**2/26/21**	**234 days**	**448.73 hrs**			
613	**1.5.3.1.**	**OCM Meetings**	**3/26/20**	**2/26/21**	**234 days**	**164.37 hrs**			
614	1.5.3.1.	Schedule & Conduct Introductory Meeting With DHHR Regarding OCM Expectations	3/26/20	2/26/21	234 days	115 hrs	849,850	624	Quality Assurance Manager[1%],Account - Project Manager or Asst PM
615	1.5.3.1.	Attend DHRR OCM Meetings (as requested by DHHR)	3/26/20	2/26/21	234 days	49.37 hrs	849,850	624	Quality Assurance Manager[1%],Account - Project Manager or Asst P
616	**1.5.3.1.**	**OCM Implementation Support**	**3/26/20**	**2/26/21**	**234 days**	**72 hrs**			
617	1.5.3.1.	Support OCM Activities Through Implementation (As reques	3/26/20	2/26/21	234 days	48 hrs	849,850	624	Quality Assurance Manager[3%],Account - Project Manager or Asst P
618	1.5.3.1.	Align EDS Training to Support OCM	3/26/20	2/26/21	234 days	24 hrs	849,850	624	Quality Assurance Manager[1%],Account - Project Manager or Asst P
619	**1.5.3.1.**	**OCM Project Lessons Learned**	**3/26/20**	**2/26/21**	**234 days**	**212.37 hrs**			
620	1.5.3.1.	Prepare OCM Lessons Learned - Change Related to Projec	3/26/20	2/26/21	234 days	49.37 hrs	849,850	624	Quality Assurance Manager[1%],Account - Project Manager or Asst P
621	1.5.3.1.	Schedule & Conduct LL With Optum Leadership	3/26/20	2/26/21	234 days	24 hrs	849,850	624	Quality Assurance Manager[1%],Account - Project Manager or Asst P
622	1.5.3.1.	Schedule & Conduct LL With DHHR	3/26/20	2/26/21	234 days	24 hrs	849,850	624	Quality Assurance Manager[1%],Account - Project Manager or Asst P
623	1.5.3.1.	Schedule & Conduct LL With Project Team	3/26/20	2/26/21	234 days	115 hrs	849,850	624	Quality Assurance Manager[1%],Account - Project Manager or Asst P
624	*1.5.3.2*	***Milestone: OCM Support Agreed Upon by DHHR***	***2/26/21***	***2/26/21***	***0 days***	***0 hrs***	***623,614,615,612758***		Account - Project Manager or Asst PM
625	**1.5.4**	**CMS Federal Certification Support**	**3/26/20**	**2/5/21**	**219.42 days**	**788.28 hrs**			
626	**1.5.4.1**	**D039 Deliverable: Federal Certification and Review Management Plan**	**4/13/20**	**7/10/20**	**62.2 days**	**140.11 hrs**			
627	1.5.4.1.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Federal	5/26/20	5/27/20	0.25 days	2 hrs	3FS+60 days	630	Certification Lead,DHHR[0%]
628	1.5.4.1.	Scribe Meeting Minutes & Record IRAAD Items and Upload to	4/13/20	4/13/20	0.25 days	2 hrs	1057	630	Tech Writer and Scribe-Tester-QA
629	**1.5.4.1.**	**Cycle 1: Federal Certification and Review Management (D**	**5/27/20**	**6/25/20**	**21.45 days**	**112.01 hrs**			
630	1.5.4.1.	Develop Draft Federal Certification and Review Managemer	5/27/20	6/10/20	10 days	80 hrs	627,628	631	Certification Lead
631	1.5.4.1.	Schedule & Conduct Internal Meeting With QA on Federal Certification and Review Management	6/10/20	6/10/20	0.2 days	16 hrs	630	632	Certification Lead[500%],Quality Assurance Manager[500%]
632	1.5.4.1.	Revise Federal Certification and Review Management From QA Review Feedback	6/10/20	6/11/20	1 day	8 hrs	631	633	Certification Lead
633	1.5.4.1.	Schedule & Conduct Meeting With DHHR to Review Federal Certification and Review Management	6/11/20	6/11/20	0.25 days	8 hrs	632	634	Certification Lead[400%],DHHR[0%]

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
634	1.5.4.1.	Submit Federal Certification and Review Management to DHHR For Review (10 Days)	6/11/20	6/25/20	10 days	0.01 hrs	633	636	DHHR[0%],Documentation Management Lead[0%]
635	**1.5.4.1.**	**Cycle 2: Federal Certification and Review Management (FINAL)**	**6/25/20**	**7/10/20**	**10 days**	**24.1 hrs**			
636	1.5.4.1.	Revise Federal Certification and Review Management From DHHR Comments Log (5 Days)	6/25/20	7/2/20	5 days	24 hrs	634	637	Certification Lead[60%]
637	1.5.4.1.	Submit Federal Certification and Review Management to DHHR for Final Review (5 Days)	7/2/20	7/10/20	5 days	0.1 hrs	636	638	Certification Lead[0%],DHHR[0%]
638	***1.5.4.1.***	***Milestone Deliverable D039: Federal Certification and Review Management Plan Approved by DHHR***	***7/10/20***	***7/10/20***	***0 days***	***0 hrs***	***637***	***643,644,645***	Account - Project Manager or Asst PM
639	**1.5.4.2**	**Certification Tools**	**3/26/20**	**3/27/20**	**1 day**	**2 hrs**			
640	1.5.4.2.	Setup Tools & Structure for Checklists, Certification Artifacts & Evidence Packages in Liferay	3/26/20	3/27/20	1 day	2 hrs	849,850	643	Certification Lead[13%],Liferay Developer[13%]
641	**1.5.4.3**	**CMS Milestone Review 2: MECL Requirements, Design, Integration, Test & Implementation - Optum Prep & Support (Depends on DHHR/CMS Schedule)**	**7/10/20**	**2/5/21**	**144.74 days**	**646.17 hrs**			
642	**1.5.4.3.**	**Confirm Checklists & System Review Criteria (SRC) With DHHR, State PMO & IV&V Required For EDS**	**7/10/20**	**7/21/20**	**6.67 days**	**56 hrs**			
643	1.5.4.3.	Care Management Checklist (SRCs)	7/10/20	7/21/20	6.67 days	8 hrs	638,640	651,2429	Certification Lead[15%],DHHR[0%],IV&V[0%]
644	1.5.4.3.	Decision Support Checklist (SRCs)	7/10/20	7/21/20	6.67 days	8 hrs	638	651	Certification Lead[15%],DHHR[0%],IV&V[0%]
645	1.5.4.3.	IA Component Checklist (SRCs)	7/10/20	7/21/20	6.67 days	8 hrs	638	651	Certification Lead[15%],DHHR[0%],IV&V[0%]
646	1.5.4.3.	Standards & Conditions Checklist (SRCs)	7/10/20	7/21/20	6.67 days	8 hrs	638	651	Certification Lead[15%],DHHR[0%],IV&V[0%]
647	1.5.4.3.	TA Access & Delivery Checklist (SRCs)	7/10/20	7/21/20	6.67 days	8 hrs	638	651	Certification Lead[15%],DHHR[0%],IV&V[0%]
648	1.5.4.3.	TA Intermediary & Interface Checklist (SRCs)	7/10/20	7/21/20	6.67 days	8 hrs	638	651	Certification Lead[15%],DHHR[0%],IV&V[0%]
649	1.5.4.3.	TA Integration & Utility Checklist (SRCs)	7/10/20	7/21/20	6.67 days	8 hrs	638	651	Certification Lead[15%],DHHR[0%],IV&V[0%]
650	**1.5.4.3.**	**Build Checklists & SRC Draft Evidence Packet Templates**	**7/21/20**	**9/11/20**	**37.1 days**	**88.01 hrs**			
651	1.5.4.3.	Develop Draft Proposed Checklist/SRC Evidence Packet Te	7/21/20	8/18/20	20 days	40 hrs	649,643,644,64	652	Certification Lead[33%],Business Lead or Analysts[13%]
652	1.5.4.3.	Schedule & Conduct Meeting With QA To Review Deliverab	8/18/20	8/19/20	1 day	16 hrs	651	653	Quality Assurance Manager,Business Lead or Analysts
653	1.5.4.3.	Revise Based on Feedback From QA Review	8/19/20	8/20/20	1 day	16 hrs	652	654	Business Lead or Analysts[200%]
654	1.5.4.3.	Schedule & Conduct Walkthroughs of Checklist Templates With DHHS, State PMO & IV&V	8/20/20	9/3/20	10 days	0.01 hrs	653	655	Certification Lead[10%],DHHR[0%],IV&V[0%]
655	1.5.4.3.	Revise SRC Templates Based on Feedback From DHHS, S	9/3/20	9/11/20	5 days	8 hrs	654	656	Business Lead or Analysts[20%]
656	1.5.4.3.	Upload Templates to Certification Tool Liferay	9/11/20	9/11/20	0.1 days	8 hrs	655	658,659,66(	Business Lead or Analysts
657	**1.5.4.3.**	**Build Checklists & SRC Final Evidence Packet Templates**	**9/11/20**	**10/23/20**	**30.03 days**	**50.03 hrs**			
658	1.5.4.3.	Develop Final Proposed Checklist/SRC Evidence Packet Te	9/11/20	9/25/20	10 days	20 hrs	656	661	Certification Lead[33%],Business Lead or Analysts[33%]
659	1.5.4.3.	Perform QA & Revise Accordingly on SRC Templates	9/11/20	9/25/20	10 days	3 hrs	656	661	Quality Assurance Manager[5%],Business Lead or Analysts[2%]
660	1.5.4.3.	Revise Based on Feedback From QA Review	9/11/20	9/25/20	10 days	3 hrs	656	661	Business Lead or Analysts[4%]
661	1.5.4.3.	Schedule & Conduct Walkthroughs of Checklist Templates With DHHS, State PMO & IV&V	9/25/20	10/9/20	10 days	0.01 hrs	660,658,659	662	Certification Lead[10%],DHHR[0%],IV&V[0%]
662	1.5.4.3.	Revise SRC Templates Based on Feedback From DHHS, S	10/9/20	10/16/20	5 days	24 hrs	661	663	Business Lead or Analysts[60%]
663	1.5.4.3.	Submit Checklists & SRC Final Evidence Packet Templates t to DHHR for Final Review (5 Days)	10/16/20	10/23/20	5 days	0.01 hrs	662	664	Certification Lead[10%],DHHR[60%],IV&V[60%]
664	1.5.4.3.	Upload Templates to Certification Tool Liferay	10/23/20	10/23/20	0.03 days	0.01 hrs	663	665	Business Lead or Analysts[5%]
665	***1.5.4.3.***	***Milestone: DHHR Approval of Final Evidence Packet Templates***	***10/23/20***	***10/23/20***	***0 days***	***0 hrs***	***664***	***667,668,665***	Account - Project Manager or Asst PM
666	**1.5.4.3.**	**Build Checklists & SRC Preliminary Drafts For EDS (Summary Level)**	**10/23/20**	**12/2/20**	**26 days**	**43.42 hrs**			
667	1.5.4.3.	Schedule & Conduct Meetings With Product SME's to Build Draft Evidence Packages	10/23/20	10/30/20	5 days	15 hrs	665	670	Certification Lead[2%],Technical Lead[2%],Business Lead or Analysts[2%]
668	1.5.4.3.	Develop Summary Level Overview of Checklist(s) SRC's (El	10/23/20	10/30/20	5 days	15 hrs	665	670	Certification Lead[10%],Technical Lead[10%],Business Lead or Analy
669	1.5.4.3.	QA Draft Evidence Packets Summary	10/23/20	10/30/20	5 days	3 hrs	665	670	Quality Assurance Manager[8%]
670	1.5.4.3.	Schedule Walkthroughs of Draft SRC's with DHHS, State PI	10/30/20	11/13/20	10 days	0.01 hrs	667,668,669	671	Certification Lead[4%],DHHR[0%],IV&V[0%],Business Lead or Analys
671	1.5.4.3.	Revise Based on Feedback from Walkthrough	11/13/20	11/20/20	5 days	10 hrs	670	672	Technical Lead[7%],Business Lead or Analysts[7%]
672	1.5.4.3.	Submit Checklists & SRC Final Evidence Packet to DHHR for I	11/20/20	12/1/20	5 days	0.01 hrs	671	673	Certification Lead[4%],DHHR[60%],IV&V[60%],Business Lead or Ana
673	1.5.4.3.	Upload to Certification Tool and/or DHHR Document Reposi	12/1/20	12/2/20	1 day	0.4 hrs	672	674	Business Lead or Analysts[5%]
674	***1.5.4.3.***	***Milestone: Certification Evidence Packet Summary Approved by DHHR***	***12/2/20***	***12/2/20***	***0 days***	***0 hrs***	***673***	***677,678,676***	Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
675	1.5.4.3.	**Build Checklists & SRC in Detail For EDS**	**12/2/20**	**1/22/21**	**35.1 days**	**68.49 hrs**			
676	1.5.4.3.	Schedule & Conduct Meetings With Product SME's to Build Detailed Evidence Packages	12/2/20	12/9/20	5 days	10 hrs	674	679	Certification Lead[1%],Technical Lead[1%],Business Lead or Analysts[1%]
677	1.5.4.3.	Develop Detailed Level Overview of Checklist(s) SRC's (ED	12/2/20	12/9/20	5 days	10 hrs	674	679,687,712	Certification Lead[6%],Technical Lead[6%],Business Lead or Analyst
678	1.5.4.3.	QA Draft Evidence Packets (Detailed)	12/2/20	12/9/20	5 days	5 hrs	674	679	Quality Assurance Manager[19%]
679	1.5.4.3.	Schedule Walkthroughs of Draft SRC's with DHHS, State PI	12/9/20	12/23/20	10 days	0.01 hrs	678,676,677	680	Certification Lead[8%],DHHR[0%],IV&V[0%],Business Lead or Analys
680	1.5.4.3.	Revise Detailed Evidence Packets Based on Feedback from	12/23/20	12/31/20	5 days	33.42 hrs	679	681	Technical Lead[7%],Business Lead or Analysts[7%]
681	1.5.4.3.	Collect and Attach Supporting Documentation (Reports, Forms, Scripts) to Evidence Packets	12/31/20	1/8/21	5 days	0.01 hrs	680	682	Technical Lead[5%],Business Lead or Analysts[5%]
682	1.5.4.3.	Revise Based on Feedback from Walkthrough	1/8/21	1/15/21	5 days	10 hrs	681	683	Certification Lead[6%],Technical Lead[6%],Business Lead or Analyst
683	1.5.4.3.	Submit Checklists & SRC Final Evidence Packet to DHHR for	1/15/21	1/22/21	5 days	0.01 hrs	682	684	Certification Lead[0%]
684	1.5.4.3.	Upload to Certification Tool and/or DHHR Document Reposi	1/22/21	1/22/21	0.1 days	0.04 hrs	683	685	Business Lead or Analysts[5%]
685	*1.5.4.3.*	***Milestone: Certification Evidence Packet Detailed Approved by DHHR***	***1/22/21***	***1/22/21***	***0 days***	***0 hrs***	***684***	***2756***	Account - Project Manager or Asst PM
686	1.5.4.3.	**D056 Deliverable: Federal Review Supporting Documentation and Artifacts Preparation for Milestone Review 2**	**12/9/20**	**1/26/21**	**31.95 days**	**140.11 hrs**			
687	1.5.4.3.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Federal	12/9/20	12/9/20	0.25 days	2 hrs	677	690,688	Certification Lead,DHHR[0%]
688	1.5.4.3.	Scribe Meeting Minutes & Record IRAAD Items and Upload	12/9/20	12/9/20	0.25 days	2 hrs	687	690	Tech Writer and Scribe-Tester-QA
689	1.5.4.3.	**Cycle 1: Federal Review Supporting Documentation**	**12/9/20**	**1/12/21**	**21.45 days**	**112.01 hrs**			
690	1.5.4.3.	Develop Draft Federal Review Supporting Documentation	12/9/20	12/23/20	10 days	80 hrs	687,688	691	Certification Lead
691	1.5.4.3.	Schedule & Conduct Internal Meeting With QA on Federal Review Supporting Documentation	12/23/20	12/24/20	0.2 days	16 hrs	690	692	Certification Lead[500%],Quality Assurance Manager[500%]
692	1.5.4.3.	Revise Federal Review Supporting Documentation	12/24/20	12/28/20	1 day	8 hrs	691	693	Certification Lead
693	1.5.4.3.	Schedule & Conduct Meeting With DHHR to Review Federal Certification and Review Management	12/28/20	12/28/20	0.25 days	8 hrs	692	694	Certification Lead[400%],DHHR[0%]
694	1.5.4.3.	Submit Federal Review Supporting Documentation to DHHR For Review (10 Days)	12/28/20	1/12/21	10 days	0.01 hrs	693	696	DHHR[0%],Documentation Management Lead[0%]
695	1.5.4.3.	**Cycle 2: Federal Review Supporting Documentation**	**1/12/21**	**1/26/21**	**10 days**	**24.1 hrs**			
696	1.5.4.3.	Revise Federal Review Supporting Documentation From DHHR Comments Log (5 Days)	1/12/21	1/19/21	5 days	24 hrs	694	697	Certification Lead[60%]
697	1.5.4.3.	Submit Federal Review Supporting Documentation nt to DHHR for Final Review (5 Days)	1/19/21	1/26/21	5 days	0.1 hrs	696	698	Certification Lead[0%],DHHR[0%]
698	*1.5.4.3.*	***Milestone Deliverable D056: Federal Review Supporting Documentation Complete for Milestone Review 2***	***1/26/21***	***1/26/21***	***0 days***	***0 hrs***	***697***	***700,701,702***	Account - Project Manager or Asst PM
699	1.5.4.3.	**CMS Certification Review Support (Optum) Milestone Review 2**	**1/26/21**	**2/5/21**	**8 days**	**60 hrs**			
700	1.5.4.3.	Schedule & Conduct Walkthroughs of SRC Evidence Packages With DHHR & State PMO	1/26/21	2/2/21	5 days	10 hrs	698	706,707,708	Certification Lead[12%],Technical Lead[12%],Business Lead or Analysts[12%],Quality Assurance
701	1.5.4.3.	Revise Evidence Packages as Requested by DHHR or Stat	1/26/21	2/2/21	5 days	10 hrs	698	706,707,708	Technical Lead,Business Lead or Analysts
702	1.5.4.3.	Assist DHHS With Product Demonstrations	1/26/21	2/2/21	5 days	10 hrs	698	706,707,708	Certification Lead[13%],Technical Lead[13%],Business Lead or Analy
703	1.5.4.3.	Assist DHHS With Presentation Materials (if requested)	1/26/21	2/2/21	5 days	10 hrs	698	706,707,708	Certification Lead[8%],Quality Assurance Manager[9%],Business Lea
704	1.5.4.3.	Confirm Optum SME's to Support DHHR For Onsite Review	1/26/21	2/2/21	5 days	1 hr	698	706,707,708	Certification Lead[1%]
705	1.5.4.3.	Assign Scribe to Record Action Items Assigned to Optum to	1/26/21	2/2/21	5 days	1 hr	698	706,707,708	Tech Writer and Scribe-Tester-QA[3%]
706	1.5.4.3.	Federal Certification Onsite Review by CMS - Optum Suppo	2/2/21	2/5/21	3 days	6 hrs	705,700,701,70	709,710	Quality Assurance Manager[60%],Technical Lead[60%],Business Lea
707	1.5.4.3.	Investigate and Mitigate Questions/Issues Raised by CMS, I	2/2/21	2/5/21	3 days	6 hrs	705,700,701,70	709,710	Technical Lead[42%],Business Lead or Analysts[42%],Certification L
708	1.5.4.3.	Confirm, Route & Document Closure of Action Items	2/2/21	2/5/21	3 days	6 hrs	705,700,701,70	709,710	Certification Lead[17%],Technical Lead[17%],Business Lead or Analy
709	1.5.4.3.	DHHS Receives Notification From CMS Approving Milestone Review 2	2/5/21	2/5/21	0 days	0 hrs	708,706,707	710	DHHR[0%]
710	*1.5.4.3.*	***Milestone: CMS Milestone Review 2 Successfully Completed***	***2/5/21***	***2/5/21***	***0 days***	***0 hrs***	***709,706,707,70***	***2756***	Account - Project Manager or Asst PM
711	1.5.4.3.	**D061 Deliverable: Product Screenshots, Reports and Data Collection (Federal Review Supporting Documentation and Artifacts Preparation for Milestone Review 3 (This is usually 6-12 months after Go-Live)**	**12/9/20**	**1/26/21**	**31.7 days**	**140.11 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
712	1.5.4.3.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Product	12/9/20	12/9/20	0.25 days	2 hrs	677	713,715	Certification Lead,DHHR[0%]
713	1.5.4.3.	Scribe Meeting Minutes & Record IRAAD Items and Upload	12/9/20	12/9/20	0.25 days	2 hrs	712	716	Tech Writer and Scribe-Tester-QA
714	**1.5.4.3.**	**Cycle 1: Federal Review Supporting Documentation**	**12/9/20**	**1/12/21**	**21.45 days**	**112.01 hrs**			
715	1.5.4.3.	Develop Draft Federal Review Supporting Documentation	12/9/20	12/23/20	10 days	80 hrs	712	716	Certification Lead
716	1.5.4.3.	Schedule & Conduct Internal Meeting With QA on Product Screenshots, Reports and Data Collection	12/23/20	12/23/20	0.2 days	16 hrs	715,713	717	Certification Lead[500%],Quality Assurance Manager[500%]
717	1.5.4.3.	Revise Federal Review Supporting Documentation	12/23/20	12/24/20	1 day	8 hrs	716	718	Certification Lead
718	1.5.4.3.	Schedule & Conduct Meeting With DHHR to Review Product Screenshots, Reports and Data Collection	12/24/20	12/28/20	0.25 days	8 hrs	717	719	Certification Lead[400%],DHHR[0%]
719	1.5.4.3.	Submit Product Screenshots, Reports and Data Collection to DHHR For Review (10 Days)	12/28/20	1/12/21	10 days	0.01 hrs	718	721	DHHR[0%],Documentation Management Lead[0%]
720	**1.5.4.3.**	**Cycle 2: Product Screenshots, Reports and Data Collec**	**1/12/21**	**1/26/21**	**10 days**	**24.1 hrs**			
721	1.5.4.3.	Revise Product Screenshots, Reports and Data Collection From DHHR Comments Log (5 Days)	1/12/21	1/19/21	5 days	24 hrs	719	722	Certification Lead[60%]
722	1.5.4.3.	Submit Product Screenshots, Reports and Data Collection to DHHR for Final Review (5 Days)	1/19/21	1/26/21	5 days	0.1 hrs	721	723	Certification Lead[0%],DHHR[0%]
723	***1.5.4.3.***	***Milestone Deliverable D061: Product Screenshots, Reports and Data Collection Complete for Milestone Review 3***	***1/26/21***	***1/26/21***	***0 days***	***0 hrs***	***722***	***76,2756***	Account - Project Manager or Asst PM
724	**1.6**	**Phase 1: Enterprise Data Warehouse (3/02/2020 - 2/28/2021)**	**2/10/20**	**4/23/21**	**306.33 days**	**48,402.91 ...**			
725	**1.6.1**	**Phase 1: Project Initiation and Planning Task Group (EDS)**	**2/10/20**	**5/29/20**	**79 days**	**8,563.5 hrs**			
726	**1.6.1.1**	**Optum Project Team**	**3/3/20**	**3/4/20**	**1.11 days**	**8.9 hrs**			
727	1.6.1.1.	Create Award Notification & Communicate Globally to Optum	3/3/20	3/3/20	0.1 days	0.8 hrs	3	1360,746,91	Implementation/Operations Manager
728	1.6.1.1.	Review & Revise Organization Charts/Create Implementation	3/3/20	3/3/20	0.5 days	4 hrs	727	729	Account - Project Manager or Asst PM
729	1.6.1.1.	Create Optum Project Team Contact List & Optum Project Call Tree (Priority & Backup) Contact List	3/3/20	3/4/20	0.5 days	4 hrs	728	730	Account - Project Manager or Asst PM
730	1.6.1.1.	Publish Project Staffing Documents to Liferay	3/4/20	3/4/20	0.01 days	0.1 hrs	729	1064	Account - Project Manager or Asst PM
731	**1.6.1.2**	**DHHR & Vendor Partners Project Team Resources & Contact**	**3/3/20**	**3/10/20**	**5.5 days**	**3.6 hrs**			
732	1.6.1.2.	Create & Submit Request to DHHR and Respective Vendors for List of Resources & Contact info	3/3/20	3/9/20	5 days	2 hrs	3	733	Account - Project Manager or Asst PM[5%]
733	1.6.1.2.	Received List of Project Stakeholders From DHHR	3/10/20	3/10/20	0.3 days	0 hrs	732	734	
734	1.6.1.2.	Distribute DHHR Stakeholder List to Optum Key Stakeholders	3/10/20	3/10/20	0.1 days	0.8 hrs	733	735	Liferay Developer
735	1.6.1.2.	Upload DHHR Stakeholder List in Liferay	3/10/20	3/10/20	0.1 days	0.8 hrs	734	736	Account - Project Manager or Asst PM
736	***1.6.1.2.***	***Milestone Receipt of DHHR/Vendor Resources, Org Charts & Point of Contact(s) & Posted to Liferay***	***3/10/20***	***3/10/20***	***0 days***	***0 hrs***	***735***	***1064***	Account - Project Manager or Asst PM
737	**1.6.1.3**	**Optum Team (Internal Project Kickoff Meeting)**	**3/3/20**	**3/6/20**	**3.58 days**	**36.1 hrs**			
738	1.6.1.3.	Schedule Internal Kickoff Meeting With Optum Project Team & Send Out Invites & Meeting Location	3/3/20	3/3/20	0.3 days	2.4 hrs	3	739	Account - Project Manager or Asst PM
739	1.6.1.3.	Prepare Kickoff Presentation Materials	3/3/20	3/5/20	2 days	16 hrs	738	740	Implementation/Operations Manager,Account - Project Manager or A
740	1.6.1.3.	QA Review of Kickoff Presentation Materials	3/5/20	3/5/20	0.2 days	1.6 hrs	739	741	Quality Assurance Manager
741	1.6.1.3.	Revise Kickoff Presentation Materials Based on Feedback From QA Review	3/5/20	3/5/20	0.5 days	0 hrs	740	742	
742	1.6.1.3.	Conduct Kickoff Meeting With Optum Project Team	3/6/20	3/6/20	0.57 days	16 hrs	741	743	Account - Project Manager or Asst PM[50%],Quality Assurance Mana
743	1.6.1.3.	Post Presentation Materials to Optum Liferay	3/6/20	3/6/20	0.01 days	0.1 hrs	742	1064	Account - Project Manager or Asst PM
744	1.6.1.4	Life Ray Setup and Configuration	3/11/20	5/28/20	55 days	330 hrs	750	969	Liferay Developer[75%]
745	**1.6.1.5**	**D001 Deliverable: DHHR & Vendor Project Kickoff Meeting (10 Days From Contract Execution)**	**3/3/20**	**3/12/20**	**7.27 days**	**43.8 hrs**			
746	1.6.1.5.	Coordinate Kickoff Schedule With DHHR & State PMO	3/3/20	3/4/20	1 day	8 hrs	727	747	Account - Project Manager or Asst PM
747	1.6.1.5.	Prepare Presentation Materials for Kickoff	3/4/20	3/10/20	3.97 days	12 hrs	746	748	Implementation/Operations Manager[38%],Account - Project Manage
748	1.6.1.5.	QA Review of DHHR Kickoff Presentation Materials	3/10/20	3/10/20	0.4 days	3.2 hrs	747	749	Quality Assurance Manager
749	1.6.1.5.	Revise DHHR Kickoff Presentation Based on QA Review	3/10/20	3/11/20	1 day	3.2 hrs	748	750	Account - Project Manager or Asst PM[40%]
750	1.6.1.5.	Conduct Kick-off Meeting of Product Overview With DHHR (10 Days After Contract Start)	3/11/20	3/11/20	0.3 days	12.6 hrs	749	751,780,784	Account - Project Manager or Asst PM,Certification Lead[25%],Quality Assurance Manager,DHHR[0%],Test Manager -
751	1.6.1.5.	Record Meeting Notes & Meeting Action Items, Issues or Risks	3/11/20	3/12/20	0.5 days	4 hrs	750	752	Tech Writer and Scribe-Tester-QA
752	1.6.1.5.	Publish Kickoff Materials to Optum and DHHR Project Liferay	3/12/20	3/12/20	0.1 days	0.8 hrs	751	753	Account - Project Manager or Asst PM
753	***1.6.1.6***	***Milestone Deliverable D001: Project Kickoff Meeting Comple***	***3/12/20***	***3/12/20***	***0 days***	***0 hrs***	***752***	***827,6***	Account - Project Manager or Asst PM
754	**1.6.1.7**	**Charleston, WV Facility Set Up**	**2/10/20**	**5/29/20**	**79 days**	**72 hrs**			
755	**1.6.1.7.**	**Set Up Temporary Location**	**2/10/20**	**3/2/20**	**16 days**	**32 hrs**			
756	1.6.1.7.	Request & Complete City & County Building Permits	2/10/20	2/11/20	2 days	8 hrs	2	757	Account - Project Manager or Asst PM[13%]

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
757	1.6.1.7.	Procure Temporary Facility in Charleston, WV (Start of Cont	2/12/20	2/17/20	4 days	8 hrs	756	758	Account - Project Manager or Asst PM[50%]
758	1.6.1.7.	Set Up - Temp Facility (Tables, Printers, Desks, Internet Wir	2/18/20	2/24/20	5 days	8 hrs	757	759	Account - Project Manager or Asst PM
759	1.6.1.7.	Install Fax, Phones & Desktop/Laptops, Printer Temp Locati	2/25/20	3/2/20	5 days	8 hrs	758	766	Account - Project Manager or Asst PM
760	**1.6.1.7.**	**Set Up Permanent Location**	**2/10/20**	**5/29/20**	**79 days**	**40 hrs**			
761	1.6.1.7.	Plan and Schedule Meetings to Locate Optum Charleston WV Facility	2/10/20	3/6/20	20 days	8 hrs	2	762	Account - Project Manager or Asst PM
762	1.6.1.7.	Order Cubicles, Hardware & Software, as Needed	3/9/20	3/20/20	10 days	8 hrs	761	763	Account - Project Manager or Asst PM[48%]
763	1.6.1.7.	Procure Kitchen Equipment Microwave, Coffee Machine, Refridg. Supplies, etc.	3/23/20	4/3/20	10 days	8 hrs	762	764	Business Lead or Analysts[10%]
764	1.6.1.7.	Install Cubicles, Phones, Internet & Access to Printers	4/6/20	5/8/20	25 days	8 hrs	763	765	Account - Project Manager or Asst PM
765	1.6.1.7.	Test Phone & Internet Connectivity, DHHR and Building Ac	5/11/20	5/29/20	14 days	8 hrs	764	766	Account - Project Manager or Asst PM
766	*1.6.1.7.*	***Milestone: WV Facility Buildout Complete***	***5/29/20***	***5/29/20***	***0 days***	***0 hrs***	***759,765***	***1064***	Account - Project Manager or Asst PM
767	**1.6.1.8**	**Onboarding Initial Optum Staff**	**2/10/20**	**5/29/20**	**79 days**	**3,236 hrs**			
768	1.6.1.8.	Interview and Hire Staff	2/10/20	3/20/20	30 days	40 hrs	2	1064	HR Resources[13%]
769	1.6.1.8.	Procure/Setup Resources Hardware & Software	2/10/20	3/20/20	30 days	40 hrs	2	1064	HR Resources[13%]
770	1.6.1.8.	Order, Assign & Activate Building Security Badge	2/10/20	3/20/20	30 days	40 hrs	2	1064	HR Resources[13%]
771	1.6.1.8.	Schedule & Conduct Training - Human Capital	3/3/20	4/13/20	30 days	40 hrs	3	772SS,773S	HR Resources[13%]
772	1.6.1.8.	Schedule & Conduct Project Overview & Training	3/3/20	4/13/20	30 days	40 hrs	771SS	1064	HR Resources[13%]
773	1.6.1.8.	Schedule & Plan Background & Finger Printing w/DHHR	3/3/20	4/13/20	30 days	40 hrs	771SS	1064	HR Resources[13%]
774	1.6.1.8.	Schedule & Follow-up WV DHHR Required Training	3/3/20	4/13/20	30 days	40 hrs	771SS	1064	HR Resources[13%]
775	1.6.1.8.	Analysis of WV artifacts provided by DHHR after award	3/3/20	3/31/20	21 days	1,176 hrs	3	1064,776	Application Administrator,Liferay Developer,Quality Assurance Mana
776	1.6.1.8.	Continued Analysis of WV artifacts provided by DHHR after av	4/1/20	4/30/20	22 days	1,100 hrs	775	1064,777	Certification Lead[25%],ETL Team Lead - Specialists - Operations - Da
777	1.6.1.8.	Collaborate with DHHR regarding questions on DHHR artifacts	5/1/20	5/29/20	20 days	680 hrs	776	1064	Certification Lead[25%],ETL Team Lead - Specialists - Operations - Da
778	**1.6.1.9**	**Request Data Source Production Sample Files (File Layout, Production Sample File & Data Dictionary) (30 day From Project Start)**	**3/11/20**	**4/23/20**	**30.31 days**	**12.86 hrs**			
779	**1.6.1.9.**	**MMIS Member Eligibility (FFS, CHIP, MCO) Data**	**3/11/20**	**4/1/20**	**15.13 days**	**1.21 hrs**			
780	1.6.1.9.	Submit Request Member Eligibility File Layout, Production Sample File and Data Dictionary From DHHR	3/11/20	4/1/20	15 days	1.2 hrs	750	781	DHHR[0%],Implementation/Operations Manager[1%]
781	1.6.1.9.	Received Member Eligibility File Layout, Production Sample File & Data Dictionary From DHHR	4/1/20	4/1/20	0.13 days	0.01 hrs	780	782	DHHR[0%],Technical Lead[1%]
782	*1.6.1.9.*	***Milestone: Member Eligibility File Layout, Production Sample File & Data Dictionary Received***	***4/1/20***	***4/1/20***	***0 days***	***0 hrs***	***781***	***1773***	Account - Project Manager or Asst PM
783	**1.6.1.9.**	**MMIS Provider, Provider Enrollment & Ownership (FFS, Cl**	**3/11/20**	**4/3/20**	**16.63 days**	**1.31 hrs**			
784	1.6.1.9.	Submit Request MMIS Provider, Provider Enrollment & Ownership (FFS, CHIP, MCO) File Layout, Production	3/11/20	4/1/20	15 days	1.2 hrs	750	785	DHHR[0%],Implementation/Operations Manager[1%]
785	1.6.1.9.	Received MMIS Provider, Provider Enrollment & Ownership (FFS, CHIP, MCO) File Layout, Production Sample File and	4/1/20	4/2/20	0.63 days	0.1 hrs	784	786	DHHR[0%],Technical Lead[2%]
786	*1.6.1.9.*	***Milestone: MMIS Provider, Provider Enrollment & Ownership (FFS, CHIP, MCO) File Layout, Production***	***4/2/20***	***4/3/20***	***1 day***	***0 hrs***	***785***	***1790***	
787	**1.6.1.9.**	**MMIS Medical Claims (FFS, CHIP, MCO) Data**	**3/11/20**	**4/2/20**	**15.63 days**	**1.4 hrs**			
788	1.6.1.9.	Submit Request MMIS Medical Claims (FFS, CHIP, MCO) File Layout, Production Sample File and Data Dictionary	3/11/20	4/1/20	15 days	1.3 hrs	750	789	DHHR[0%],Implementation/Operations Manager[1%]
789	1.6.1.9.	Received MMIS Medical Claims (FFS, CHIP, MCO) File Layout, Production Sample File and Data Dictionary From	4/1/20	4/2/20	0.63 days	0.1 hrs	788	790	DHHR[0%],Technical Lead[2%]
790	*1.6.1.9.*	***Milestone: MMIS Medical Claims (FFS, CHIP, MCO) File Layout, Production Sample File and Data Dictionary From DHHR***	***4/2/20***	***4/2/20***	***0 days***	***0 hrs***	***789***	***1807***	Account - Project Manager or Asst PM
791	**1.6.1.9.**	**MMIS Dental Claims (FFS, CHIP, MCO) Data**	**3/11/20**	**4/1/20**	**15.06 days**	**1.21 hrs**			
792	1.6.1.9.	Submit Request MMIS Dental Claims (FFS, CHIP, MCO) File Layout, Production Sample File and Data Dictionary	3/11/20	4/1/20	15 days	1.2 hrs	750	793	DHHR[0%],Implementation/Operations Manager[1%]
793	1.6.1.9.	Received MMIS Dental Claims (FFS, CHIP, MCO) File Layout, Production Sample File and Data Dictionary From	4/1/20	4/1/20	0.06 days	0.01 hrs	792	794	DHHR[0%],Technical Lead[2%]
794	*1.6.1.9.*	***Milestone: MMIS Dental Claims (FFS, CHIP, MCO) File Layout, Production Sample File and Data Dictionary From DHHR***	***4/1/20***	***4/1/20***	***0 days***	***0 hrs***	***793***	***1824***	Account - Project Manager or Asst PM
795	**1.6.1.9.**	**MMIS Pharmacy Claims (FFS, CHIP, MCO) Data**	**3/11/20**	**4/1/20**	**15.1 days**	**1.22 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
796	1.6.1.9.(	Submit Request MMIS Pharmacy Claims (FFS, CHIP, MCO) File Layout, Production Sample File and Data	3/11/20	4/1/20	15 days	1.2 hrs	750	797	DHHR[0%],Implementation/Operations Manager[1%]
797	1.6.1.9.(	Received MMIS Pharmacy Claims (FFS, CHIP, MCO) File Layout, Production Sample File and Data Dictionary From	4/1/20	4/1/20	0.1 days	0.02 hrs	796	798	DHHR[0%],Technical Lead[2%]
798	*1.6.1.9.(	***Milestone: MMIS Pharmacy Claims (FFS, CHIP, MCO) File Layout, Production Sample File and Data Dictionary From DHHR***	*4/1/20*	*4/1/20*	*0 days*	*0 hrs*	*797*	*1841*	Account - Project Manager or Asst PM
799	**1.6.1.9.(	**MMIS Financial Capitation (FFS & CHIP) Data**	**3/11/20**	**3/13/20**	**1.3 days**	**0.11 hrs**			
800	1.6.1.9.(	Submit Request MMIS Financial Capitation (FFS & CHIP) File Layout, Production Sample File and Data Dictionary	3/11/20	3/13/20	1.25 days	0.1 hrs	750	801	DHHR[0%],Implementation/Operations Manager[1%]
801	1.6.1.9.(	Received MMIS Financial Capitation (FFS & CHIP) File Layout, Production Sample File and Data Dictionary From	3/13/20	3/13/20	0.05 days	0.01 hrs	800	802	DHHR[0%],Technical Lead[2%]
802	*1.6.1.9.(	***Milestone: MMIS Financial Capitation (FFS & CHIP) File Layout, Production Sample File and Data Dictionary From DHHR***	*3/13/20*	*3/13/20*	*0 days*	*0 hrs*	*801*	*1858*	Account - Project Manager or Asst PM
803	**1.6.1.9.(	**MMIS Prior Authorization (FFS, CHIP) Data**	**3/11/20**	**4/23/20**	**30.31 days**	**2.47 hrs**			
804	1.6.1.9.(	Submit Request MMIS Prior Authorization (FFS & CHIP) File Layout, Production Sample File and Data Dictionary	3/11/20	4/22/20	29.68 days	2.37 hrs	750	805	DHHR[0%],Implementation/Operations Manager[1%]
805	1.6.1.9.(	Received MMIS Prior Authorization (FFS & CHIP) File Layout, Production Sample File and Data Dictionary From	4/22/20	4/23/20	0.63 days	0.1 hrs	804	806	DHHR[0%],Technical Lead[2%]
806	*1.6.1.9.(	***Milestone: MMIS Prior Authorization (FFS & CHIP) File Layout, Production Sample File and Data Dictionary From DHHR***	*4/23/20*	*4/23/20*	*0 days*	*0 hrs*	*805*	*1875*	Account - Project Manager or Asst PM
807	**1.6.1.9.(	**PEIA - Public Employees Insurance Agency Medical Claims Data**	**3/11/20**	**3/13/20**	**1.88 days**	**0.2 hrs**			
808	1.6.1.9.(	Submit Request PEIA Medical Claims File Layout, Production Sample File and Data Dictionary From DHHR	3/11/20	3/13/20	1.25 days	0.1 hrs	750	809	DHHR[0%],Implementation/Operations Manager[1%]
809	1.6.1.9.(	Received PEIA Medical Claims File Layout, Production Sample File and Data Dictionary From DHHR	3/13/20	3/13/20	0.63 days	0.1 hrs	808	810	DHHR[0%],Technical Lead[2%]
810	*1.6.1.9.(	***Milestone: PEIA Medical Claims File Layout, Production Sample File and Data Dictionary From DHHR***	*3/13/20*	*3/13/20*	*0 days*	*0 hrs*	*809*	*1892*	Account - Project Manager or Asst PM
811	**1.6.1.9.(	**PEIA - Public Employees Insurance Agency Pharmacy Claims Data**	**3/11/20**	**4/1/20**	**15.13 days**	**1.22 hrs**			
812	1.6.1.9.(	Submit Request PEIA Pharmacy Claims File Layout, Production Sample File and Data Dictionary From DHHR	3/11/20	4/1/20	15 days	1.2 hrs	750	813	DHHR[0%],Implementation/Operations Manager[1%]
813	1.6.1.9.(	Received PEIA Pharmacy Claims File Layout, Production Sample File and Data Dictionary From DHHR	4/1/20	4/1/20	0.13 days	0.02 hrs	812	814	DHHR[0%],Technical Lead[2%]
814	*1.6.1.9.(	***Milestone: PEIA Pharmacy Claims File Layout, Production Sample File and Data Dictionary From DHHR***	*4/1/20*	*4/1/20*	*0 days*	*0 hrs*	*813*	*1909*	Account - Project Manager or Asst PM
815	**1.6.1.9.(	**HSC - Health Statistics Center Birth Data**	**3/11/20**	**4/1/20**	**15.1 days**	**1.22 hrs**			
816	1.6.1.9.	Submit Request HSC Birth File Layout, Production Sample File and Data Dictionary From DHHR	3/11/20	4/1/20	15 days	1.2 hrs	750	817	DHHR[0%],Implementation/Operations Manager[1%]
817	1.6.1.9.	Received HSC Birth File Layout, Production Sample File and Data Dictionary From DHHR	4/1/20	4/1/20	0.1 days	0.02 hrs	816	818	DHHR[0%],Technical Lead[2%]
818	*1.6.1.9.*	***Milestone: HSC Birth File Layout, Production Sample File and Data Dictionary from DHHR***	*4/1/20*	*4/1/20*	*0 days*	*0 hrs*	*817*	*1926*	Account - Project Manager or Asst PM
819	**1.6.1.9.(	**HSC Health Statistics Center Death Data**	**3/11/20**	**4/2/20**	**15.63 days**	**1.3 hrs**			
820	1.6.1.9.	Submit Request HSC Death File Layout, Production Sample File and Data Dictionary From DHHR	3/11/20	4/1/20	15 days	1.2 hrs	750	821	DHHR[0%],Implementation/Operations Manager[1%]
821	1.6.1.9.	Received HSC Death File Layout, Production Sample File and Data Dictionary From DHHR	4/1/20	4/2/20	0.63 days	0.1 hrs	820	822	DHHR[0%],Technical Lead[2%]
822	*1.6.1.9.*	***Milestone: HSC Death File Layout, Production Sample File and Data Dictionary from DHHR***	*4/2/20*	*4/2/20*	*0 days*	*0 hrs*	*821*	*1943*	Account - Project Manager or Asst PM
823	**1.6.1.10**	**EDS Discovery Meetings With DHHR Project Partnerships & Collaboration**	**3/11/20**	**3/26/20**	**11 days**	**275.51 hrs**			
824	1.6.1.10	Develop Discovery Meeting, Assign Meeting Scribes, Schedule & Publish to Optum Project Team & DHHR	3/11/20	3/16/20	3 days	3 hrs	750	827	DHHR[0%],Account - Project Manager or Asst PM
825	**1.6.1.10**	**EDS Data Source Discovery Meetings**	**3/16/20**	**3/26/20**	**7.25 days**	**255.01 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
826	1.6.1.10	**MMIS: Schedule & Conduct Discovery Meetings With DHHR & DXC Technology**	**3/16/20**	**3/24/20**	**6.5 days**	**170.64 hrs**			
827	1.6.1.10	Discovery Session 1: Member Eligibility (FFS, CHIP, MC	3/16/20	3/17/20	0.5 days	18.67 hrs	753,824	829FS+1 da	DHHR[0%],Implementation/Operations Manager,Technical Lead,Bus
828	1.6.1.10	Scribe Member Eligibility Discovery Meeting & Record IR	3/17/20	3/17/20	0.5 days	4 hrs	827	829FS+1 da	Tech Writer and Scribe-Tester-QA
829	1.6.1.10	Discovery Session 2: Provider, Provider Enrollment & Ownership (FFS, CHIP, MCO) Data	3/18/20	3/19/20	0.5 days	18.67 hrs	827FS+1 day,828FS+1	831,832	DHHR[0%],Implementation/Operations Manager,Technical Lead,Business Lead or Analysts[200%]
830	1.6.1.10	Scribe Provider Discovery Meeting & Record IRAAD Item	3/18/20	3/19/20	0.5 days	4 hrs	827FS+1 day,8	831,832	Tech Writer and Scribe-Tester-QA
831	1.6.1.10	Discovery Session 3: Medical Claims (FFS, CHIP, MCO)	3/19/20	3/20/20	1 day	37.33 hrs	829,830	833,834	DHHR[0%],Implementation/Operations Manager,Technical Lead,Bus
832	1.6.1.10	Scribe Medical Claims Discovery Meeting & Record IRAA	3/19/20	3/20/20	1 day	8 hrs	829,830	833,834	Tech Writer and Scribe-Tester-QA
833	1.6.1.10	Discovery Session 4: Dental Claims (FFS, CHIP, MCO) D	3/20/20	3/20/20	0.25 days	8 hrs	831,832	835,836	DHHR[0%],Implementation/Operations Manager,Technical Lead,Bus
834	1.6.1.10	Scribe Dental Claims Discovery Meeting & Record IRAAI	3/20/20	3/20/20	0.25 days	2 hrs	831,832	835,836	Tech Writer and Scribe-Tester-QA
835	1.6.1.10	Discovery Session 5: Pharmacy Claims (FFS, CHIP, MC	3/20/20	3/20/20	0.25 days	8 hrs	833,834	837,838	DHHR[0%],Implementation/Operations Manager,Technical Lead,Bus
836	1.6.1.10	Scribe Pharmacy Discovery Meeting & Record IRAAD Ite	3/20/20	3/20/20	0.25 days	2 hrs	833,834	837,838	Tech Writer and Scribe-Tester-QA
837	1.6.1.10	Discovery Session 6: Financial Capitation (FFS & CHIP)	3/20/20	3/23/20	1 day	32 hrs	835,836	839,840	DHHR[0%],Implementation/Operations Manager,Technical Lead,Bus
838	1.6.1.10	Scribe Financial Capitation Discovery Meeting & Record I	3/20/20	3/23/20	1 day	4 hrs	835,836	839,840	Tech Writer and Scribe-Tester-QA
839	1.6.1.10	Discovery Session 7: Prior Authorization (FFS, CHIP) Da	3/23/20	3/24/20	0.5 days	19.97 hrs	837,838	842,843	DHHR[0%],Technical Lead[67%],Implementation/Operations Manage
840	1.6.1.10	Scribe PA Discovery Meeting & Record IRAAD Items	3/23/20	3/24/20	0.5 days	4 hrs	837,838	842,843	Tech Writer and Scribe-Tester-QA
841	1.6.1.10	**PEIA: Schedule & Conduct Discovery Meetings With Public Employees Insurance Agency (PEIA)**	**3/24/20**	**3/25/20**	**1 day**	**47.95 hrs**			
842	1.6.1.10	Discovery Session 8: Medical Claims Data	3/24/20	3/24/20	0.5 days	19.97 hrs	839,840	844,845	DHHR[0%],PEIA[0%],Technical Lead[67%],Implementation/Operatio
843	1.6.1.10	Scribe PEIA Medical Claims Discovery Meeting & Record	3/24/20	3/24/20	0.5 days	4 hrs	839,840	844,845	Tech Writer and Scribe-Tester-QA
844	1.6.1.10	Discovery Session 9: Pharmacy Claims Data	3/24/20	3/25/20	0.5 days	19.97 hrs	842,843	847,848	DHHR[0%],PEIA[0%],Technical Lead[67%],Implementation/Operatio
845	1.6.1.10	Scribe PEIA Pharmacy Claims Discovery Meeting IRAAD	3/24/20	3/25/20	0.5 days	4 hrs	842,843	847,848	Tech Writer and Scribe-Tester-QA
846	1.6.1.10	**HSC: Schedule & Conduct Discovery Meeting With WV Health Statistics Center (HSC)**	**3/25/20**	**3/26/20**	**0.75 days**	**36.42 hrs**			
847	1.6.1.10	Discovery Session 10: Birth Data	3/25/20	3/25/20	0.25 days	15.21 hrs	844,845	849,850	DHHR[0%],HCA[0%],Technical Lead[67%],Implementation/Operatio
848	1.6.1.10	Scribe HSC Birth Data Discovery Meeting & Record IRAA	3/25/20	3/25/20	0.25 days	2 hrs	844,845	849,850	Tech Writer and Scribe-Tester-QA
849	1.6.1.10	Discovery Session 11: Death Data	3/25/20	3/25/20	0.25 days	15.21 hrs	847,848	640,1179,61	DHHR[0%],HCA[0%],Technical Lead[67%],Implementation/Operatio
850	1.6.1.10	Scribe HSC Death Data Discovery Meeting & Record IRA	3/25/20	3/26/20	0.5 days	4 hrs	847,848	640,1179,61	Tech Writer and Scribe-Tester-QA
851	1.6.1.10	**Discovery Meeting IRAAD Mitigation**	**3/17/20**	**3/26/20**	**7 days**	**17.5 hrs**			
852	1.6.1.10	Coordinate The Research and Mitigation of Discovery Meetings and Record Discovery Meeting IRAAD Items	3/17/20	3/26/20	7 days	7 hrs	827,828	1064	Account - Project Manager or Asst PM
853	1.6.1.10	Initiate Change Requests (if required)	3/17/20	3/26/20	7 days	7 hrs	827,828	1064	Account - Project Manager or Asst PM
854	1.6.1.10	Publish Meeting Minutes to Optum Liferay	3/17/20	3/26/20	7 days	3.5 hrs	827,828	1064	Tech Writer and Scribe-Tester-QA
855	1.6.1.11	**Deliverables (Project Management)**	**3/6/20**	**6/29/20**	**60 days**	**4,544.74 hrs**			
856	1.6.1.11	Coordinate and Schedule Meetings With DHHR To Discuss Overall Deliverable Acceptance Criteria & Deliverables	3/9/20	3/10/20	1 day	0.01 hrs	3FS+5 days	857	DHHR[0%],Account - Project Manager or Asst PM[0%]
857	1.6.1.11	Conduct Meeting & Assign Meeting Scribe to Take Meeting Minutes & Record IRAAD Items	3/10/20	3/11/20	1 day	14 hrs	856	1064	DHHR[0%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
858	1.6.1.11	**D002 Deliverable: Change Management Plan**	**3/10/20**	**4/6/20**	**20 days**	**382.11 hrs**			
859	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm and/or Modify Requirements & Determine Acceptance Criteria	3/10/20	3/10/20	0.25 days	2 hrs	3FS+5 days	860SS,863	Account - Project Manager or Asst PM
860	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items Upload to LI	3/10/20	3/10/20	0.25 days	2 hrs	859SS	863,861SS	Tech Writer and Scribe-Tester-QA
861	1.6.1.11	Additional Scribe and Technical Writer Support	3/10/20	4/6/20	20 days	320 hrs	860SS	891FF	Tech Writer and Scribe-Tester-QA,Business Lead or Analysts
862	1.6.1.11	**Cycle 1: Change Management Plan (DRAFT)**	**3/10/20**	**3/20/20**	**8 days**	**34.01 hrs**			
863	1.6.1.11	Develop Draft Change Management Plan	3/10/20	3/17/20	5 days	16 hrs	859,860	864	Tech Writer and Scribe-Tester-QA[10%],Account - Project Manager o
864	1.6.1.11	Schedule & Conduct Change Management Internal Meeti	3/17/20	3/19/20	2 days	6 hrs	863	865	Quality Assurance Manager[25%],Tech Writer and Scribe-Tester-QA
865	1.6.1.11	Revise Change Management Plan From QA Review Feec	3/19/20	3/19/20	0.5 days	4 hrs	864	866	Tech Writer and Scribe-Tester-QA
866	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Change Management Plan	3/19/20	3/20/20	0.5 days	8 hrs	865	867	DHHR[0%],Documentation Management Lead,Account - Project Manager or Asst PM
867	1.6.1.11	Submit Change Management Plan to DHHR For Review	3/20/20	3/20/20	0 days	0.01 hrs	866	869	DHHR[0%],Documentation Management Lead[0%]
868	1.6.1.11	**Cycle 2: Change Management Plan (FINAL)**	**3/20/20**	**4/3/20**	**10 days**	**24.1 hrs**			
869	1.6.1.11	Revise Change Management Plan From DHHR Comments Log (5 Days)	3/20/20	3/27/20	5 days	24 hrs	867	870	Tech Writer and Scribe-Tester-QA[60%]
870	1.6.1.11	Submit Change Management Plan to DHHR for Final Review (5 Days)	3/27/20	4/3/20	5 days	0.1 hrs	869	871	DHHR[0%],Documentation Management Lead
871	*1.6.1.11*	***Milestone Deliverable D002: Change Management Plan Approved by DHHR***	***4/3/20***	***4/3/20***	***0 days***	***0 hrs***	***870***	***1064,7***	Account - Project Manager or Asst PM
872	1.6.1.11	**D003 Deliverable: Communication Management Plan**	**3/10/20**	**4/22/20**	**30.5 days**	**221.11 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
873	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/10/20	3/11/20	0.5 days	4 hrs	3FS+6 days	874SS,877	DHHR[0%],Documentation Management Lead[50%]
874	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items Upload to Li	3/11/20	3/11/20	0.25 days	2 hrs	873SS	877	Tech Writer and Scribe-Tester-QA
875	1.6.1.11	Additional Scribe and Technical Writer Support	3/11/20	4/8/20	20 days	160 hrs	877SS	883FF	Tech Writer and Scribe-Tester-QA,Business Lead or Analysts
876	**1.6.1.11**	**Cycle 1: Communication Management Plan (DRAFT)**	**3/11/20**	**3/24/20**	**9 days**	**39.01 hrs**			
877	1.6.1.11	Develop Draft Communication Management Plan	3/11/20	3/18/20	5 days	32 hrs	874,873	875SS,878	Account - Project Manager or Asst PM[44%]
878	1.6.1.11	Schedule & Conduct Internal Meeting with QA	3/18/20	3/20/20	2 days	2 hrs	877	879	Quality Assurance Manager[6%],Account - Project Manager or Asst P
879	1.6.1.11	Revise Communication Management Plan From QA Review Feedback	3/20/20	3/23/20	1 day	3 hrs	878	880	Account - Project Manager or Asst PM[38%]
880	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Communication Management Plan	3/23/20	3/24/20	1 day	2 hrs	879	881	DHHR[0%],Account - Project Manager or Asst PM[19%]
881	1.6.1.11	Submit Communication Management Plan to DHHR For Review (10 Days)	3/24/20	3/24/20	0 days	0.01 hrs	880	883	DHHR[0%],Documentation Management Lead[0%]
882	**1.6.1.11**	**Cycle 2: Communication Management Plan (FINAL)**	**4/1/20**	**4/22/20**	**15 days**	**16.1 hrs**			
883	1.6.1.11	Revise Communication Management Plan From DHHR Comments Log (5 Days)	4/1/20	4/8/20	5 days	16 hrs	875FF,881	884	Tech Writer and Scribe-Tester-QA[40%]
884	1.6.1.11	Submit Communication Management Plan to DHHR for Final Review (5 Days)	4/8/20	4/22/20	10 days	0.1 hrs	883	885	Documentation Management Lead[0%],DHHR[0%]
885	*1.6.1.11*	***Milestone Deliverable D003: Communication Management Plan Approved by DHHR***	***4/22/20***	***4/22/20***	***0 days***	***0 hrs***	***884***	***1064,8***	Account - Project Manager or Asst PM
886	**1.6.1.11**	**D004 Deliverable: Cost Management Plan**	**3/11/20**	**4/22/20**	**30.5 days**	**216.9 hrs**			
887	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/11/20	3/11/20	0.5 days	2 hrs	3FS+6 days	888SS,891	Account - Project Manager or Asst PM[50%]
888	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload	3/11/20	3/11/20	0.5 days	4 hrs	887SS	891	Tech Writer and Scribe-Tester-QA
889	1.6.1.11	Additional Scribe and Technical Writer Support	3/31/20	4/20/20	15 days	120 hrs	891SS	897FF	Tech Writer and Scribe-Tester-QA
890	**1.6.1.11**	**Cycle 1: Cost Management Plan (DRAFT)**	**3/31/20**	**4/15/20**	**11.5 days**	**50.89 hrs**			
891	1.6.1.11	Develop Draft Cost Management Plan	3/31/20	4/6/20	5 days	40 hrs	861FF,887,888	889SS,892	Account - Project Manager or Asst PM[10%],Documentation Manage
892	1.6.1.11	Schedule & Conduct Internal Meeting with QA	4/7/20	4/9/20	3 days	1.96 hrs	891	893	Quality Assurance Manager[4%],Account - Project Manager or Asst P
893	1.6.1.11	Revise Cost Management Plan From QA Review Feedba	4/10/20	4/14/20	3 days	7.92 hrs	892	894	Account - Project Manager or Asst PM[33%]
894	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Cost Management Plan	4/15/20	4/15/20	0.5 days	1 hr	893	895	Tech Writer and Scribe-Tester-QA[25%]
895	1.6.1.11	Submit Cost Management Plan to DHHR For Review (10	4/15/20	4/15/20	0 days	0.01 hrs	894	897	DHHR[0%],Documentation Management Lead[0%]
896	**1.6.1.11**	**Cycle 2: Cost Management Plan (FINAL)**	**4/15/20**	**4/22/20**	**5 days**	**40.01 hrs**			
897	1.6.1.11	Revise Cost Management Plan From DHHR Comments Log (5 Days)	4/15/20	4/22/20	5 days	40 hrs	889FF,895	898	Tech Writer and Scribe-Tester-QA[50%],Account - Project Manager or Asst PM[50%]
898	1.6.1.11	Submit Cost Management Plan to DHHR for Final Review	4/22/20	4/22/20	0 days	0.01 hrs	897	899	DHHR[0%],Documentation Management Lead[0%]
899	*1.6.1.11*	***Milestone Deliverable D004: Cost Management Plan Approved by DHHR***	***4/22/20***	***4/22/20***	***0 days***	***0 hrs***	***898***	***1064,9***	Account - Project Manager or Asst PM
900	**1.6.1.11**	**D009 Deliverable: Documentation Management Plan**	**3/12/20**	**3/31/20**	**13.25 days**	**190.02 hrs**			
901	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/12/20	3/12/20	0.5 days	8 hrs	3FS+7 days	902SS,905	Documentation Management Lead,Business Lead or Analysts
902	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload	3/12/20	3/12/20	0.5 days	4 hrs	901SS	905	Tech Writer and Scribe-Tester-QA
903	1.6.1.11	Additional Scribe and Technical Writer Support	3/12/20	3/26/20	10 days	80 hrs	905SS	911FF	Tech Writer and Scribe-Tester-QA
904	**1.6.1.11**	**Cycle 1: Documentation Management Plan (DRAFT)**	**3/12/20**	**3/24/20**	**7.75 days**	**73.01 hrs**			
905	1.6.1.11	Develop Draft Documentation Management Plan	3/12/20	3/19/20	5 days	60 hrs	901,902	903SS,906	Documentation Management Lead[50%],Business Lead or Analysts
906	1.6.1.11	Schedule & Conduct Internal Meeting with QA	3/19/20	3/19/20	0.5 days	4 hrs	905	907	Quality Assurance Manager[33%],Documentation Management Lead
907	1.6.1.11	Revise Documentation Management Plan From QA Review Feedback	3/20/20	3/23/20	2 days	8 hrs	906	908	Documentation Management Lead[50%]
908	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Documentation Management Plan	3/23/20	3/24/20	0.25 days	1 hr	907	909	Documentation Management Lead[50%],DHHR[0%]
909	1.6.1.11	Submit Documentation Management Plan to DHHR For Review (10 Days)	3/24/20	3/24/20	0 days	0.01 hrs	908	911	Documentation Management Lead[0%],DHHR[0%]
910	**1.6.1.11**	**Cycle 2: Documentation Management Plan (FINAL)**	**3/24/20**	**3/31/20**	**5 days**	**25.01 hrs**			
911	1.6.1.11	Revise Documentation Management Plan From DHHR Comments Log (5 Days)	3/24/20	3/31/20	5 days	25 hrs	903FF,909	912	Documentation Management Lead[63%]
912	1.6.1.11	Submit Documentation Management Plan to DHHR for Final Review (5 Days)	3/31/20	3/31/20	0 days	0.01 hrs	911	913	Documentation Management Lead[0%],DHHR[0%]
913	*1.6.1.11*	***Milestone Deliverable D009: Documentation Management Plan Approved by DHHR***	***3/31/20***	***3/31/20***	***0 days***	***0 hrs***	***912***	***1064,14***	Account - Project Manager or Asst PM
914	**1.6.1.11**	**D016 Deliverable: Facility Management Plan**	**3/24/20**	**5/1/20**	**28.5 days**	**264.2 hrs**			
915	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/24/20	3/24/20	0.25 days	4 hrs	727FS+15 days	916,919	Documentation Management Lead,Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
916	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload	3/24/20	3/24/20	0.25 days	2 hrs	915	919	Tech Writer and Scribe-Tester-QA
917	1.6.1.11	Additional Scribe, Technical Writer and Account Manager S	3/24/20	4/21/20	20 days	160 hrs	919SS	925FF	Tech Writer and Scribe-Tester-QA,Business Lead or Analysts[8%]
918	**1.6.1.11**	**Cycle 1: Facility Management Plan (DRAFT)**	**3/24/20**	**4/17/20**	**18 days**	**50.1 hrs**			
919	1.6.1.11	Develop Draft Facility Management Plan	3/24/20	3/31/20	5 days	40 hrs	915,916	917SS,920	Documentation Management Lead[26%],Account - Project Manager
920	1.6.1.11	Schedule & Conduct Internal Meeting with QA	3/31/20	4/1/20	1 day	4 hrs	919	921	Quality Assurance Manager[17%],Documentation Management Lead
921	1.6.1.11	Revise Facility Management Plan From QA Review Feed	4/1/20	4/2/20	1 day	4 hrs	920	922	Documentation Management Lead[50%]
922	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Facility Management Plan	4/2/20	4/3/20	1 day	2 hrs	921	923	Documentation Management Lead[25%]
923	1.6.1.11	Submit Facility Management Plan to DHHR For Review (1	4/3/20	4/17/20	10 days	0.1 hrs	922	925	DHHR[0%],Documentation Management Lead[0%]
924	**1.6.1.11**	**Cycle 2: Facility Management Plan (FINAL)**	**4/17/20**	**5/1/20**	**10 days**	**48.1 hrs**			
925	1.6.1.11	Revise Facility Management Plan From DHHR Comments Log (5 Days)	4/17/20	4/24/20	5 days	48 hrs	917FF,923	926	Documentation Management Lead[20%],Account - Project Manager or Asst PM
926	1.6.1.11	Submit Facility Management Plan to DHHR for Final Review (5 Days)	4/24/20	5/1/20	5 days	0.1 hrs	925	927	Documentation Management Lead[0%],DHHR[0%]
927	*1.6.1.11*	***Milestone Deliverable D016: Facility Management Plan Approved by DHHR***	***5/1/20***	***5/1/20***	***0 days***	***0 hrs***	***926***	***1064,21***	Account - Project Manager or Asst PM
928	**1.6.1.11**	**D005 Deliverable: Human Resources Plan**	**3/10/20**	**4/28/20**	**36 days**	**251.2 hrs**			
929	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/10/20	3/12/20	3 days	2 hrs	3FS+5 days	930SS,933	Documentation Management Lead[8%],DHHR[0%]
930	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload	3/10/20	3/12/20	3 days	2 hrs	929SS	933	Tech Writer and Scribe-Tester-QA[8%]
931	1.6.1.11	Additional Scribe, Technical Writer and Support	3/13/20	4/16/20	25 days	200 hrs	933SS	939FF	Tech Writer and Scribe-Tester-QA,Business Lead or Analysts[6%]
932	**1.6.1.11**	**Cycle 1: Human Resources Plan (DRAFT)**	**3/13/20**	**4/14/20**	**23 days**	**32.1 hrs**			
933	1.6.1.11	Develop Draft Human Resources Plan	3/13/20	3/26/20	10 days	16 hrs	929,930	931SS,934	Documentation Management Lead[20%]
934	1.6.1.11	Schedule & Conduct Internal Meeting with QA	3/27/20	3/27/20	1 day	4 hrs	933	935	Documentation Management Lead[25%],Quality Assurance Manager
935	1.6.1.11	Revise Human Resources Plan From QA Review Feedba	3/30/20	3/30/20	1 day	8 hrs	934	936	Documentation Management Lead
936	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Human Resources Plan	3/31/20	3/31/20	1 day	4 hrs	935	937	Documentation Management Lead[50%]
937	1.6.1.11	Submit Human Resources Plan to DHHR For Review (10	4/1/20	4/14/20	10 days	0.1 hrs	936	939	DHHR[0%],Documentation Management Lead[0%]
938	**1.6.1.11**	**Cycle 2: Human Resources Management Plan (FINAL)**	**4/15/20**	**4/28/20**	**10 days**	**15.1 hrs**			
939	1.6.1.11	Revise Human Resources Plan From DHHR Comments Log (5 Days)	4/15/20	4/21/20	5 days	15 hrs	931FF,937	940	Documentation Management Lead[38%]
940	1.6.1.11	Submit Human Resources Plan to DHHR for Final Reviev	4/22/20	4/28/20	5 days	0.1 hrs	939	941	Documentation Management Lead[0%],DHHR[0%]
941	*1.6.1.11*	***Milestone Deliverable D005: Human Resources Plan Approved by DHHR***	***4/28/20***	***4/28/20***	***0 days***	***0 hrs***	***940***	***1064,10***	Account - Project Manager or Asst PM
942	**1.6.1.11**	**D006 Deliverable: Modularity and Reusability Plan**	**3/13/20**	**4/9/20**	**20 days**	**448 hrs**			
943	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/13/20	3/13/20	1 day	16 hrs	3FS+8 days	944,947,94	Documentation Management Lead,DHHR
944	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload	3/16/20	3/16/20	1 day	8 hrs	943	947	Tech Writer and Scribe-Tester-QA
945	1.6.1.11	Additional Scribe and Technical Writer Support	3/13/20	4/9/20	20 days	320 hrs	943SS	955FF	Tech Writer and Scribe-Tester-QA,Business Lead or Analysts
946	**1.6.1.11**	**Cycle 1: Modularity and Reusability Plan (DRAFT)**	**3/17/20**	**3/27/20**	**9 days**	**72 hrs**			
947	1.6.1.11	Develop Draft Modularity and Reusability Plan	3/17/20	3/23/20	5 days	16 hrs	943,944	948	Tech Writer and Scribe-Tester-QA[20%],Technical Lead[20%]
948	1.6.1.11	Schedule & Conduct Internal Meeting with QA	3/24/20	3/24/20	1 day	16 hrs	947	949	Quality Assurance Manager,Tech Writer and Scribe-Tester-QA
949	1.6.1.11	Revise Modularity and Reusability Plan From QA Review Feedback	3/25/20	3/25/20	1 day	16 hrs	948	950	Tech Writer and Scribe-Tester-QA,Technical Lead
950	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Modularity and Reusability Plan	3/25/20	3/26/20	1 day	16 hrs	949	951	Tech Writer and Scribe-Tester-QA,DHHR[0%],Technical Lead
951	1.6.1.11	Submit Modularity and Reusability Plan to DHHR For Review (10 Days)	3/27/20	3/27/20	1 day	8 hrs	950	953	Documentation Management Lead
952	**1.6.1.11**	**Cycle 2: Modularity and Reusability Plan (FINAL)**	**3/30/20**	**4/9/20**	**9 days**	**32 hrs**			
953	1.6.1.11	Revise Modularity and Reusability Plan From DHHR Comments Log (5 Days)	3/30/20	3/30/20	1 day	16 hrs	951	954	Tech Writer and Scribe-Tester-QA,Technical Lead
954	1.6.1.11	Submit Modularity and Reusability Plan to DHHR for Final Review (5 Days)	3/31/20	3/31/20	1 day	16 hrs	953	955	Documentation Management Lead,DHHR
955	*1.6.1.11*	***Milestone Deliverable D006: Modularity and Reusability Plan Approved by DHHR***	***4/9/20***	***4/9/20***	***0 days***	***0 hrs***	***954,945FF***	***1064,11***	Account - Project Manager or Asst PM
956	**1.6.1.11**	**D007 Deliverable: Project Work Plan**	**3/6/20**	**5/29/20**	**60 days**	**1,291.48 hrs**			
957	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/6/20	3/10/20	3 days	32 hrs	3FS+3 days	958,961,95	Documentation Management Lead,Account - Project Manager or Asst PM
958	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload	3/11/20	3/11/20	1 day	8 hrs	957	961	Tech Writer and Scribe-Tester-QA
959	1.6.1.11	Additional Support	3/6/20	5/29/20	60 days	1,017.31 hrs	957SS	969FF	Tech Writer and Scribe-Tester-QA,Business Lead or Analysts[25%],Ap
960	**1.6.1.11**	**Cycle 1: Project Work Plan**	**3/12/20**	**5/14/20**	**46 days**	**154.1 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
961	1.6.1.11	Modify Project Work Plan From Proposal Work plan to Create the Project Draft	3/12/20	4/27/20	33 days	130 hrs	957,958	962	Account - Project Manager or Asst PM
962	1.6.1.11	Schedule & Conduct Internal Meeting with QA	4/28/20	4/28/20	1 day	8 hrs	961	963	Quality Assurance Manager[50%],Account - Project Manager or Asst
963	1.6.1.11	Revise Project Work Plan From QA Review Feedback	4/29/20	4/29/20	1 day	8 hrs	962	964	Account - Project Manager or Asst PM
964	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Project Work Plan	4/29/20	4/30/20	1 day	8 hrs	963	965	DHHR[0%],Account - Project Manager or Asst PM
965	1.6.1.11	Submit Project Work Plan to DHHR For Review (10 Days	5/1/20	5/14/20	10 days	0.1 hrs	964	967	Documentation Management Lead[0%]
966	**1.6.1.11**	**Cycle 2: Project Work Plan (FINAL)**	**5/15/20**	**5/29/20**	**10 days**	**80.07 hrs**			
967	1.6.1.11	Revise Project Work Plan From DHHR Comments Log (5	5/15/20	5/21/20	5 days	80 hrs	965	968	Account - Project Manager or Asst PM
968	1.6.1.11	Submit Project Work Plan to DHHR for Final Review (5 D	5/21/20	5/29/20	5 days	0.07 hrs	967	969	DHHR[0%],Documentation Management Lead[0%],Account - Project
969	***1.6.1.11***	***Milestone Deliverable D007: Project Work Plan Approved by DHHR***	***5/29/20***	***5/29/20***	***0 days***	***0 hrs***	***968,744,959FF***	***1064,12,1***	Account - Project Manager or Asst PM
970	**1.6.1.11**	**D008 Deliverable: Quality Management Plan**	**3/31/20**	**5/7/20**	**27.38 days**	**106.2 hrs**			
971	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/31/20	3/31/20	0.5 days	8 hrs	3FS+20 days	972SS,974	Documentation Management Lead,Quality Assurance Manager
972	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload	3/31/20	3/31/20	0.5 days	4 hrs	971SS	974	Tech Writer and Scribe-Tester-QA
973	**1.6.1.11**	**Cycle 1: Quality Management Plan (DRAFT)**	**3/31/20**	**4/23/20**	**16.88 days**	**54.1 hrs**			
974	1.6.1.11	Develop Draft Quality Management Plan	3/31/20	4/7/20	5 days	40 hrs	971,972	975	Quality Assurance Manager
975	1.6.1.11	Schedule & Conduct Internal Meeting With Implementation Mgr. & Account Manager	4/7/20	4/7/20	0.38 days	2 hrs	974	976	Account - Project Manager or Asst PM[33%],Quality Assurance Manager[33%]
976	1.6.1.11	Revise Quality Management Plan From Walkthrough With Leadership	4/7/20	4/8/20	1 day	8 hrs	975	977	Quality Assurance Manager
977	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Quality Management Plan	4/8/20	4/9/20	0.5 days	4 hrs	976	978	DHHR[0%],Quality Assurance Manager
978	1.6.1.11	Submit Quality Management Plan to DHHR For Review (*	4/9/20	4/23/20	10 days	0.1 hrs	977	980	Documentation Management Lead[0%],DHHR[0%]
979	**1.6.1.11**	**Cycle 2: Quality Management Plan (FINAL)**	**4/23/20**	**5/7/20**	**10 days**	**40.1 hrs**			
980	1.6.1.11	Revise Quality Management Plan From DHHR Comments Log (5 Days)	4/23/20	4/30/20	5 days	40 hrs	978	981	Quality Assurance Manager[75%]
981	1.6.1.11	Submit Quality Management Plan to DHHR for Final Review (5 Days)	4/30/20	5/7/20	5 days	0.1 hrs	980	982	Documentation Management Lead[0%],DHHR[0%]
982	***1.6.1.11***	***Milestone Deliverable D008: Quality Management Plan Approved by DHHR***	***5/7/20***	***5/7/20***	***0 days***	***0 hrs***	***981***	***1064,13***	Account - Project Manager or Asst PM
983	**1.6.1.11**	**D010 Deliverable: Risks and Issues Management Plan**	**3/30/20**	**5/7/20**	**27.75 days**	**144.2 hrs**			
984	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/30/20	3/31/20	0.25 days	4 hrs	3FS+20 days	985SS,987	Documentation Management Lead,DHHR[0%],Account - Project Manager or Asst PM
985	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload	3/31/20	3/31/20	0.25 days	2 hrs	984SS	987	Tech Writer and Scribe-Tester-QA
986	**1.6.1.11**	**Cycle 1: Risks and Issues Management Plan (DRAFT)**	**3/31/20**	**4/23/20**	**17.5 days**	**98.1 hrs**			
987	1.6.1.11	Develop Draft Risks and Issues Management Plan	3/31/20	4/7/20	5 days	60 hrs	984,985	988	Tech Writer and Scribe-Tester-QA[11%],Account - Project Manager o
988	1.6.1.11	Schedule & Conduct Internal Meeting With QA To Review	4/7/20	4/8/20	1 day	10 hrs	987	989	Quality Assurance Manager[13%],Tech Writer and Scribe-Tester-QA
989	1.6.1.11	Revise Risks and Issues Management Plan From QA Review Feedback	4/8/20	4/8/20	0.5 days	8 hrs	988	990	Tech Writer and Scribe-Tester-QA,Account - Project Manager or Asst PM
990	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Risks and Issues Management Plan	4/8/20	4/9/20	1 day	20 hrs	989	991	Tech Writer and Scribe-Tester-QA[400%],DHHR[0%],Documentation Management
991	1.6.1.11	Submit Risks and Issues Management Plan to DHHR For Review (10 Days)	4/9/20	4/23/20	10 days	0.1 hrs	990	993	Documentation Management Lead[0%],DHHR[0%]
992	**1.6.1.11**	**Cycle 2: Risks and Issues Management Plan (FINAL)**	**4/23/20**	**5/7/20**	**10 days**	**40.1 hrs**			
993	1.6.1.11	Revise Risks and Issues Management Plan From DHHR Comments Log (5 Days)	4/23/20	4/30/20	5 days	40 hrs	991	994	Tech Writer and Scribe-Tester-QA[83%],Quality Assurance Manager,Account - Project Manager or Asst PM[38%]
994	1.6.1.11	Submit Risks and Issues Management Plan to DHHR for Final Review (5 Days)	4/30/20	5/7/20	5 days	0.1 hrs	993	995	Documentation Management Lead[0%],DHHR[0%]
995	***1.6.1.11***	***Milestone Deliverable D010: Risks and Issues Management Plan Approved by DHHR***	***5/7/20***	***5/7/20***	***0 days***	***0 hrs***	***994***	***1064,15***	Account - Project Manager or Asst PM
996	**1.6.1.11**	**D011 Deliverable: Schedule Management Plan**	**3/10/20**	**5/6/20**	**41.33 days**	**132.2 hrs**			
997	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/10/20	3/10/20	0.25 days	2 hrs	3FS+5 days	998SS,1000	Documentation Management Lead
998	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload to Liferay	3/10/20	3/10/20	0.25 days	2 hrs	997SS	1000	Tech Writer and Scribe-Tester-QA
999	**1.6.1.11**	**Cycle 1: Schedule Management Plan (DRAFT)**	**3/10/20**	**4/22/20**	**31.08 days**	**96.1 hrs**			
1000	1.6.1.11	Develop Draft Schedule Management Plan	3/10/20	4/7/20	20 days	80 hrs	997,998	1001	Tech Writer and Scribe-Tester-QA,Account - Project Manager or Asst
1001	1.6.1.11	Schedule & Conduct Internal Meeting With QA To Review	4/7/20	4/7/20	0.25 days	4 hrs	1000	1002	Documentation Management Lead,Quality Assurance Manager
1002	1.6.1.11	Revise Schedule Management Plan From QA Review Feec	4/7/20	4/7/20	0.5 days	8 hrs	1001	1003	Documentation Management Lead[200%]

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1003	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Schedule Management Plan	4/7/20	4/8/20	0.33 days	4 hrs	1002	1004	Documentation Management Lead[50%],DHHR[0%],Account - Project Manager or Asst PM
1004	1.6.1.11	Submit Schedule Management Plan to DHHR For Review (10 Days)	4/8/20	4/22/20	10 days	0.1 hrs	1003	1006	DHHR[0%],Documentation Management Lead[0%]
1005	1.6.1.11	**Cycle 2: Schedule Management Plan (FINAL)**	**4/22/20**	**5/6/20**	**10 days**	**32.1 hrs**			
1006	1.6.1.11	Revise Schedule Management Plan From DHHR Comments Log (5 Days)	4/22/20	4/29/20	5 days	32 hrs	1004	1007	Documentation Management Lead[40%],Account - Project Manager or Asst PM[57%]
1007	1.6.1.11	Submit Schedule Management Plan to DHHR for Final Review (5 Days)	4/29/20	5/6/20	5 days	0.1 hrs	1006	1008	Documentation Management Lead[0%],DHHR[0%]
1008	*1.6.1.11*	*Milestone Deliverable D011: Schedule Management Plan Approved by DHHR*	*5/6/20*	*5/6/20*	*0 days*	*0 hrs*	*1007*	*1064,16*	Account - Project Manager or Asst PM
1009	1.6.1.11	**D012 Deliverable: Scope Management Plan**	**3/23/20**	**4/27/20**	**26 days**	**106.11 hrs**			
1010	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/23/20	3/23/20	0.25 days	2 hrs	3FS+14 days	1011SS,101	Documentation Management Lead
1011	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload to Liferay	3/23/20	3/23/20	0.25 days	8 hrs	1010SS	1013	Tech Writer and Scribe-Tester-QA
1012	1.6.1.11	**Cycle 1: Scope Management Plan (DRAFT)**	**3/23/20**	**4/13/20**	**15.75 days**	**48.01 hrs**			
1013	1.6.1.11	Develop Draft Scope Management Plan	3/23/20	3/30/20	5 days	40 hrs	1010,1011	1014	Account - Project Manager or Asst PM[83%]
1014	1.6.1.11	Schedule & Conduct Internal Meeting With QA To Review	3/30/20	3/30/20	0.25 days	4 hrs	1013	1015	Quality Assurance Manager,Account - Project Manager or Asst PM
1015	1.6.1.11	Revise Scope Management Plan From QA Review Feedba	3/30/20	3/30/20	0.25 days	2 hrs	1014	1016,1064	Tech Writer and Scribe-Tester-QA
1016	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Scope Management Plan	3/30/20	3/30/20	0.25 days	2 hrs	1015	1017	Account - Project Manager or Asst PM
1017	1.6.1.11	Submit Scope Management Plan to DHHR For Review (10	3/31/20	4/13/20	10 days	0.01 hrs	1016	1019	Tech Writer and Scribe-Tester-QA[0%]
1018	1.6.1.11	**Cycle 2: Scope Management Plan (FINAL)**	**4/14/20**	**4/27/20**	**10 days**	**48.1 hrs**			
1019	1.6.1.11	Revise Scope Management Plan From DHHR Comments Log (5 Days)	4/14/20	4/20/20	5 days	48 hrs	1017	1020	Tech Writer and Scribe-Tester-QA[20%],Account - Project Manager or Asst PM
1020	1.6.1.11	Submit Scope Management Plan to DHHR for Final Review (5 Days)	4/21/20	4/27/20	5 days	0.1 hrs	1019	1021	Documentation Management Lead[0%],DHHR[0%]
1021	*1.6.1.11*	*Milestone Deliverable D012: Scope Management Plan Approved by DHHR*	*4/27/20*	*4/27/20*	*0 days*	*0 hrs*	*1020*	*17,1064*	Account - Project Manager or Asst PM
1022	1.6.1.11	**D013 Deliverable: Stakeholder Management Plan & Stakeholder Analysis**	**3/24/20**	**4/30/20**	**26.17 days**	**126.2 hrs**			
1023	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/24/20	3/25/20	0.13 days	3 hrs	3FS+16 days	1024SS,102	Documentation Management Lead,DHHR[0%],Business Lead or Analysts[200%]
1024	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload to Liferay	3/25/20	3/25/20	0.25 days	2 hrs	1023SS	1026	Tech Writer and Scribe-Tester-QA
1025	1.6.1.11	**Cycle 1: Stakeholder Management Plan & Stakeholder Analysis (DRAFT)**	**3/25/20**	**4/16/20**	**15.92 days**	**119.1 hrs**			
1026	1.6.1.11	Develop Draft Stakeholder Management Plan & Stakeholder Analysis	3/25/20	4/1/20	5 days	105 hrs	1023,1024	1027	Tech Writer and Scribe-Tester-QA[63%],Business Lead or Analysts,Account - Project Manager or Asst PM
1027	1.6.1.11	Schedule & Conduct Internal Meeting With QA To Review	4/1/20	4/1/20	0.17 days	4 hrs	1026	1028	Quality Assurance Manager,Tech Writer and Scribe-Tester-QA,Busine
1028	1.6.1.11	Revise Stakeholder Management Plan & Stakeholder Analysis From QA Review Feedback	4/1/20	4/1/20	0.5 days	8 hrs	1027	1029	Tech Writer and Scribe-Tester-QA,Account - Project Manager or Asst PM
1029	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Stakeholder Management Plan & Stakeholder Analysis	4/1/20	4/2/20	0.25 days	2 hrs	1028	1030	Documentation Management Lead[50%],Account - Project Manager or Asst PM[50%]
1030	1.6.1.11	Submit Stakeholder Management Plan & Stakeholder Analysis to DHHR For Review (10 Days)	4/2/20	4/16/20	10 days	0.1 hrs	1029	1032	Documentation Management Lead[0%],DHHR[0%]
1031	1.6.1.11	**Cycle 2: Stakeholder Management Plan & Stakeholder Analysis (FINAL)**	**4/16/20**	**4/30/20**	**10 days**	**2.1 hrs**			
1032	1.6.1.11	Revise Stakeholder Management Plan & Stakeholder Analysis From DHHR Comments Log (5 Days)	4/16/20	4/23/20	5 days	2 hrs	1030	1033	Tech Writer and Scribe-Tester-QA[5%]
1033	1.6.1.11	Submit Stakeholder Management Plan & Stakeholder Analysis to DHHR for Final Review (5 Days)	4/23/20	4/30/20	5 days	0.1 hrs	1032	1034	Documentation Management Lead[0%],DHHR[0%]
1034	*1.6.1.11*	*Milestone Deliverable D013: Stakeholder Management Plan & Stakeholder Analysis Approved by DHHR*	*4/30/20*	*4/30/20*	*0 days*	*0 hrs*	*1033*	*1064,18*	Account - Project Manager or Asst PM
1035	1.6.1.11	**D014 Deliverable: Staffing Management Plan**	**3/27/20**	**5/1/20**	**26 days**	**187.11 hrs**			
1036	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/27/20	3/27/20	0.25 days	2 hrs	3FS+18 days	1037SS,103	Documentation Management Lead
1037	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload to Liferay	3/27/20	3/27/20	0.25 days	1 hr	1036SS	1039,1045	Tech Writer and Scribe-Tester-QA

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1038	1.6.1.11	**Cycle 1: Staffing Management Plan (DRAFT)**	**3/27/20**	**4/17/20**	**15.75 days**	**88.01 hrs**			
1039	1.6.1.11	Develop Draft Staffing Management Plan	3/27/20	4/3/20	5 days	80 hrs	1036,1037	1040	Implementation/Operations Manager,Training Lead
1040	1.6.1.11	Schedule & Conduct Internal Meeting With QA To Review	4/3/20	4/3/20	0.25 days	4 hrs	1039,1045	1041	Quality Assurance Manager,Account - Project Manager or Asst PM
1041	1.6.1.11	Revise Staffing Management Plan From QA Review Feedt	4/3/20	4/3/20	0.25 days	2 hrs	1040	1042	Tech Writer and Scribe-Tester-QA
1042	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Staffing Management Plan	4/3/20	4/3/20	0.25 days	2 hrs	1041	1043	Account - Project Manager or Asst PM
1043	1.6.1.11	Submit Staffing Management Plan to DHHR For Review (	4/6/20	4/17/20	10 days	0.01 hrs	1042	1046	Tech Writer and Scribe-Tester-QA[0%]
1044	1.6.1.11	**Cycle 2: Staffing Management Plan (FINAL)**	**3/27/20**	**5/1/20**	**25.75 days**	**96.1 hrs**			
1045	1.6.1.11	Develop Draft Staffing Management Plan	3/27/20	4/3/20	5 days	80 hrs	1036,1037	1040	Implementation/Operations Manager,Training Lead
1046	1.6.1.11	Revise Staffing Management Plan From DHHR Comments Log (5 Days)	4/20/20	4/24/20	5 days	16 hrs	1043	1047	Tech Writer and Scribe-Tester-QA[20%],Account - Project Manager or Asst PM
1047	1.6.1.11	Submit Staffing Management Plan to DHHR for Final Review (5 Days)	4/27/20	5/1/20	5 days	0.1 hrs	1046	1048	Documentation Management Lead[0%],DHHR[0%]
1048	*1.6.1.11*	***Milestone Deliverable D014: Staffing Management Plan Approved by DHHR***	***5/1/20***	***5/1/20***	***0 days***	***0 hrs***	***1047***	***1064,19***	Account - Project Manager or Asst PM
1049	1.6.1.11	**D015 Deliverable: Reconciliation Plan (45 Days After Contract Execution)**	**3/31/20**	**6/14/20**	**33 days**	**463.69 hrs**			
1050	1.6.1.11	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/31/20	4/6/20	5 days	8 hrs	3FS+20 days	1054,1051S	Documentation Management Lead,Technical Lead
1051	1.6.1.11	Scribe Meeting Minutes & Record IRAAD Items and Upload	3/31/20	3/31/20	0.25 days	2 hrs	1050SS	1054	Tech Writer and Scribe-Tester-QA
1052	1.6.1.11	Additional Support	3/31/20	5/14/20	33 days	396 hrs	1050SS	1059FF	Tech Writer and Scribe-Tester-QA,Business Lead or Analysts[50%],FA
1053	1.6.1.11	**Cycle 1: Reconciliation Plan (DRAFT)**	**4/7/20**	**5/14/20**	**28 days**	**42.67 hrs**			
1054	1.6.1.11	Develop Draft Reconciliation Plan	4/7/20	4/9/20	3 days	24 hrs	1050,1051	1055	Technical Lead
1055	1.6.1.11	Schedule & Conduct Internal Meeting With QA To Review	4/10/20	4/10/20	0.25 days	4 hrs	1054	1056	Quality Assurance Manager,Technical Lead
1056	1.6.1.11	Revise Reconciliation Plan From QA Review Feedback	4/10/20	4/13/20	1 day	8 hrs	1055	1057	Technical Lead
1057	1.6.1.11	Schedule & Conduct Meeting With DHHR to Review Reconciliation Plan	4/13/20	4/13/20	0.25 days	2.67 hrs	1056	1058,628	Documentation Management Lead[67%],Technical Lead[67%],DHHR[0%]
1058	1.6.1.11	Submit Reconciliation Plan to DHHR For Review (10 Day	4/17/20	4/30/20	10 days	4 hrs	1057,3FS+45 e	1061,1059	DHHR[0%],Documentation Management Lead[0%]
1059	*1.6.1.11*	***Milestone: Contract Required Submission Date 45 Calendar Days***	***5/14/20***	***5/14/20***	***0 days***	***0 hrs***	***1058,1052FF***	***1064***	Account - Project Manager or Asst PM
1060	1.6.1.11	**Cycle 2: Reconciliation Plan (FINAL)**	**5/1/20**	**5/14/20**	**10 days**	**15.02 hrs**			
1061	1.6.1.11	Revise Reconciliation Plan From DHHR Comments Log (	5/1/20	5/7/20	5 days	15 hrs	1058	1062	Technical Lead[38%]
1062	1.6.1.11	Submit Reconciliation Plan to DHHR for Final Review (5 I	5/8/20	5/14/20	5 days	0.02 hrs	1061	1063,1070,1	Documentation Management Lead[0%],DHHR[0%]
1063	*1.6.1.11*	***Milestone Deliverable D015: Reconciliation Plan Approved by DHHR***	***5/14/20***	***5/14/20***	***0 days***	***0 hrs***	***1062***	***1064,20***	Account - Project Manager or Asst PM
1064	*1.6.1.12*	***Milestone: Phase 1 Project Initiation Complete***	***5/29/20***	***5/29/20***	***0 days***	***0 hrs***	***730,736,743,76***	***1066***	Account - Project Manager or Asst PM
1065	1.6.2	**Phase 1: Solution Planning Task Group (EDS)**	**3/3/20**	**8/26/20**	**124.7 days**	**4,985.55 hrs**			
1066	1.6.2.1	Link Requirements to Cloud Contract	6/1/20	6/30/20	22 days	200 hrs	1064	1067	Implementation/Operations Manager,Technical Lead
1067	1.6.2.2	Identify Data Security Groups	7/1/20	7/31/20	22 days	600 hrs	1066		Account - Project Manager or Asst PM,ETL Team Lead - Specialists - C
1068	1.6.2.3	**EDS Project Deliverables**	**3/3/20**	**8/26/20**	**124.7 days**	**2,234.47 hrs**			
1069	1.6.2.3.	**D017 Deliverable: Data Management Plan (including governance and quality)**	**5/14/20**	**6/3/20**	**12.02 days**	**390.94 hrs**			
1070	1.6.2.3.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	5/14/20	5/15/20	1 day	18.84 hrs	1062	1074,1111,1	DHHR[0%],Business Lead or Analysts[200%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1071	1.6.2.3.	Assign Meeting Scribes to Take Meeting Minutes & Record IRAAD Items	5/15/20	5/15/20	1 day	4 hrs	1062	1074,1111,1	Tech Writer and Scribe-Tester-QA
1072	1.6.2.3.	Additional Support	5/15/20	6/2/20	12 days	144 hrs	1070SS	1082FF	Tech Writer and Scribe-Tester-QA,Business Lead or Analysts[50%],FA
1073	1.6.2.3.	**Cycle 1: Data Management Plan (including governance and quality)**	**5/18/20**	**5/27/20**	**6.01 days**	**144.05 hrs**			
1074	1.6.2.3.	Develop Draft Data Management Plan	5/18/20	5/20/20	3 days	72 hrs	1071,1070	1075,1084,1	Business Lead or Analysts[300%]
1075	1.6.2.3.	Schedule & Conduct Internal Meeting with QA	5/21/20	5/21/20	0.5 days	24 hrs	1074	1076	Quality Assurance Manager[200%],Business Lead or Analysts,ETL T
1076	1.6.2.3.	Revise Data Management Plan From QA Review Feedba	5/21/20	5/26/20	2 days	32 hrs	1075	1077	Business Lead or Analysts[200%]
1077	1.6.2.3.	Schedule & Conduct Meeting With DHHR to Review Data Management Plan	5/26/20	5/26/20	0.5 days	16 hrs	1076	1078	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM
1078	1.6.2.3.	Submit Data Management Plan to DHHR For Review (10	5/27/20	5/27/20	0.01 days	0.05 hrs	1077	1080	DHHR[0%],Documentation Management Lead[0%]
1079	1.6.2.3.	**Cycle 2: Data Management Plan (FINAL)**	**5/27/20**	**6/3/20**	**5.01 days**	**80.05 hrs**			
1080	1.6.2.3.	Revise Data Management Plan From DHHR Comments Log (5 Days)	5/27/20	6/3/20	5 days	80 hrs	1078	1081	Business Lead or Analysts[200%]
1081	1.6.2.3.	Submit Data Management Plan to DHHR for Final Review	6/3/20	6/3/20	0.01 days	0.05 hrs	1080	1082,1164,1	DHHR[0%],Documentation Management Lead[0%]

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1082	1.6.2.3.	*Milestone Deliverable D017: Data Management Plan Approved by DHHR*	6/3/20	6/3/20	0 days	0 hrs	1081,1072FF	1353,24	Account - Project Manager or Asst PM
1083	1.6.2.3.	**D018 Deliverable: Incident Management Plan**	5/20/20	6/22/20	21.8 days	397.65 hrs			
1084	1.6.2.3.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	5/20/20	5/21/20	0.25 days	3 hrs	1074	1088,1086S	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1085	1.6.2.3.	Assign Meeting Scribes to Take Meeting Minutes & Record IRAAD Items	5/21/20	5/21/20	0.25 days	1 hr	1074	1088	Tech Writer and Scribe-Tester-QA
1086	1.6.2.3.	Additional Support	5/21/20	6/19/20	21 days	336 hrs	1084SS	1096FF	Tech Writer and Scribe-Tester-QA,Business Lead or Analysts
1087	1.6.2.3.	**Cycle 1: Incident Management Plan**	5/21/20	6/8/20	11.55 days	17.6 hrs			
1088	1.6.2.3.	Develop Draft Incident Management Plan	5/21/20	5/22/20	1 day	8 hrs	1085,1084	1089	Account - Project Manager or Asst PM
1089	1.6.2.3.	Schedule & Conduct Internal Meeting with QA	5/22/20	5/22/20	0.25 days	4 hrs	1088	1090	Quality Assurance Manager,Account - Project Manager or Asst PM
1090	1.6.2.3.	Revise Incident Management Plan From QA Review Fee	5/22/20	5/22/20	0.1 days	0.8 hrs	1089	1091	Account - Project Manager or Asst PM
1091	1.6.2.3.	Schedule & Conduct Meeting With DHHR to Review Incident Management Plan	5/22/20	5/22/20	0.2 days	4 hrs	1090	1092	DHHR[0%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1092	1.6.2.3.	Submit Incident Management Plan to DHHR For Review	5/22/20	6/8/20	10 days	0.8 hrs	1091	1094,1098,1	DHHR[0%],Documentation Management Lead[1%]
1093	1.6.2.3.	**Cycle 2: Incident Management Plan (FINAL)**	6/8/20	6/22/20	10 days	40.05 hrs			
1094	1.6.2.3.	Revise Incident Management Plan From DHHR Comments Log (5 Days)	6/8/20	6/15/20	5 days	40 hrs	1092	1095	Account - Project Manager or Asst PM
1095	1.6.2.3.	Submit Incident Management Plan to DHHR for Final Review (5 Days)	6/15/20	6/22/20	5 days	0.05 hrs	1094	1096	DHHR[0%],Documentation Management Lead[0%]
1096	1.6.2.3.	*Milestone Deliverable D018: Incident Management Plan Approved by DHHR*	6/22/20	6/22/20	0 days	0 hrs	1095,1086FF	1353,25	Account - Project Manager or Asst PM
1097	1.6.2.3.	**D019 Deliverable: Master Test Plan (Testing Management**	6/8/20	6/26/20	14 days	278.01 hrs			
1098	1.6.2.3.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	6/8/20	6/9/20	0.25 days	4 hrs	1092	1101	Test Manager - Testers - QA Specialists,DHHR[0%],Account - Project Manager or Asst PM
1099	1.6.2.3.	Assign Meeting Scribes to Take Meeting Minutes & Record IRAAD Items	6/8/20	6/9/20	0.25 days	2 hrs	1092	1101	Tech Writer and Scribe-Tester-QA
1100	1.6.2.3.	**Cycle 1: Master Test Plan (Testing Management Plan)**	6/9/20	6/12/20	3.75 days	52.01 hrs			
1101	1.6.2.3.	Develop Draft Master Test Plan	6/9/20	6/10/20	1 day	28 hrs	1099,1098	1102	Test Manager - Testers - QA Specialists[300%],DHHR[0%],Account -
1102	1.6.2.3.	Schedule & Conduct Internal Meeting with QA	6/10/20	6/10/20	0.25 days	4 hrs	1101	1103	Test Manager - Testers - QA Specialists,Quality Assurance Manager
1103	1.6.2.3.	Revise Master Test Plan From QA Review Feedback	6/10/20	6/12/20	2 days	16 hrs	1102	1104	Test Manager - Testers - QA Specialists[300%],DHHR[0%],Account -
1104	1.6.2.3.	Schedule & Conduct Meeting With DHHR to Review Master Test Plan	6/12/20	6/12/20	0.5 days	4 hrs	1103	1105	Test Manager - Testers - QA Specialists[200%],DHHR[2%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1105	1.6.2.3.	Submit Master Test Plan to DHHR For Review (10 Days)	6/12/20	6/12/20	0 days	0.01 hrs	1104	1107	DHHR[0%],Documentation Management Lead[0%]
1106	1.6.2.3.	**Cycle 2: Master Test Plan (FINAL)**	6/12/20	6/26/20	10 days	220 hrs			
1107	1.6.2.3.	Revise Master Test Plan From DHHR Comments Log (5	6/12/20	6/19/20	5 days	140 hrs	1105	1108	Test Manager - Testers - QA Specialists[300%],DHHR[0%],Account -
1108	1.6.2.3.	Submit Master Test Plan to DHHR for Final Review (5 Da	6/19/20	6/26/20	5 days	80 hrs	1107	1109	DHHR,Documentation Management Lead
1109	1.6.2.3.	*Milestone Deliverable D019: Master Test Plan Approved by DHHR*	6/26/20	6/26/20	0 days	0 hrs	1108	2262,2244,1	Account - Project Manager or Asst PM
1110	1.6.2.3.	**D020 Deliverable: Privacy Impact Analysis (PIA)**	5/18/20	6/23/20	25.2 days	178.2 hrs			
1111	1.6.2.3.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	5/18/20	5/18/20	0.2 days	4 hrs	1071,1070	1114	Information Security Architect / Privacy Data Protection Officer[124%],DHHR[1%],Account - Project Manager or Asst PM
1112	1.6.2.3.	Assign Meeting Scribes to Take Meeting Minutes & Record IRAAD Items	5/18/20	5/18/20	1 day	8 hrs	1071,1070	1114	Tech Writer and Scribe-Tester-QA
1113	1.6.2.3.	**Cycle 1: Privacy Impact Analysis**	5/19/20	6/9/20	14.2 days	160.1 hrs			
1114	1.6.2.3.	Develop Draft Privacy Impact Analysis	5/19/20	5/21/20	3 days	96 hrs	1112,1111	1115,1116	Information Security Architect / Privacy Data Protection Officer[50%],
1115	1.6.2.3.	Schedule & Conduct Internal Meeting with QA	5/22/20	5/22/20	0.1 days	16 hrs	1114	1116	Quality Assurance Manager[1,000%],Information Security Architect /
1116	1.6.2.3.	Revise Privacy Impact Analysis From QA Review Feedba	5/22/20	5/26/20	1 day	36 hrs	1114,1115	1117	Information Security Architect / Privacy Data Protection Officer[50%],
1117	1.6.2.3.	Schedule & Conduct Meeting With DHHR to Review Privacy Impact Analysis	5/26/20	5/26/20	0.1 days	2 hrs	1116	1118	Information Security Architect / Privacy Data Protection Officer[1,000%],DHHR[1,000%],Account - Project Manager or Asst
1118	1.6.2.3.	Submit Privacy Impact Analysis to DHHR For Review (10	5/26/20	6/9/20	10 days	0.1 hrs	1117	1120	Documentation Management Lead[0%],DHHR[0%]
1119	1.6.2.3.	**Cycle 2: Privacy Impact Analysis (FINAL)**	6/9/20	6/23/20	10 days	16.1 hrs			
1120	1.6.2.3.	Revise Privacy Impact Analysis From DHHR Comments Log (5 Days)	6/9/20	6/16/20	5 days	16 hrs	1118	1121	Information Security Architect / Privacy Data Protection Officer[40%]
1121	1.6.2.3.	Submit Privacy Impact Analysis Plan to DHHR for Final Review (5 Days)	6/16/20	6/23/20	5 days	0.1 hrs	1120	1122,1124,1	Documentation Management Lead[0%],DHHR[0%]
1122	1.6.2.3.	*Milestone Deliverable D020: Privacy Impact Analysis Approved by DHHR*	6/23/20	6/23/20	0 days	0 hrs	1121	1353,27	Account - Project Manager or Asst PM
1123	1.6.2.3.	**D025 Deliverable: Safeguard Procedures Report (SPR)**	6/23/20	7/21/20	19.75 days	116.12 hrs			
1124	1.6.2.3.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	6/23/20	6/23/20	0.25 days	3.02 hrs	1121	1127	Information Security Architect / Privacy Data Protection Officer[50%],DHHR[1%],Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1125	1.6.2.3.(	Assign Meeting Scribes to Take Meeting Minutes & Record IRAAD Items	6/23/20	6/23/20	0.25 days	2 hrs	1121	1127	Tech Writer and Scribe-Tester-QA
1126	**1.6.2.3.(**	**Cycle 1: Safeguard Procedures Report (SPR)**	**6/23/20**	**7/14/20**	**14.5 days**	**98.1 hrs**			
1127	1.6.2.3.(	Develop Draft SPR	6/23/20	6/26/20	3 days	72 hrs	1125,1124	1128	Information Security Architect / Privacy Data Protection Officer,Tech
1128	1.6.2.3.(	Schedule & Conduct Internal Meeting with QA	6/26/20	6/26/20	0.25 days	16 hrs	1127	1129	Quality Assurance Manager[400%],Information Security Architect / Pr
1129	1.6.2.3.(	Revise SPR From QA Review Feedback	6/26/20	6/29/20	1 day	8 hrs	1128	1130	Information Security Architect / Privacy Data Protection Officer
1130	1.6.2.3.(	Schedule & Conduct Meeting With DHHR to Review SPR	6/29/20	6/29/20	0.25 days	2 hrs	1129	1131	DHHR[0%],Information Security Architect / Privacy Data Protection C
1131	1.6.2.3.(	Submit SPR to DHHR For Review (10 Days)	6/29/20	7/14/20	10 days	0.1 hrs	1130	1133	Documentation Management Lead[0%],DHHR[0%]
1132	**1.6.2.3.(**	**Cycle 2: Safeguard Procedures Report (SPR) (FINAL)**	**7/14/20**	**7/21/20**	**5.01 days**	**12 hrs**			
1133	1.6.2.3.(	Revise SPR From DHHR Comments Log (5 Days)	7/14/20	7/21/20	5 days	12 hrs	1131	1134,1138,1	Information Security Architect / Privacy Data Protection Officer[30%]
1134	1.6.2.3.(	Submit SPR to DHHR for Final Review (5 Days)	7/21/20	7/21/20	0.01 days	0 hrs	1133	1135	Documentation Management Lead[0%],DHHR[0%]
1135	*1.6.2.3.(	***Milestone Deliverable D025: Safeguard Procedures Report (SPR) Approved by DHHR***	*7/21/20*	*7/21/20*	*0 days*	*0 hrs*	*1134*	*1353,33*	Account - Project Manager or Asst PM
1136	**1.6.2.3.(**	**D026 Deliverable: Security Plan**	**7/21/20**	**8/26/20**	**25.75 days**	**461.11 hrs**			
1137	1.6.2.3.(	Application Administrator Support	7/21/20	8/25/20	25 days	200 hrs	1133	1149	Application Administrator
1138	1.6.2.3.(	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	7/21/20	7/22/20	0.25 days	3 hrs	1133	1141	Information Security Architect / Privacy Data Protection Officer[50%],Account - Project Manager or Asst PM
1139	1.6.2.3.(	Assign Meeting Scribes to Take Meeting Minutes & Record IRAAD Items	7/21/20	7/22/20	0.25 days	2 hrs	1133	1141	Tech Writer and Scribe-Tester-QA
1140	**1.6.2.3.(**	**Cycle 1: Security Plan**	**7/22/20**	**8/12/20**	**15.5 days**	**116.1 hrs**			
1141	1.6.2.3.(	Develop Draft Security Plan	7/22/20	7/27/20	3 days	96 hrs	1139,1138	1142	Information Security Architect / Privacy Data Protection Officer,ETL T
1142	1.6.2.3.(	Schedule & Conduct Internal Meeting with QA	7/27/20	7/27/20	0.25 days	2 hrs	1141	1143	Information Security Architect / Privacy Data Protection Officer[50%],
1143	1.6.2.3.(	Revise Security Plan From QA Review Feedback	7/27/20	7/29/20	2 days	16 hrs	1142	1144	Information Security Architect / Privacy Data Protection Officer
1144	1.6.2.3.(	Schedule & Conduct Meeting With DHHR to Review Sec	7/29/20	7/29/20	0.25 days	2 hrs	1143	1145	DHHR[0%],Information Security Architect / Privacy Data Protection C
1145	1.6.2.3.(	Submit Security Plan to DHHR For Review (10 Days)	7/29/20	8/12/20	10 days	0.1 hrs	1144	1147	Documentation Management Lead[0%],DHHR[0%]
1146	**1.6.2.3.(**	**Cycle 2: Security Plan (FINAL)**	**8/12/20**	**8/26/20**	**10 days**	**140.01 hrs**			
1147	1.6.2.3.(	Revise Security Plan From DHHR Comments Log (5 Day	8/12/20	8/19/20	5 days	140 hrs	1145	1148	Information Security Architect / Privacy Data Protection Officer[50%],
1148	1.6.2.3.(	Submit Security Plan to DHHR for Final Review (5 Days)	8/19/20	8/26/20	5 days	0.01 hrs	1147	1149	Documentation Management Lead[0%],DHHR[0%]
1149	*1.6.2.3.(	***Milestone Deliverable D026: Security Plan Approved by DHHR***	*8/26/20*	*8/26/20*	*0 days*	*0 hrs*	*1148,1137*	*1353,34*	Account - Project Manager or Asst PM
1150	**1.6.2.3.**	**D027 Deliverable: Security, Privacy and Confidentiality Pl**	**3/3/20**	**4/29/20**	**41.85 days**	**205.02 hrs**			
1151	1.6.2.3.'	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	3/3/20	3/3/20	0.2 days	3 hrs	3	1154,1152	Information Security Architect / Privacy Data Protection Officer[94%],Account - Project Manager or Asst PM[94%]
1152	1.6.2.3.'	Assign Meeting Scribes to Take Meeting Minutes & Record IRAAD Items	3/3/20	3/3/20	0.2 days	3 hrs	1151	1154	Tech Writer and Scribe-Tester-QA
1153	**1.6.2.3.'**	**Cycle 1: Security, Privacy and Confidentiality Plan**	**3/3/20**	**4/15/20**	**31.45 days**	**179.01 hrs**			
1154	1.6.2.3.'	Develop Draft Security, Privacy and Confidentiality Plan	3/3/20	3/31/20	20 days	160 hrs	1152,1151	1155	Information Security Architect / Privacy Data Protection Officer[50%],
1155	1.6.2.3.'	Schedule & Conduct Internal Meeting with QA	3/31/20	3/31/20	0.2 days	3 hrs	1154	1156	Information Security Architect / Privacy Data Protection Officer[94%],
1156	1.6.2.3.'	Revise Security, Privacy and Confidentiality Plan From QA Review Feedback	3/31/20	4/1/20	1 day	8 hrs	1155	1157	Information Security Architect / Privacy Data Protection Officer
1157	1.6.2.3.'	Schedule & Conduct Meeting With DHHR to Review Security, Privacy and Confidentiality Plan	4/1/20	4/1/20	0.25 days	8 hrs	1156	1158	DHHR[0%],Information Security Architect / Privacy Data Protection Officer[133%],Account - Project Manager or Asst PM,Tech Writer
1158	1.6.2.3.'	Submit Security, Privacy and Confidentiality Plan to DHHR For Review (10 Days) [within 30 days after	4/1/20	4/15/20	10 days	0.01 hrs	1157	1160,461FS days	Documentation Management Lead[0%],DHHR[0%]
1159	**1.6.2.3.'**	**Cycle 2: Security, Privacy and Confidentiality Plan (FINA**	**4/15/20**	**4/29/20**	**10 days**	**20.01 hrs**			
1160	1.6.2.3.'	Revise Security, Privacy and Confidentiality Plan From DHHR Comments Log (5 Days)	4/15/20	4/22/20	5 days	20 hrs	1158	1161	Information Security Architect / Privacy Data Protection Officer[50%]
1161	1.6.2.3.'	Submit Security, Privacy and Confidentiality Plan to DHHR for Final Review (5 Days)	4/22/20	4/29/20	5 days	0.01 hrs	1160	1162	Documentation Management Lead[0%],DHHR[0%]
1162	*1.6.2.3.'	***Milestone Deliverable D027: Security, Privacy and Confidentiality Plan Approved by DHHR***	*4/29/20*	*4/29/20*	*0 days*	*0 hrs*	*1161*	*1353,35,177*	Account - Project Manager or Asst PM
1163	**1.6.2.3.!**	**D028 Deliverable: System Backup and Record Retention F**	**6/3/20**	**7/10/20**	**26.85 days**	**208.42 hrs**			
1164	1.6.2.3.!	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	6/3/20	6/3/20	0.25 days	4 hrs	1081	1168,1166	Technical Lead,Account - Project Manager or Asst PM
1165	1.6.2.3.!	Assign Meeting Scribes to Take Meeting Minutes & Record IRAAD Items	6/3/20	6/3/20	0.25 days	2 hrs	1081	1168,1166	Tech Writer and Scribe-Tester-QA
1166	1.6.2.3.!	Application Administrator Support	6/3/20	6/25/20	16 days	130 hrs	1165,1164	1174	Application Administrator[6%],Tech Writer and Scribe-Tester-QA
1167	**1.6.2.3.!**	**Cycle 1: System Backup and Record Retention Plan**	**6/3/20**	**6/25/20**	**16.6 days**	**22.41 hrs**			
1168	1.6.2.3.!	Develop Draft System Backup and Record Retention Plar	6/3/20	6/10/20	5 days	8 hrs	1165,1164	1169	Technical Lead[20%]
1169	1.6.2.3.!	Schedule & Conduct Internal Meeting with QA	6/10/20	6/10/20	0.1 days	1.6 hrs	1168	1170	Quality Assurance Manager,Technical Lead

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1170	1.6.2.3.1	Revise System Backup and Record Retention Plan From QA Review Feedback	6/10/20	6/11/20	1 day	8 hrs	1169	1171	Technical Lead
1171	1.6.2.3.1	Schedule & Conduct Meeting With DHHR to Review System Backup and Record Retention Plan	6/11/20	6/11/20	0.5 days	4.8 hrs	1170	1172	DHHR[0%],Technical Lead[40%],Account - Project Manager or Asst PM[40%],Tech Writer and Scribe-Tester-QA[40%]
1172	1.6.2.3.1	Submit System Backup and Record Retention Plan to DHHR For Review (10 Days)	6/11/20	6/25/20	10 days	0.01 hrs	1171	1174	Documentation Management Lead[0%],DHHR[0%]
1173	1.6.2.3.1	**Cycle 2: System Backup and Record Retention Plan (FIN**	6/25/20	7/10/20	10 days	50.01 hrs			
1174	1.6.2.3.1	Revise System Backup and Record Retention Plan From DHHR Comments Log (5 Days)	6/25/20	7/2/20	5 days	50 hrs	1172,1166	1175	Application Administrator[6%],Tech Writer and Scribe-Tester-QA[75%]
1175	1.6.2.3.1	Submit System Backup and Record Retention Plan to DHHR for Final Review (5 Days)	7/2/20	7/10/20	5 days	0.01 hrs	1174	1176	Documentation Management Lead[0%],DHHR[0%]
1176	*1.6.2.3.1*	*Milestone Deliverable D028: System Backup and Record Retention Plan Approved by DHHR*	*7/10/20*	*7/10/20*	*0 days*	*0 hrs*	*1175*	*1353,36*	Account - Project Manager or Asst PM
1177	1.6.2.4	**Phase 1 EDS Solution Planning - Data Source Requirements Validation**	3/26/20	8/19/20	102.65 days	1,951.09 hrs			
1178	1.6.2.4.1	**Requirements Sessions Planning - Phase 1 EDS**	3/26/20	4/10/20	11.75 days	118 hrs			
1179	1.6.2.4.1	Create a Schedule For Requirements Sessions	3/26/20	4/2/20	5 days	18 hrs	849,850	1180	Technical Lead[20%],Business Lead or Analysts[20%],Documentatio
1180	1.6.2.4.1	Schedule & Meet With DHHR Regarding Requirements Sessions Schedule & A List of DHHR Attendees	4/2/20	4/2/20	0.5 days	8 hrs	1179	1181	Documentation Management Lead,DHHR[0%],Account - Project Manager or Asst PM
1181	1.6.2.4.1	Revise Schedule Based on Feedback From DHHR	4/2/20	4/3/20	1 day	10 hrs	1180	1182	Technical Lead[56%],Business Lead or Analysts[56%],Documentatio
1182	1.6.2.4.1	Reserve Meeting or Conference Rooms For EDS Requirements Sessions & Send Invites	4/3/20	4/3/20	0.25 days	2 hrs	1181	1183	Account - Project Manager or Asst PM
1183	1.6.2.4.1	Prepare Requirements Sessions Materials	4/3/20	4/10/20	5 days	80 hrs	1182	1193FS+1 d	Technical Lead,Business Lead or Analysts
1184	1.6.2.4.1	**Requirements Sessions - Validate Requirements - Phase 1 EDS 2 weeks for Requirement Validation and the 3rd week for Misc follow-up**	4/10/20	6/9/20	41 days	562.19 hrs			
1185	1.6.2.4.1	**Requirements Session 1: Care Management**	4/10/20	4/13/20	1 day	10 hrs			
1186	1.6.2.4.1	Conduct Care Management Requirements Session	4/10/20	4/13/20	0.25 days	4 hrs	1183	1187	DHHR[0%],Business Lead or Analysts[200%]
1187	1.6.2.4.1	Record Care Management Data Requirements Session M	4/13/20	4/13/20	0.25 days	2 hrs	1186	1188	Tech Writer and Scribe-Tester-QA
1188	1.6.2.4.1	Record and Track IRAAD-C & Change Requests (if needed) Care Management Data Items	4/13/20	4/13/20	0.25 days	2 hrs	1187	1189	Tech Writer and Scribe-Tester-QA
1189	1.6.2.4.1	Send Requirements Meeting Notes For Member Eligibility to DHHR & Post to Liferay	4/13/20	4/13/20	0.25 days	2 hrs	1188	1193,1191	Tech Writer and Scribe-Tester-QA
1190	1.6.2.4.1	**Requirements Sessions 2: Data Sources, Delivery & Displa**	4/13/20	6/9/20	40 days	464.94 hrs			
1191	1.6.2.4.1	Data Modeler and DBA Review	4/13/20	6/9/20	40 days	160 hrs	1183FS+1 day,11	292FF	Sr. DBA and DBA,ETL Team Lead - Specialists - Operations - Data Mod
1192	1.6.2.4.1	**MMIS Member Eligibility (FFS, CHIP, MCO) Data**	4/13/20	4/14/20	1.2 days	28.81 hrs			
1193	1.6.2.4.1	Conduct Member Eligibility Requirements Session	4/13/20	4/14/20	0.5 days	24 hrs	1183FS+1 day,	1194	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1194	1.6.2.4.1	Record MMIS Member Eligibility Data Requirements S	4/14/20	4/14/20	0.5 days	4 hrs	1193	1195	Tech Writer and Scribe-Tester-QA
1195	1.6.2.4.1	Record and Track IRAAD-C & Change Requests (if needed) MMIS Member Eligibility Data Items	4/14/20	4/14/20	0.1 days	0.8 hrs	1194	1196	Tech Writer and Scribe-Tester-QA
1196	1.6.2.4.1	Send Requirements Meeting Notes For Member Eligibility to DHHR & Post to Liferay	4/14/20	4/14/20	0.1 days	0.01 hrs	1195	1198,1292	DHHR[0%],Tech Writer and Scribe-Tester-QA
1197	1.6.2.4.1	**MMIS Provider, Provider Enrollment & Ownership (FF**	4/14/20	4/17/20	2.1 days	52.81 hrs			
1198	1.6.2.4.1	Conduct Provider, Provider Enrollment & Ownership Requirements Session	4/14/20	4/15/20	1 day	48 hrs	1196	1199	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality Assurance Manager,Report
1199	1.6.2.4.1	Record MMIS Provider, Provider Enrollment & Ownership Requirements Meeting Notes	4/15/20	4/16/20	1 day	4 hrs	1198	1200,1201	Tech Writer and Scribe-Tester-QA
1200	1.6.2.4.1	Record and Track IRAAD-C & Change Requests (if needed) MMIS Provider, Provider Enrollment &	4/16/20	4/17/20	0.1 days	0.01 hrs	1199	1203	Tech Writer and Scribe-Tester-QA[10%]
1201	1.6.2.4.1	Send MMIS Provider, Provider Enrollment & Ownership Data Meeting Notes to DHHR	4/16/20	4/17/20	0.1 days	0.8 hrs	1199	1206,1292	DHHR[0%],Tech Writer and Scribe-Tester-QA
1202	1.6.2.4.1	**MMIS Medical Claims (FFS, CHIP, MCO) Data**	4/17/20	4/21/20	2.02 days	54 hrs			
1203	1.6.2.4.1	Conduct MMIS Medical Claims Requirements Session	4/17/20	4/20/20	1 day	48 hrs	1200	1204	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1204	1.6.2.4.1	Record MMIS Medical Claims Requirements Meeting M	4/20/20	4/21/20	1 day	4 hrs	1203	1205	Tech Writer and Scribe-Tester-QA
1205	1.6.2.4.1	Record and Track IRAAD-C & Change Requests (if needed) MMIS Medical Claims Data Items	4/21/20	4/21/20	0.01 days	1 hr	1204	1206	Tech Writer and Scribe-Tester-QA
1206	1.6.2.4.1	Send MMIS Medical Claims Data Meeting Notes to DH	4/21/20	4/21/20	0.01 days	1 hr	1201,1205	1208,1292	DHHR[0%],Tech Writer and Scribe-Tester-QA
1207	1.6.2.4.1	**MMIS Dental Claims (FFS, CHIP, MCO) Data**	4/21/20	4/21/20	0.52 days	14.02 hrs			
1208	1.6.2.4.1	Conduct MMIS Dental Claims Requirements Session	4/21/20	4/21/20	0.25 days	12 hrs	1206	1209	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1209	1.6.2.4.1	Record MMIS Dental Claims Requirements Meeting N	4/21/20	4/21/20	0.25 days	2 hrs	1208	1210,1211	Tech Writer and Scribe-Tester-QA
1210	1.6.2.4.1	Record and Track IRAAD-C & Change Requests (if needed) MMIS Dental Claims Data Items	4/21/20	4/21/20	0.01 days	0.01 hrs	1209	1211	Tech Writer and Scribe-Tester-QA

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1211	1.6.2.4.:	Send MMIS Dental Claims Data Meeting Notes to DHH	4/21/20	4/21/20	0.01 days	0.01 hrs	1209,1210	1213,1292	DHHR[6%],Documentation Management Lead[6%]
1212	1.6.2.4.:	**MMIS Pharmacy Claims (FFS, CHIP, MCO) Data**	**4/21/20**	**4/22/20**	**0.52 days**	**14.02 hrs**			
1213	1.6.2.4.:	Conduct MMIS Pharmacy Claims Requirements Sessio	4/21/20	4/21/20	0.25 days	12 hrs	1211	1214	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1214	1.6.2.4.:	Record MMIS Pharmacy Claims Requirements Meetin	4/21/20	4/22/20	0.25 days	2 hrs	1213	1215,1216	Tech Writer and Scribe-Tester-QA
1215	1.6.2.4.:	Record and Track IRAAD-C MMIS & Change Requests (if needed) Pharmacy Claims Data Items	4/22/20	4/22/20	0.01 days	0.01 hrs	1214	1216	Tech Writer and Scribe-Tester-QA
1216	1.6.2.4.:	Send MMIS Pharmacy Claims Data Meeting Notes to D	4/22/20	4/22/20	0.01 days	0.01 hrs	1214,1215	1218,1292	DHHR[6%],Documentation Management Lead[6%]
1217	1.6.2.4.:	**MMIS Financial Capitation (FFS & CHIP) Data**	**4/22/20**	**4/24/20**	**2.02 days**	**52.02 hrs**			
1218	1.6.2.4.:	Conduct MMIS Financial Capitation Requirements Ses	4/22/20	4/23/20	1 day	48 hrs	1216	1219	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1219	1.6.2.4.:	Record MMIS Financial Data Requirements Meeting N	4/23/20	4/24/20	1 day	4 hrs	1218	1220,1221	Tech Writer and Scribe-Tester-QA
1220	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) MMIS Financial Data Items	4/24/20	4/24/20	0.01 days	0.01 hrs	1219	1221	Tech Writer and Scribe-Tester-QA
1221	1.6.2.4.:	Send MMIS Financial Data Meeting Notes to DHHR	4/24/20	4/24/20	0.01 days	0.01 hrs	1219,1220	1223,1292	DHHR[6%],Documentation Management Lead[6%]
1222	1.6.2.4.:	**MMIS Prior Authorization (FFS, CHIP) Data**	**4/24/20**	**4/24/20**	**0.52 days**	**14.01 hrs**			
1223	1.6.2.4.:	Conduct MMIS Prior Authorization Requirements Sess	4/24/20	4/24/20	0.25 days	12 hrs	1221	1224	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1224	1.6.2.4.:	Record MMIS PA Data Requirements Meeting Notes	4/24/20	4/24/20	0.25 days	2 hrs	1223	1225,1226	Tech Writer and Scribe-Tester-QA
1225	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) MMIS PA Data Items	4/24/20	4/24/20	0.01 days	0.01 hrs	1224	1226	Tech Writer and Scribe-Tester-QA
1226	1.6.2.4.:	Send MMIS PA Data Meeting Notes to DHHR	4/24/20	4/24/20	0.01 days	0 hrs	1224,1225	1228,1292	DHHR[6%],Documentation Management Lead[0%]
1227	1.6.2.4.:	**PEIA - Public Employees Insurance Agency Medical C**	**4/24/20**	**4/28/20**	**2.02 days**	**52.09 hrs**			
1228	1.6.2.4.:	Conduct PEIA Medical Claims Data Requirements Ses	4/24/20	4/27/20	1 day	48 hrs	1226	1229	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1229	1.6.2.4.:	Record PEIA Medical Claims Data Requirements Meet	4/27/20	4/28/20	1 day	4 hrs	1228	1230	Tech Writer and Scribe-Tester-QA
1230	1.6.2.4.:	Record and Track IRAAD-C PEIA Medical Claims Data	4/28/20	4/28/20	0.01 days	0.08 hrs	1229	1231	Tech Writer and Scribe-Tester-QA
1231	1.6.2.4.:	Send PEIA Medical Claims Data Meeting Notes to DH	4/28/20	4/28/20	0.01 days	0.01 hrs	1230	1233,1292	DHHR[6%],Documentation Management Lead[6%]
1232	1.6.2.4.:	**PEIA - Public Employees Insurance Agency Pharmac**	**4/28/20**	**4/29/20**	**0.52 days**	**14.08 hrs**			
1233	1.6.2.4.:	Conduct PEIA Pharmacy Claims Requirements Sessio	4/28/20	4/28/20	0.25 days	12 hrs	1231	1234	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1234	1.6.2.4.:	Record PEIA Pharmacy Claims Data Requirements Me	4/28/20	4/29/20	0.25 days	2 hrs	1233	1235,1236	Tech Writer and Scribe-Tester-QA
1235	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) PEIA Pharmacy Claims Data Items	4/29/20	4/29/20	0.01 days	0.08 hrs	1234	1236	Tech Writer and Scribe-Tester-QA
1236	1.6.2.4.:	Send PEIA Pharmacy Data Meeting Notes to DHHR	4/29/20	4/29/20	0.01 days	0 hrs	1234,1235	1238,1292	DHHR[6%],Documentation Management Lead[0%]
1237	1.6.2.4.:	**HSC - Health Statistics Center Birth Data**	**4/29/20**	**4/29/20**	**0.22 days**	**5.61 hrs**			
1238	1.6.2.4.:	Conduct HSC Birth Data Requirements Session	4/29/20	4/29/20	0.1 days	4.8 hrs	1236	1239	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1239	1.6.2.4.:	Record HSC Birth Data Requirements Meeting Notes	4/29/20	4/29/20	0.1 days	0.8 hrs	1238	1240	Tech Writer and Scribe-Tester-QA
1240	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) HCS Birth Data Items	4/29/20	4/29/20	0.01 days	0.01 hrs	1239	1241	Tech Writer and Scribe-Tester-QA
1241	1.6.2.4.:	Send HSC Requirements Birth Data Meeting Notes to I	4/29/20	4/29/20	0.01 days	0 hrs	1240	1243,1292	DHHR[0%],Documentation Management Lead[6%]
1242	1.6.2.4.:	**HSC - Health Statistics Center Death Data**	**4/29/20**	**4/29/20**	**0.04 days**	**3.45 hrs**			
1243	1.6.2.4.:	Conduct HSC Death Data Requirements Session	4/29/20	4/29/20	0.01 days	3.36 hrs	1241	1244	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1244	1.6.2.4.:	Record HSC Death Data Requirements Meeting Notes	4/29/20	4/29/20	0.01 days	0.08 hrs	1243	1245,1246	Tech Writer and Scribe-Tester-QA
1245	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) HCS Death Data Items	4/29/20	4/29/20	0.01 days	0.01 hrs	1244	1246	Tech Writer and Scribe-Tester-QA
1246	1.6.2.4.:	Send HSC Requirements Death Data Meeting Notes to	4/29/20	4/29/20	0.01 days	0 hrs	1244,1245	1248,1292	DHHR[0%],Documentation Management Lead[6%]
1247	1.6.2.4.	**Requirements Session 3: Data Quality**	**4/29/20**	**4/30/20**	**1 day**	**13.63 hrs**			
1248	1.6.2.4.:	Conduct Data Quality Requirements Session	4/29/20	4/29/20	0.25 days	11.5 hrs	1246	1249	Technical Lead,Business Lead or Analysts[200%],DHHR[0%],Quality
1249	1.6.2.4.:	Record Data Quality Data Requirements Session Meetin	4/29/20	4/29/20	0.25 days	2 hrs	1248	1250	Tech Writer and Scribe-Tester-QA
1250	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) Data Quality Data Items	4/29/20	4/30/20	0.25 days	0.01 hrs	1249	1251	Tech Writer and Scribe-Tester-QA
1251	1.6.2.4.:	Send Requirements Meeting Notes For Data Quality to DI	4/30/20	4/30/20	0.25 days	0.12 hrs	1250	1292	DHHR[6%],Documentation Management Lead[0%]
1252	1.6.2.4.	**Requirements Session 4: Solution Backup, Disaster Recove**	**4/10/20**	**4/14/20**	**2 days**	**10.25 hrs**			
1253	1.6.2.4.:	Conduct Solution Backup, Disaster Recovery & Failover F	4/10/20	4/13/20	0.5 days	6 hrs	1183	1254	Information Security Architect / Privacy Data Protection Officer[50%
1254	1.6.2.4.:	Record Solution Backup, Disaster Recovery & Failover Data Requirements Session Meeting Notes	4/13/20	4/13/20	0.5 days	4 hrs	1253	1255	Tech Writer and Scribe-Tester-QA
1255	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) Solution Backup, Disaster Recovery & Failover Data Items	4/13/20	4/14/20	0.5 days	0.01 hrs	1254	1256	Tech Writer and Scribe-Tester-QA
1256	1.6.2.4.:	Send Requirements Meeting Notes For Solution Backup, Disaster Recovery & Failover Data to DHHR & Post to	4/14/20	4/14/20	0.5 days	0.24 hrs	1255	1258,1292	DHHR[0%],Documentation Management Lead[6%]
1257	1.6.2.4.	**Requirements Session 5: Financial Management**	**4/14/20**	**4/16/20**	**2 days**	**16.24 hrs**			
1258	1.6.2.4.:	Conduct Financial Management Requirements Session	4/14/20	4/15/20	0.5 days	8 hrs	1256	1259	Business Lead or Analysts[200%],DHHR[0%]

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1259	1.6.2.4.:	Record Financial Management Data Requirements Sessi	4/15/20	4/15/20	0.5 days	4 hrs	1258	1260	Tech Writer and Scribe-Tester-QA
1260	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) Financial Management Data Items	4/15/20	4/16/20	0.5 days	4 hrs	1259	1261	Tech Writer and Scribe-Tester-QA
1261	1.6.2.4.:	Send Requirements Meeting Notes For Financial Management to DHHR & Post to Liferay	4/16/20	4/16/20	0.5 days	0.24 hrs	1260	1263,1292	DHHR[0%],Documentation Management Lead[6%]
1262	1.6.2.4.	**Requirements Session 6: Hardware and Infrastructure**	**4/16/20**	**4/20/20**	**2 days**	**12.24 hrs**			
1263	1.6.2.4.:	Conduct Hardware and Infrastructure Requirements Sess	4/16/20	4/17/20	0.5 days	4 hrs	1261	1264	Technical Lead,DHHR[0%]
1264	1.6.2.4.:	Record Hardware and Infrastructure Data Requirements Session Meeting Notes	4/17/20	4/17/20	0.5 days	4 hrs	1263	1265	Tech Writer and Scribe-Tester-QA
1265	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) Hardware and Infrastructure Data Items	4/17/20	4/20/20	0.5 days	4 hrs	1264	1266	Tech Writer and Scribe-Tester-QA
1266	1.6.2.4.:	Send Requirements Meeting Notes For Hardware and Infrastructure to DHHR & Post to Liferay	4/20/20	4/20/20	0.5 days	0.24 hrs	1265	1268,1292	DHHR[0%],Documentation Management Lead[6%]
1267	1.6.2.4.	**Requirements Session 7: Operations**	**4/20/20**	**4/22/20**	**2 days**	**12.24 hrs**			
1268	1.6.2.4.:	Conduct Operations Requirements Session	4/20/20	4/21/20	0.5 days	4 hrs	1266	1269	Implementation/Operations Manager,DHHR[0%]
1269	1.6.2.4.:	Record Operations Data Requirements Session Meeting I	4/21/20	4/21/20	0.5 days	4 hrs	1268	1270	Tech Writer and Scribe-Tester-QA
1270	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) Operations Data Items	4/21/20	4/22/20	0.5 days	4 hrs	1269	1271	Tech Writer and Scribe-Tester-QA
1271	1.6.2.4.:	Send Requirements Meeting Notes For Operations to DH	4/22/20	4/22/20	0.5 days	0.24 hrs	1270	1273,1292	DHHR[0%],Documentation Management Lead[6%]
1272	1.6.2.4.	**Requirements Session 8: Program & Project Management**	**4/22/20**	**4/23/20**	**1 day**	**10.13 hrs**			
1273	1.6.2.4.:	Conduct Program and Project Management Requirement	4/22/20	4/23/20	0.25 days	8 hrs	1271	1274	Documentation Management Lead,Implementation/Operations Mar
1274	1.6.2.4.:	Record Program & Project Management Data Requirements Session Meeting Notes	4/23/20	4/23/20	0.25 days	2 hrs	1273	1275	Tech Writer and Scribe-Tester-QA
1275	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) Program Management Data Items	4/23/20	4/23/20	0.25 days	0.01 hrs	1274	1276	Tech Writer and Scribe-Tester-QA
1276	1.6.2.4.:	Send Requirements Meeting Notes For Program & Project Management to DHHR & Post to Liferay	4/23/20	4/23/20	0.25 days	0.12 hrs	1275	1278,1294,1	DHHR[0%],Documentation Management Lead[6%]
1277	1.6.2.4.	**Requirements Session 9: Security Management**	**4/23/20**	**4/24/20**	**1 day**	**5.13 hrs**			
1278	1.6.2.4.:	Conduct Security Management Requirements Session	4/23/20	4/24/20	0.25 days	3 hrs	1276	1279	Information Security Architect / Privacy Data Protection Officer[50%]
1279	1.6.2.4.:	Record Security Management Data Requirements Sessio	4/24/20	4/24/20	0.25 days	2 hrs	1278	1280	Tech Writer and Scribe-Tester-QA
1280	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) Security Management Data Items	4/24/20	4/24/20	0.25 days	0.01 hrs	1279	1281	Tech Writer and Scribe-Tester-QA
1281	1.6.2.4.:	Send Requirements Meeting Notes For Security Management to DHHR & Post to Liferay	4/24/20	4/24/20	0.25 days	0.12 hrs	1280	1283,1292	DHHR[0%],Documentation Management Lead[6%]
1282	1.6.2.4.	**Requirements Session 10: Training**	**4/24/20**	**4/27/20**	**1 day**	**4.13 hrs**			
1283	1.6.2.4.:	Conduct Training Management Requirements Session	4/24/20	4/27/20	0.25 days	2 hrs	1281	1284	Training Lead,DHHR[0%]
1284	1.6.2.4.:	Record Training Management Data Requirements Sessio	4/27/20	4/27/20	0.25 days	2 hrs	1283	1285	Tech Writer and Scribe-Tester-QA
1285	1.6.2.4.:	Record and Track IRAAD-C & Change Requests (if needed) Training Management Data Items	4/27/20	4/27/20	0.25 days	0.01 hrs	1284	1286	Tech Writer and Scribe-Tester-QA[40%]
1286	1.6.2.4.:	Send Requirements Meeting Notes For Training Management to DHHR & Post to Liferay	4/27/20	4/27/20	0.25 days	0.12 hrs	1285	1288,1292	DHHR[0%],Documentation Management Lead[6%]
1287	1.6.2.4.:	**Requirements Session 11: Service Level Agreements (S**	**4/27/20**	**4/28/20**	**0.4 days**	**3.26 hrs**			
1288	1.6.2.4.:	Conduct HSC SLA Requirements Session	4/27/20	4/27/20	0.1 days	2.4 hrs	1286	1342,1289	Technical Lead,Business Lead or Analysts[200%],DHHR[0%]
1289	1.6.2.4.:	Record SLA Requirements Meeting Notes	4/27/20	4/27/20	0.1 days	0.8 hrs	1288	1290	Tech Writer and Scribe-Tester-QA
1290	1.6.2.4.:	Record and Track IRAAD-C SLA Items & Change Reque	4/27/20	4/28/20	0.1 days	0.01 hrs	1289	1291	Tech Writer and Scribe-Tester-QA
1291	1.6.2.4.:	Send HSC Requirements SLA Meeting Notes to DHHR	4/28/20	4/28/20	0.1 days	0.05 hrs	1290	1698,1710,1	DHHR[0%],Documentation Management Lead[6%]
1292	1.6.2.4.:	*Milestone: Requirement Sessions Complete*	6/9/20	6/9/20	0 days	0 hrs	1196,1201,120	1296,1308,1	Account - Project Manager or Asst PM
1293	1.6.2.4.:	**D021 Deliverable: Requirements Gap Analysis Document - Phase 1 EDS**	**4/23/20**	**7/16/20**	**57.9 days**	**96.82 hrs**			
1294	1.6.2.4.:	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	4/23/20	4/24/20	0.25 days	10 hrs	1276	1296	Technical Lead,Business Lead or Analysts[200%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA,DHHR[0%]
1295	1.6.2.4.	**Cycle 1: Requirements Gap Analysis Document**	**6/9/20**	**7/1/20**	**15.9 days**	**56.81 hrs**			
1296	1.6.2.4.:	Develop Draft Requirements Gap Analysis	6/9/20	6/16/20	5 days	40 hrs	1294,1292	1297	Business Lead or Analysts[200%]
1297	1.6.2.4.:	Schedule & Conduct Internal Meeting with QA	6/16/20	6/16/20	0.2 days	3.2 hrs	1296	1298	Quality Assurance Manager,Business Lead or Analysts
1298	1.6.2.4.:	Revise Requirements Gap Analysis From QA Review Feed	6/16/20	6/17/20	0.2 days	1.6 hrs	1297	1299	Business Lead or Analysts

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1299	1.6.2.4.	Schedule & Conduct Meeting With DHHR to Review Requirements Gap Analysis	6/17/20	6/17/20	0.5 days	12 hrs	1298	1300	Technical Lead,Business Lead or Analysts,DHHR[0%],Account - Project Manager or Asst PM
1300	1.6.2.4.	Submit Requirements Gap Analysis to DHHR For Review (	6/17/20	7/1/20	10 days	0.01 hrs	1299	1302	Documentation Management Lead[0%],DHHR[0%]
1301	**1.6.2.4.**	**Cycle 2: Requirements Gap Analysis (FINAL)**	**7/1/20**	**7/16/20**	**10 days**	**30.01 hrs**			
1302	1.6.2.4.	Revise Requirements Gap Analysis From DHHR Comment	7/1/20	7/9/20	5 days	30 hrs	1300	1303	Business Lead or Analysts[75%]
1303	1.6.2.4.	Submit Requirements Gap Analysis to DHHR for Final Rev	7/9/20	7/16/20	5 days	0.01 hrs	1302	1304	DHHR[0%],Documentation Management Lead[0%]
1304	*1.6.2.4.*	*Milestone Deliverable D021: Requirements Gap Analysis Approved by DHHR*	*7/16/20*	*7/16/20*	*0 days*	*0 hrs*	*1303*	*28,1353,133*	Account - Project Manager or Asst PM
1305	**1.6.2.4.**	**D022 Deliverable: Requirements Management Plan - Phase 1 EDS**	**4/10/20**	**7/17/20**	**67.5 days**	**198.02 hrs**			
1306	1.6.2.4.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	4/10/20	4/13/20	0.25 days	20 hrs	1183	1308	Technical Lead[200%],Business Lead or Analysts[200%],Account - Project Manager or Asst PM,Tech Writer and
1307	**1.6.2.4.**	**Cycle 1: Requirements Management Plan**	**6/9/20**	**7/2/20**	**16.5 days**	**58.01 hrs**			
1308	1.6.2.4.	Develop Draft Requirements Management Plan	6/9/20	6/16/20	5 days	40 hrs	1306,1292	1309,1318	Business Lead or Analysts
1309	1.6.2.4.	Schedule & Conduct Internal Meeting with QA	6/16/20	6/17/20	0.25 days	4 hrs	1308	1310	Quality Assurance Manager,Business Lead or Analysts
1310	1.6.2.4.	Revise Requirements Management Plan From QA Review	6/17/20	6/18/20	1 day	8 hrs	1309	1311	Business Lead or Analysts
1311	1.6.2.4.	Schedule & Conduct Meeting With DHHR to Review Requirements Management Plan	6/18/20	6/18/20	0.25 days	6 hrs	1310	1312	Technical Lead,Business Lead or Analysts,DHHR[0%],Account - Project Manager or Asst PM
1312	1.6.2.4.	Submit Requirements Management Plan to DHHR For Re	6/18/20	7/2/20	10 days	0.01 hrs	1311	1314	Documentation Management Lead[0%],DHHR[0%]
1313	**1.6.2.4.**	**Cycle 2: Requirements Management Plan (FINAL)**	**7/2/20**	**7/17/20**	**10 days**	**120.01 hrs**			
1314	1.6.2.4.	Revise Requirements Management Plan From DHHR Comments Log (5 Days)	7/2/20	7/10/20	5 days	120 hrs	1312	1315	Business Lead or Analysts[300%]
1315	1.6.2.4.	Submit Requirements Management Plan to DHHR for Fin	7/10/20	7/17/20	5 days	0.01 hrs	1314	1316	DHHR[0%],Documentation Management Lead[0%]
1316	*1.6.2.4.*	*Milestone Deliverable D022: Requirements Management Plan Approved by DHHR*	*7/17/20*	*7/17/20*	*0 days*	*0 hrs*	*1315*	*29,1353*	Account - Project Manager or Asst PM
1317	**1.6.2.4.**	**D024 Deliverable: Requirements Traceability Matrix (RTM) - Phase 1 EDS**	**6/16/20**	**7/28/20**	**28.25 days**	**320.02 hrs**			
1318	1.6.2.4.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	6/16/20	6/17/20	0.5 days	12 hrs	1308	1320	Business Lead or Analysts,DHHR[0%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1319	**1.6.2.4.**	**Cycle 1: Requirements Traceability Matrix (RTM)**	**6/17/20**	**7/14/20**	**17.75 days**	**148.01 hrs**			
1320	1.6.2.4.	Develop Draft RTM	6/17/20	6/24/20	5 days	120 hrs	1318	1321	Business Lead or Analysts[300%]
1321	1.6.2.4.	Schedule & Conduct Internal Meeting with QA	6/24/20	6/24/20	0.25 days	4 hrs	1320	1322	Quality Assurance Manager,Business Lead or Analysts
1322	1.6.2.4.	Revise RTM From QA Review Feedback	6/24/20	6/26/20	2 days	16 hrs	1321	1323	Business Lead or Analysts
1323	1.6.2.4.	Schedule & Conduct Meeting With DHHR to Review RTM	6/26/20	6/29/20	0.5 days	8 hrs	1322	1324	DHHR[0%],Business Lead or Analysts,Tech Writer and Scribe-Tester-(
1324	1.6.2.4.	Submit RTM to DHHR For Review (10 Days)	6/29/20	7/14/20	10 days	0.01 hrs	1323	1326	DHHR[0%],Documentation Management Lead[0%]
1325	**1.6.2.4.**	**Cycle 2: Requirements Traceability Matrix (RTM) (FINAL)**	**7/14/20**	**7/28/20**	**10 days**	**160.01 hrs**			
1326	1.6.2.4.	Revise RTM From DHHR Comments Log (5 Days)	7/14/20	7/21/20	5 days	160 hrs	1324	1327	Business Lead or Analysts[300%],Tech Writer and Scribe-Tester-QA
1327	1.6.2.4.	Submit RTM to DHHR for Final Review (5 Days)	7/21/20	7/28/20	5 days	0.01 hrs	1326	1328	Documentation Management Lead[0%],DHHR[0%]
1328	*1.6.2.4.*	*Milestone Deliverable D024: Requirements Traceability Matrix (RTM) Approved by DHHR*	*7/28/20*	*7/28/20*	*0 days*	*0 hrs*	*1327*	***32,1353***	Account - Project Manager or Asst PM
1329	**1.6.2.4.**	**D029 Deliverable: System Requirement Document/Backlog User Stories Phase 1 EDS**	**7/16/20**	**8/19/20**	**24 days**	**500.02 hrs**			
1330	1.6.2.4.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	7/16/20	7/16/20	0.25 days	2 hrs	1304	1332	DHHR[0%],Account - Project Manager or Asst PM
1331	**1.6.2.4.**	**Cycle 1: System Requirement Document/Backlog User Sto**	**7/16/20**	**8/5/20**	**13.75 days**	**218.01 hrs**			
1332	1.6.2.4.	Develop Draft System Requirement Document/Backlog U	7/16/20	7/21/20	3 days	192 hrs	1330	1333	Technical Lead,Account - Project Manager or Asst PM,Documentatio
1333	1.6.2.4.	Schedule & Conduct Internal Meeting with QA	7/21/20	7/22/20	0.25 days	4 hrs	1332	1334	Quality Assurance Manager,Technical Lead
1334	1.6.2.4.	Revise System Requirement Document/Backlog User Stories From QA Review Feedback	7/22/20	7/22/20	0.25 days	16 hrs	1333	1335	Technical Lead,Account - Project Manager or Asst PM,Documentation Management Lead,ETL Team Lead - Specialists -
1335	1.6.2.4.	Schedule & Conduct Meeting With DHHR to Review System Requirements Document/Backlog User Stories	7/22/20	7/22/20	0.25 days	6 hrs	1334	1336	Technical Lead,DHHR[0%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1336	1.6.2.4.	Submit System Requirement Document/Backlog User Stories to DHHR For Review (10 Days)	7/22/20	8/5/20	10 days	0.01 hrs	1335	1338	Documentation Management Lead[0%],DHHR[0%]
1337	1.6.2.4.	**Cycle 2: System Backup and Record Retention Plan (FINAL)**	**8/5/20**	**8/19/20**	**10 days**	**280.01 hrs**			
1338	1.6.2.4.	Revise System Requirement Document/Backlog User Stories From DHHR Comments Log (5 Days)	8/5/20	8/12/20	5 days	280 hrs	1336	1339	Technical Lead,Account - Project Manager or Asst PM,Documentation Management Lead,Implementation/Operations
1339	1.6.2.4.	Submit System Requirements Document/Backlog User Stories to DHHR for Final Review (5 Days)	8/12/20	8/19/20	5 days	0.01 hrs	1338	1340	Documentation Management Lead[0%],DHHR[0%]
1340	*1.6.2.4.*	***Milestone Deliverable D029: System Requirement Document/Backlog User Stories Approved by DHHR***	***8/19/20***	***8/19/20***	***0 days***	***0 hrs***	***1339***	***37,1353***	Account - Project Manager or Asst PM
1341	1.6.2.4.	**D023 Deliverable: Requirements Specification Document (RSD) - Phase 1 EDS**	**4/27/20**	**7/17/20**	**58.65 days**	**156.02 hrs**			
1342	1.6.2.4.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	4/27/20	4/28/20	0.5 days	16 hrs	1288	1344	DHHR[0%],Business Lead or Analysts[200%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1343	1.6.2.4.	**Cycle 1: Requirements Specification Document**	**6/9/20**	**7/2/20**	**16.75 days**	**60.01 hrs**			
1344	1.6.2.4.	Develop Draft Requirements Specification Document	6/9/20	6/16/20	5 days	40 hrs	1342,1292	1345	Business Lead or Analysts
1345	1.6.2.4.	Schedule & Conduct Internal Meeting with QA	6/16/20	6/17/20	0.5 days	8 hrs	1344	1346	Quality Assurance Manager,Business Lead or Analysts
1346	1.6.2.4.	Revise Requirements Specification Document From QA R	6/17/20	6/18/20	1 day	8 hrs	1345	1347	Business Lead or Analysts
1347	1.6.2.4.	Schedule & Conduct Meeting With DHHR to Review Requirements Specification Document	6/18/20	6/18/20	0.25 days	4 hrs	1346	1348	DHHR[0%],Business Lead or Analysts,Tech Writer and Scribe-Tester-QA
1348	1.6.2.4.	Submit Requirements Specification Document to DHHR F	6/18/20	7/2/20	10 days	0.01 hrs	1347	1350	Documentation Management Lead[0%],DHHR[0%]
1349	1.6.2.4.	**Cycle 2: Requirements Specification Document (FINAL)**	**7/2/20**	**7/17/20**	**10 days**	**80.01 hrs**			
1350	1.6.2.4.	Revise Requirements Specification Document From DHHR Comments Log (5 Days)	7/2/20	7/10/20	5 days	80 hrs	1348	1351	Business Lead or Analysts[200%]
1351	1.6.2.4.	Submit Requirements Specification Document to DHHR for Final Review (5 Days)	7/10/20	7/17/20	5 days	0.01 hrs	1350	1352	DHHR[0%],Documentation Management Lead[0%]
1352	*1.6.2.4.*	***Milestone Deliverable D023: Requirements Specification Document Approved by DHHR***	***7/17/20***	***7/17/20***	***0 days***	***0 hrs***	***1351***	***31,1353***	Account - Project Manager or Asst PM
1353	*1.6.2.5*	***Milestone: Phase 1 EDS Requirements Validation Phase Approved By DHHR***	***8/26/20***	***8/26/20***	***0 days***	***0 hrs***	***1176,1162,114***	***2104***	Account - Project Manager or Asst PM
1354	1.6.3	**Phase 1: Solution, Design, Testing and Operations Task Group (EDS)**	**3/3/20**	**3/2/21**	**253.26 days**	**27,465.86 hrs**			
1355	1.6.3.1	**Phase 1 EDS Infrastructure, Environments & Tools**	**3/3/20**	**11/30/20**	**189.73 days**	**3,765.39 hrs**			
1356	1.6.3.1.	**EDS Infrastructure Environments**	**3/3/20**	**11/30/20**	**189.73 days**	**3,765.39 hrs**			
1357	1.6.3.1.	**EDS Production (PROD) Environment**	**3/3/20**	**5/29/20**	**62.41 days**	**649.79 hrs**			
1358	1.6.3.1.	**Data Ingestion Readiness**	**3/3/20**	**5/29/20**	**62.41 days**	**511.79 hrs**			
1359	1.6.3.1.	**Azure Cloud - Data Connectivity PROD**	**3/3/20**	**3/24/20**	**15.46 days**	**178.67 hrs**			
1360	1.6.3.1.	Set Up Cloud Account	3/3/20	3/6/20	3.3 days	24 hrs	727	1361	Application Administrator[40%],Implementation/Operations Manager[
1361	1.6.3.1.	Set up Azure AD and Initial Authentication	3/6/20	3/9/20	1 day	8 hrs	1360	1362	Application Administrator[50%],Information Security Architect / Privac
1362	1.6.3.1.	Infrastructure Requirement & Design	3/9/20	3/12/20	3.16 days	40 hrs	1361	1363	Sr. DBA and DBA,Technical Lead,ETL Team Lead - Specialists - Ope
1363	1.6.3.1.	Set Up Security in PROD Environment	3/12/20	3/17/20	3 days	40 hrs	1362	1364	Application Administrator[83%],Information Security Architect / Privac
1364	1.6.3.1.	Tier 0 Cloud Services Configuration	3/17/20	3/24/20	5 days	66.67 hrs	1363	1366	Application Administrator[83%],Information Security Architect / Privac
1365	1.6.3.1.	**Secure Connection to DHHR PROD**	**3/24/20**	**3/31/20**	**5.13 days**	**24.96 hrs**			
1366	1.6.3.1.	Set up SFTP/MFT access	3/24/20	3/25/20	1.13 days	14.98 hrs	1364	1367	Application Administrator[83%],Information Security Architect / Privac
1367	1.6.3.1.	Configure and secure SFTP/MFT	3/25/20	3/27/20	2 days	4.99 hrs	1366	1368	Application Administrator[16%],Information Security Architect / Privac
1368	1.6.3.1.	Test SFTP/MFT	3/27/20	3/31/20	2 days	4.99 hrs	1367	1370,1425	Application Administrator[16%],Information Security Architect / Privac
1369	1.6.3.1.	**Install Virtual Desktop PROD**	**3/31/20**	**4/6/20**	**4 days**	**20 hrs**			
1370	1.6.3.1.	Configure Virtual Desktop	3/31/20	4/1/20	1 day	4 hrs	1368	1371	Application Administrator[50%]
1371	1.6.3.1.	Secure Virtual Desktop Per MARS-E Requirements	4/1/20	4/2/20	0.5 days	4 hrs	1370	1372	Application Administrator
1372	1.6.3.1.	Install Required Desktop Tools	4/2/20	4/6/20	2 days	8 hrs	1371	1373	Application Administrator[50%]
1373	1.6.3.1.	Test Virtual Desktop	4/6/20	4/6/20	0.5 days	4 hrs	1372	1375	Application Administrator
1374	1.6.3.1.	**Azure Synapse DW PROD**	**4/6/20**	**4/15/20**	**6.4 days**	**52.8 hrs**			
1375	1.6.3.1.	Synapse Infrastructure Design	4/6/20	4/8/20	2 days	12.8 hrs	1373	1376	Application Administrator[20%],Sr. DBA and DBA[20%],Technical Le

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1376	1.6.3.1.	Configure Azure Synapse DW	4/8/20	4/13/20	2.4 days	32 hrs	1375	1377	Sr. DBA and DBA
1377	1.6.3.1.	Test Azure Synapse DW	4/13/20	4/14/20	1.5 days	4 hrs	1376	1378	Sr. DBA and DBA[33%]
1378	1.6.3.1.	Create Initial Database for Data Ingestion	4/14/20	4/15/20	0.5 days	4 hrs	1377	1380	Sr. DBA and DBA
1379	**1.6.3.1.**	**Azure SQL DB and Oracle PROD**	**4/15/20**	**4/20/20**	**3 days**	**24 hrs**			
1380	1.6.3.1.	Configure Microsoft SQL	4/15/20	4/16/20	1 day	8 hrs	1378	1381	Sr. DBA and DBA
1381	1.6.3.1.	Test Microsoft SQL and Oracle	4/16/20	4/17/20	1 day	8 hrs	1380	1382	Sr. DBA and DBA
1382	1.6.3.1.	Open and Connect to Database	4/17/20	4/20/20	1 day	8 hrs	1381	1384	Sr. DBA and DBA
1383	**1.6.3.1.**	**erwin Data Modeler PROD**	**4/20/20**	**4/21/20**	**1.5 days**	**8 hrs**			
1384	1.6.3.1.	Install erwin Data Modeler	4/20/20	4/21/20	1 day	4 hrs	1382	1385	Application Administrator[50%]
1385	1.6.3.1.	Test erwin Data Modeler	4/21/20	4/21/20	0.5 days	4 hrs	1384	1387	ETL Team Lead - Specialists - Operations - Data Modeler
1386	**1.6.3.1.**	**Informatica PROD**	**4/21/20**	**4/28/20**	**4.5 days**	**32 hrs**			
1387	1.6.3.1.	Install Informatica PowerCenter, Data QUALITY	4/21/20	4/22/20	1 day	8 hrs	1385	1388	Application Administrator
1388	1.6.3.1.	Configure Informatica	4/22/20	4/23/20	1 day	8 hrs	1387	1389	ETL Team Lead - Specialists - Operations - Data Modeler
1389	1.6.3.1.	Set Up Informatica on Virtual Desktop	4/23/20	4/24/20	1 day	8 hrs	1388	1390	Application Administrator
1390	1.6.3.1.	Test Informatica	4/24/20	4/27/20	1 day	4 hrs	1389	1391	ETL Team Lead - Specialists - Operations - Data Modeler
1391	1.6.3.1.	Connect Informatica to Azure Synapse	4/27/20	4/28/20	0.5 days	4 hrs	1390	1393,1432	ETL Team Lead - Specialists - Operations - Data Modeler
1392	**1.6.3.1.**	**Portal - OPAHHS/Provider/Member PROD**	**4/28/20**	**5/4/20**	**4.5 days**	**36 hrs**			
1393	1.6.3.1.	Install Liferay	4/28/20	4/29/20	1 day	8 hrs	1391	1394	Application Administrator,Liferay Developer
1394	1.6.3.1.	Portal Configuration	4/29/20	4/29/20	0.5 days	4 hrs	1393	1395	Application Administrator[50%],Liferay Developer[50%]
1395	1.6.3.1.	Set Up User Access & Security Roles	4/29/20	5/1/20	2 days	16 hrs	1394	1396	Application Administrator[33%],Information Security Architect / Privac
1396	1.6.3.1.	Test Configuration and User Access	5/1/20	5/4/20	1 day	8 hrs	1395	1465,1398	Application Administrator,Liferay Developer
1397	**1.6.3.1.**	**DevSuite On-line Tool PROD**	**5/4/20**	**5/7/20**	**3 days**	**24 hrs**			
1398	1.6.3.1.	Install DevSuite Online Tool	5/4/20	5/5/20	1 day	8 hrs	1396	1399	Test Manager - Testers - QA Specialists
1399	1.6.3.1.	Configure DevSuite	5/5/20	5/6/20	1 day	8 hrs	1398	1400	Test Manager - Testers - QA Specialists
1400	1.6.3.1.	Test DevSuite	5/6/20	5/7/20	1 day	8 hrs	1399	1402	Test Manager - Testers - QA Specialists
1401	**1.6.3.1.**	**Tableau and Cognos PROD**	**5/7/20**	**5/12/20**	**3 days**	**24 hrs**			
1402	1.6.3.1.	Setup Tableau on Virtual Desktops and Cognos	5/7/20	5/8/20	1 day	8 hrs	1400	1403	Application Administrator
1403	1.6.3.1.	Test Access	5/8/20	5/11/20	0.5 days	4 hrs	1402	1404	Report Analyst or Tableau Developer
1404	1.6.3.1.	Setup Tableau and Cognos on Servers	5/11/20	5/12/20	1 day	8 hrs	1403	1405	Report Analyst or Tableau Developer
1405	1.6.3.1.	Test Access	5/12/20	5/12/20	0.5 days	4 hrs	1404	1407	Report Analyst or Tableau Developer
1406	**1.6.3.1.**	**Symmetry Suite PROD**	**5/12/20**	**5/19/20**	**5 days**	**32 hrs**			
1407	1.6.3.1.	Install Symmetry	5/12/20	5/13/20	1 day	8 hrs	1405	1408	Application Administrator
1408	1.6.3.1.	Configure Symmetry Suite	5/13/20	5/15/20	2 days	8 hrs	1407	1409	ETL Team Lead - Specialists - Operations - Data Modeler
1409	1.6.3.1.	Test Symmetry	5/15/20	5/19/20	2 days	16 hrs	1408	1411	Test Manager - Testers - QA Specialists
1410	**1.6.3.1.**	**OPAHHS ML PROD**	**5/19/20**	**5/21/20**	**1.75 days**	**14 hrs**			
1411	1.6.3.1.	OPAHHS ML Services	5/19/20	5/20/20	1 day	8 hrs	1409	1412	Report Analyst or Tableau Developer
1412	1.6.3.1.	Configure ML Services	5/20/20	5/21/20	0.5 days	4 hrs	1411	1413	Report Analyst or Tableau Developer
1413	1.6.3.1.	Test ML Results	5/21/20	5/21/20	0.25 days	2 hrs	1412	1415	Test Manager - Testers - QA Specialists
1414	**1.6.3.1.**	**Rstudio PROD**	**5/21/20**	**5/26/20**	**2.17 days**	**17.36 hrs**			
1415	1.6.3.1.	Install Rstudio	5/21/20	5/22/20	1 day	8 hrs	1413	1416	Application Administrator
1416	1.6.3.1.	Configure Rstudio	5/22/20	5/22/20	0.5 days	4 hrs	1415	1417	Report Analyst or Tableau Developer
1417	1.6.3.1.	Configure DB Connections	5/22/20	5/26/20	0.5 days	4 hrs	1416	1418	Sr. DBA and DBA
1418	1.6.3.1.	Test Results	5/26/20	5/26/20	0.17 days	1.36 hrs	1417	1420	Business Lead or Analysts
1419	**1.6.3.1.**	**Power BI PROD**	**5/26/20**	**5/29/20**	**3 days**	**24 hrs**			
1420	1.6.3.1.	Set Up Power BI Pro on Virtual Desktop	5/26/20	5/27/20	0.5 days	4 hrs	1418	1421	Application Administrator
1421	1.6.3.1.	Configure Power BI Embedded	5/27/20	5/28/20	1 day	8 hrs	1420	1422	Report Analyst or Tableau Developer
1422	1.6.3.1.	Configure Azure Synapse Connections	5/28/20	5/28/20	0.5 days	4 hrs	1421	1423	Sr. DBA and DBA
1423	1.6.3.1.	Test Power BI	5/28/20	5/29/20	1 day	8 hrs	1422	1435	Test Manager - Testers - QA Specialists
1424	**1.6.3.1.**	**Portal Liferay Document Repository**	**3/31/20**	**4/7/20**	**4.5 days**	**54 hrs**			
1425	1.6.3.1.	Schedule & Conduct Meeting With DHHR to Confirm Document Transfer	3/31/20	4/1/20	1 day	16 hrs	1368	1426	Liferay Developer,DHHR[0%],Account - Project Manager or Asst PM
1426	1.6.3.1.	Install Liferay	4/1/20	4/2/20	1 day	8 hrs	1425	1427	Application Administrator,Liferay Developer
1427	1.6.3.1.	Portal Configuration	4/2/20	4/3/20	0.5 days	2 hrs	1426	1429,1428	Application Administrator,Liferay Developer
1428	1.6.3.1.	Set Up Liferay Libraries and Routing Rules	4/3/20	4/6/20	1 day	8 hrs	1427	1430	Liferay Developer

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1429	1.6.3.1.	Set Up User Access & Security Roles	4/3/20	4/6/20	1 day	16 hrs	1427	1430	Application Administrator,Documentation Management Lead,Informat
1430	1.6.3.1.	Test Configuration and User Access	4/6/20	4/7/20	1 day	4 hrs	1429,1428	1435	Application Administrator
1431	**1.6.3.1.**	**Master Data Management (MDM) Integration**	**4/28/20**	**5/19/20**	**15 days**	**84 hrs**			
1432	1.6.3.1.	Identify MDM API/ETL	4/28/20	5/5/20	5 days	24 hrs	1391	1433	Application Administrator[20%],ETL Team Lead - Specialists - Opera
1433	1.6.3.1.	Build MDM API/ETL	5/5/20	5/12/20	5 days	40 hrs	1432	1434	ETL Team Lead - Specialists - Operations - Data Modeler
1434	1.6.3.1.	Test MDM Integration	5/12/20	5/19/20	5 days	20 hrs	1433	1435	ETL Team Lead - Specialists - Operations - Data Modeler[50%]
1435	*1.6.3.1.*	*Milestone: Phase 1 EDS PROD Environment Complete*	*5/29/20*	*5/29/20*	*0 days*	*0 hrs*	*1423,1430,143*	*1439,1460,1*	Account - Project Manager or Asst PM
1436	1.6.3.1.	OPAHHS and Liferay Setup PROD	5/29/20	6/26/20	20 days	320 hrs	1435	1491	Report Analyst or Tableau Developer,Liferay Developer
1437	**1.6.3.1.**	**EDS DEV Environment (Unit Test, Integration Test, Iterative Functional Test)**	**5/29/20**	**6/29/20**	**20.29 days**	**252.69 hrs**			
1438	**1.6.3.1.**	**Build DEV Environment**	**5/29/20**	**6/2/20**	**2 days**	**16 hrs**			
1439	1.6.3.1.	Configure Virtual Desktop	5/29/20	6/1/20	0.5 days	4 hrs	1435	1440	Application Administrator
1440	1.6.3.1.	Install Required Desktop Tools	6/1/20	6/2/20	1 day	8 hrs	1439	1441	Application Administrator
1441	1.6.3.1.	Test Virtual Desktop	6/2/20	6/2/20	0.5 days	4 hrs	1440	1443	Test Manager - Testers - QA Specialists
1442	**1.6.3.1.**	**Azure Synapse DW DEV**	**6/2/20**	**6/5/20**	**3 days**	**24 hrs**			
1443	1.6.3.1.	Configure Synapse DW	6/2/20	6/3/20	1 day	8 hrs	1441	1444	Sr. DBA and DBA
1444	1.6.3.1.	Test Synapse DW	6/3/20	6/4/20	1 day	8 hrs	1443	1445	Sr. DBA and DBA
1445	1.6.3.1.	Open and Connect to Database	6/4/20	6/5/20	1 day	8 hrs	1444	1447	Sr. DBA and DBA
1446	**1.6.3.1.**	**Azure SQL and Oracle DB - DEV**	**6/5/20**	**6/10/20**	**3 days**	**10 hrs**			
1447	1.6.3.1.	Configure Microsoft SQL and Oracle	6/5/20	6/5/20	0.25 days	2 hrs	1445	1448	Sr. DBA and DBA
1448	1.6.3.1.	Test Microsoft SQL and Oracle	6/5/20	6/8/20	0.25 days	4 hrs	1447	1449	Sr. DBA and DBA,Test Manager - Testers - QA Specialists
1449	1.6.3.1.	Open and Connect to Database	6/8/20	6/10/20	2.5 days	4 hrs	1448	1451	Sr. DBA and DBA[20%]
1450	**1.6.3.1.**	**erwin Data Modeler DEV**	**6/10/20**	**6/12/20**	**1.5 days**	**8 hrs**			
1451	1.6.3.1.	Install erwin Data Modeler	6/10/20	6/11/20	1 day	4 hrs	1449	1452	Application Administrator[50%]
1452	1.6.3.1.	Test erwin Data Modeler	6/11/20	6/12/20	0.5 days	4 hrs	1451	1454	ETL Team Lead - Specialists - Operations - Data Modeler
1453	**1.6.3.1.**	**Informatica DEV**	**6/12/20**	**6/22/20**	**6.5 days**	**35 hrs**			
1454	1.6.3.1.	Install Informatica	6/12/20	6/16/20	2 days	15 hrs	1452	1455	Application Administrator[94%]
1455	1.6.3.1.	Configure Informatica	6/16/20	6/17/20	1 day	4 hrs	1454	1456	Application Administrator[50%]
1456	1.6.3.1.	Set Up Informatica on Virtual Desktop	6/17/20	6/19/20	2 days	8 hrs	1455	1457	Application Administrator[50%]
1457	1.6.3.1.	Test Informatica	6/19/20	6/19/20	0.5 days	4 hrs	1456	1458	ETL Team Lead - Specialists - Operations - Data Modeler
1458	1.6.3.1.	Connect Informatica to Azure Synapse	6/19/20	6/22/20	1 day	4 hrs	1457	1487	Application Administrator[50%]
1459	**1.6.3.1.**	**Portal - OPAHHS/Provider/Member DEV**	**5/29/20**	**6/5/20**	**4.5 days**	**40 hrs**			
1460	1.6.3.1.	Install Liferay	5/29/20	6/1/20	1 day	8 hrs	1435	1461	Application Administrator,Liferay Developer
1461	1.6.3.1.	Portal Configuration	6/1/20	6/2/20	0.5 days	4 hrs	1460	1462	Application Administrator[50%],Liferay Developer[50%]
1462	1.6.3.1.	Set Up User Access & Security Roles	6/2/20	6/4/20	2 days	16 hrs	1461	1463	Application Administrator[33%],Information Security Architect / Privac
1463	1.6.3.1.	Test Configuration and User Access	6/4/20	6/5/20	1 day	12 hrs	1462	1465	Liferay Developer,Test Manager - Testers - QA Specialists
1464	**1.6.3.1.**	**DevSuite On-line Tool DEV**	**6/5/20**	**6/10/20**	**3 days**	**24 hrs**			
1465	1.6.3.1.	Install DevSuite Online Tool	6/5/20	6/8/20	1 day	8 hrs	1463,1396	1466	Test Manager - Testers - QA Specialists
1466	1.6.3.1.	Configure DevSuite	6/8/20	6/9/20	1 day	8 hrs	1465	1467	Test Manager - Testers - QA Specialists
1467	1.6.3.1.	Test DevSuite	6/9/20	6/10/20	1 day	8 hrs	1466	1469	Test Manager - Testers - QA Specialists
1468	**1.6.3.1.**	**Tableau and Cognos DEV**	**6/10/20**	**6/15/20**	**3 days**	**24 hrs**			
1469	1.6.3.1.	Setup Tableau on Virtual Desktops and Cognos	6/10/20	6/11/20	1 day	8 hrs	1467	1470	Application Administrator
1470	1.6.3.1.	Test Access	6/11/20	6/11/20	0.5 days	4 hrs	1469	1471	Report Analyst or Tableau Developer
1471	1.6.3.1.	Setup Tableau and Cognos on Servers	6/11/20	6/12/20	1 day	8 hrs	1470	1472	Application Administrator
1472	1.6.3.1.	Test Access	6/12/20	6/15/20	0.5 days	4 hrs	1471	1474	Report Analyst or Tableau Developer
1473	**1.6.3.1.**	**Symmetry Suite DEV**	**6/15/20**	**6/18/20**	**3.25 days**	**18 hrs**			
1474	1.6.3.1.	Install Symmetry	6/15/20	6/16/20	1 day	8 hrs	1472	1475	Application Administrator
1475	1.6.3.1.	Configure Symmetry Suite	6/16/20	6/18/20	2 days	8 hrs	1474	1476	ETL Team Lead - Specialists - Operations - Data Modeler
1476	1.6.3.1.	Test Symmetry	6/18/20	6/18/20	0.25 days	2 hrs	1475	1478	Test Manager - Testers - QA Specialists
1477	**1.6.3.1.**	**OPAHHS ML DEV**	**6/18/20**	**6/22/20**	**1.75 days**	**14 hrs**			
1478	1.6.3.1.	OPAHHS ML Services	6/18/20	6/19/20	1 day	8 hrs	1476	1479	Report Analyst or Tableau Developer
1479	1.6.3.1.	Configure ML Services	6/19/20	6/19/20	0.5 days	4 hrs	1478	1480	Report Analyst or Tableau Developer
1480	1.6.3.1.	Test ML Results	6/19/20	6/22/20	0.25 days	2 hrs	1479	1482	Test Manager - Testers - QA Specialists
1481	**1.6.3.1.**	**Rstudio DEV**	**6/22/20**	**6/23/20**	**1.8 days**	**15.69 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1482	1.6.3.1.	Install Rstudio	6/22/20	6/23/20	1 day	8 hrs	1480	1483	Application Administrator
1483	1.6.3.1.	Configure Rstudio	6/23/20	6/23/20	0.5 days	4 hrs	1482	1484	Report Analyst or Tableau Developer
1484	1.6.3.1.	Configure DB Connections	6/23/20	6/23/20	0.13 days	1 hr	1483	1485	Application Administrator
1485	1.6.3.1.	Test Results	6/23/20	6/23/20	0.17 days	2.69 hrs	1484	1487	Technical Lead[98%],Test Manager - Testers - QA Specialists
1486	**1.6.3.1.**	**Power BI DEV**	**6/23/20**	**6/26/20**	**3 days**	**24 hrs**			
1487	1.6.3.1.	Set Up Power BI Pro on Virtual Desktop	6/23/20	6/24/20	0.5 days	4 hrs	1485,1458	1488	Application Administrator
1488	1.6.3.1.	Configure Power BI Embedded	6/24/20	6/25/20	1 day	8 hrs	1487	1489	Report Analyst or Tableau Developer
1489	1.6.3.1.	Configure Azure Synapse Connections	6/25/20	6/25/20	0.5 days	4 hrs	1488	1490	Sr. DBA and DBA
1490	1.6.3.1.	Test Power BI	6/25/20	6/26/20	1 day	8 hrs	1489	1491	Test Manager - Testers - QA Specialists
1491	***1.6.3.1.***	***Milestone: Phase 1 EDS DEV Environment Complete***	***6/26/20***	***6/26/20***	***0 days***	***0 hrs***	***1490,1436***	***1495,1492***	Account - Project Manager or Asst PM
1492	1.6.3.1.	OPAHHS and Liferay Setup DEV	6/26/20	7/20/20	15 days	240 hrs	1491	1540	Report Analyst or Tableau Developer,Liferay Developer
1493	**1.6.3.1.**	**EDS SIT Environment (System Integration Test)**	**6/26/20**	**7/23/20**	**17.6 days**	**214.67 hrs**			
1494	**1.6.3.1.**	**Build SIT Environment**	**6/26/20**	**6/30/20**	**2 days**	**16 hrs**			
1495	1.6.3.1.	Configure Virtual Desktop	6/26/20	6/29/20	0.5 days	4 hrs	1491	1496	Application Administrator
1496	1.6.3.1.	Install Required Desktop Tools	6/29/20	6/30/20	1 day	8 hrs	1495	1497	Application Administrator
1497	1.6.3.1.	Test Virtual Desktop	6/30/20	6/30/20	0.5 days	4 hrs	1496	1499	Test Manager - Testers - QA Specialists
1498	**1.6.3.1.**	**Azure Synapse DW SIT**	**6/30/20**	**7/7/20**	**3.5 days**	**20 hrs**			
1499	1.6.3.1.	Configure Azure Synapse DE	6/30/20	7/2/20	2 days	8 hrs	1497	1500	Sr. DBA and DBA
1500	1.6.3.1.	Test Azure Synapse DW	7/2/20	7/6/20	0.5 days	4 hrs	1499	1501	Sr. DBA and DBA
1501	1.6.3.1.	Open and Connect to Database	7/6/20	7/7/20	1 day	8 hrs	1500	1503	Sr. DBA and DBA
1502	**1.6.3.1.**	**Azure SQL and Oracle DB SIT**	**7/7/20**	**7/8/20**	**1.25 days**	**10 hrs**			
1503	1.6.3.1.	Configure SQL and Oracle DB	7/7/20	7/7/20	0.25 days	2 hrs	1501	1504	Sr. DBA and DBA
1504	1.6.3.1.	Test SQL DB and Oracle	7/7/20	7/8/20	0.5 days	4 hrs	1503	1505	Sr. DBA and DBA
1505	1.6.3.1.	Open and Connect to Database	7/8/20	7/8/20	0.5 days	4 hrs	1504	1507	Sr. DBA and DBA
1506	**1.6.3.1.**	**erwin Data Modeler SIT**	**7/8/20**	**7/10/20**	**1.5 days**	**6 hrs**			
1507	1.6.3.1.	Install erwin Data Modeler	7/8/20	7/9/20	1 day	4 hrs	1505	1508	Application Administrator[50%]
1508	1.6.3.1.	Test erwin Data Modeler	7/9/20	7/10/20	0.5 days	2 hrs	1507	1510,1515,1	Application Administrator[50%]
1509	**1.6.3.1.**	**Informatica SIT**	**7/10/20**	**7/13/20**	**1.75 days**	**14 hrs**			
1510	1.6.3.1.	Configure Informatica	7/10/20	7/13/20	1 day	8 hrs	1508	1511	Application Administrator
1511	1.6.3.1.	Test Informatica	7/13/20	7/13/20	0.25 days	2 hrs	1510	1512	ETL Team Lead - Specialists - Operations - Data Modeler
1512	1.6.3.1.	Connect Informatica to SQL Database	7/13/20	7/13/20	0.25 days	2 hrs	1511	1513	ETL Team Lead - Specialists - Operations - Data Modeler
1513	1.6.3.1.	Connect Informatica to Azure Synapse	7/13/20	7/13/20	0.25 days	2 hrs	1512	1540	ETL Team Lead - Specialists - Operations - Data Modeler
1514	**1.6.3.1.**	**DevSuite On-line Tool SIT**	**7/10/20**	**7/14/20**	**2 days**	**16 hrs**			
1515	1.6.3.1.	Configure DevSuite	7/10/20	7/13/20	1 day	8 hrs	1508	1516	Test Manager - Testers - QA Specialists
1516	1.6.3.1.	Test DevSuite	7/13/20	7/14/20	1 day	8 hrs	1515	1540	Test Manager - Testers - QA Specialists
1517	**1.6.3.1.**	**Tableau and Cognos SIT**	**7/10/20**	**7/14/20**	**2 days**	**16 hrs**			
1518	1.6.3.1.	Configure Tableau and Cognos Server	7/10/20	7/13/20	1 day	8 hrs	1508	1519	Application Administrator
1519	1.6.3.1.	Test Access	7/13/20	7/14/20	1 day	8 hrs	1518	1521,1526,1	Report Analyst or Tableau Developer
1520	**1.6.3.1.**	**Portal OPAHHS/Provider/Member SIT**	**7/14/20**	**7/17/20**	**3.5 days**	**34.67 hrs**			
1521	1.6.3.1.	Install Liferay	7/14/20	7/15/20	1 day	8 hrs	1519	1522	Application Administrator,Liferay Developer
1522	1.6.3.1.	Configure Web Server Applications	7/15/20	7/15/20	0.5 days	4 hrs	1521	1523	Application Administrator,Liferay Developer
1523	1.6.3.1.	Test Web Server Applications	7/15/20	7/16/20	1 day	10.67 hrs	1522	1524	Information Security Architect / Privacy Data Protection Officer,Lifera
1524	1.6.3.1.	Test Configuration and User Access	7/16/20	7/17/20	1 day	12 hrs	1523	1540	Liferay Developer,Test Manager - Testers - QA Specialists
1525	**1.6.3.1.**	**Symmetry Suite SIT**	**7/14/20**	**7/20/20**	**4 days**	**24 hrs**			
1526	1.6.3.1.	Configure Symmetry Suite	7/14/20	7/16/20	2 days	8 hrs	1519	1527	ETL Team Lead - Specialists - Operations - Data Modeler
1527	1.6.3.1.	Test Symmetry	7/16/20	7/20/20	2 days	16 hrs	1526	1540	Test Manager - Testers - QA Specialists
1528	**1.6.3.1.**	**OPAHHS ML SIT**	**7/14/20**	**7/15/20**	**1.75 days**	**14 hrs**			
1529	1.6.3.1.	OPAHHS ML Services	7/14/20	7/15/20	1 day	8 hrs	1519	1530	Report Analyst or Tableau Developer
1530	1.6.3.1.	Configure ML Services	7/15/20	7/15/20	0.5 days	4 hrs	1529	1531	Report Analyst or Tableau Developer
1531	1.6.3.1.	Test ML Results	7/15/20	7/15/20	0.25 days	2 hrs	1530	1533,2614,2	Test Manager - Testers - QA Specialists
1532	**1.6.3.1.**	**Rstudio SIT**	**7/15/20**	**7/16/20**	**1 day**	**8 hrs**			
1533	1.6.3.1.	Configure DB Connections	7/15/20	7/16/20	0.5 days	4 hrs	1531	1534	Sr. DBA and DBA
1534	1.6.3.1.	Test Rstudio Access From Virtual Desktop	7/16/20	7/16/20	0.5 days	4 hrs	1533	1536	Test Manager - Testers - QA Specialists
1535	**1.6.3.1.**	**Power BI SIT**	**7/16/20**	**7/23/20**	**4.5 days**	**36 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1536	1.6.3.1.	Set Up Power BI Pro on Virtual Desktop	7/16/20	7/17/20	1 day	8 hrs	1534	1537	Application Administrator
1537	1.6.3.1.	Configure Power BI Embedded	7/17/20	7/21/20	2 days	16 hrs	1536	1538	Report Analyst or Tableau Developer
1538	1.6.3.1.	Configure Azure Synapse Connections	7/21/20	7/22/20	1 day	8 hrs	1537	1539	Sr. DBA and DBA
1539	1.6.3.1.	Test Power BI	7/22/20	7/23/20	0.5 days	4 hrs	1538	1540	Test Manager - Testers - QA Specialists
1540	*1.6.3.1.*	***Milestone: Phase 1 EDS SIT Environment Complete***	***7/23/20***	***7/23/20***	***0 days***	***0 hrs***	***1539,1513,151***	***1544,1987,1***	Account - Project Manager or Asst PM
1541	1.6.3.1.	OPAHHS and Liferay Setup SIT	7/23/20	9/3/20	30 days	480 hrs	1540	1595	Report Analyst or Tableau Developer,Liferay Developer
1542	**1.6.3.1.**	**EDS UAT Environment (Interface Test, Regression Test, E2E Test, Security Test, Usability Test, Accessibility Test, Browser Test & UAT)**	**7/23/20**	**9/4/20**	**31.67 days**	**260.08 hrs**			
1543	**1.6.3.1.**	**Build UAT Environment**	**7/23/20**	**7/27/20**	**2 days**	**14 hrs**			
1544	1.6.3.1.	Configure Virtual Desktop	7/23/20	7/23/20	0.5 days	2 hrs	1540	1545	Application Administrator
1545	1.6.3.1.	Install Required Desktop Tools	7/23/20	7/24/20	1 day	8 hrs	1544	1546	Application Administrator
1546	1.6.3.1.	Test Virtual Desktop	7/24/20	7/27/20	0.5 days	4 hrs	1545	1548	Test Manager - Testers - QA Specialists
1547	**1.6.3.1.**	**Azure Synapse DW UAT**	**7/27/20**	**7/30/20**	**3 days**	**24 hrs**			
1548	1.6.3.1.	Configure Synapse DW	7/27/20	7/28/20	1 day	8 hrs	1546	1549	Sr. DBA and DBA
1549	1.6.3.1.	Test Synapse DW	7/28/20	7/29/20	1 day	8 hrs	1548	1550	Sr. DBA and DBA
1550	1.6.3.1.	Open and Connect to Database	7/29/20	7/30/20	1 day	8 hrs	1549	1552	Sr. DBA and DBA
1551	**1.6.3.1.**	**Azure SQL and Oracle DB UAT**	**7/30/20**	**7/31/20**	**1.25 days**	**10 hrs**			
1552	1.6.3.1.	Configure Microsoft SQL and Oracle	7/30/20	7/30/20	0.25 days	2 hrs	1550	1553	Sr. DBA and DBA
1553	1.6.3.1.	Test Microsoft DQL and Oracle	7/30/20	7/31/20	0.5 days	4 hrs	1552	1554	Sr. DBA and DBA
1554	1.6.3.1.	Open and Connect to Database	7/31/20	7/31/20	0.5 days	4 hrs	1553	1556	Sr. DBA and DBA
1555	**1.6.3.1.**	**erwin Data Modeler UAT**	**7/31/20**	**8/3/20**	**1.25 days**	**6 hrs**			
1556	1.6.3.1.	Install erwin Data Modeler on Jump Server	7/31/20	8/3/20	1 day	4 hrs	1554	1557	Application Administrator[50%]
1557	1.6.3.1.	Test erwin Data Modeler	8/3/20	8/3/20	0.25 days	2 hrs	1556	1559	ETL Team Lead - Specialists - Operations - Data Modeler
1558	**1.6.3.1.**	**Informatica UAT**	**8/3/20**	**8/6/20**	**3 days**	**24 hrs**			
1559	1.6.3.1.	Install Informatica	8/3/20	8/4/20	1 day	8 hrs	1557	1560	Application Administrator
1560	1.6.3.1.	Configure Informatica	8/4/20	8/5/20	1 day	8 hrs	1559	1561	ETL Team Lead - Specialists - Operations - Data Modeler
1561	1.6.3.1.	Test Informatica	8/5/20	8/6/20	0.5 days	4 hrs	1560	1562	ETL Team Lead - Specialists - Operations - Data Modeler
1562	1.6.3.1.	Connect Informatica to Azure Database	8/6/20	8/6/20	0.5 days	4 hrs	1561	1564	ETL Team Lead - Specialists - Operations - Data Modeler
1563	**1.6.3.1.**	**DevSuite On-line Tool UAT**	**8/6/20**	**8/11/20**	**3 days**	**24 hrs**			
1564	1.6.3.1.	Install DevSuite Online Tool	8/6/20	8/7/20	1 day	8 hrs	1562	1565	Test Manager - Testers - QA Specialists
1565	1.6.3.1.	Configure DevSuite	8/7/20	8/10/20	1 day	8 hrs	1564	1566	Test Manager - Testers - QA Specialists
1566	1.6.3.1.	Test DevSuite	8/10/20	8/11/20	1 day	8 hrs	1565	1568	Test Manager - Testers - QA Specialists
1567	**1.6.3.1.**	**Tableau and Cognos UAT**	**8/11/20**	**8/14/20**	**3 days**	**24 hrs**			
1568	1.6.3.1.	Set Up Tableau on Virtual Desktop and Cognos	8/11/20	8/12/20	1 day	8 hrs	1566	1569	Application Administrator
1569	1.6.3.1.	Test Access	8/12/20	8/13/20	0.5 days	4 hrs	1568	1570	Report Analyst or Tableau Developer
1570	1.6.3.1.	Set Up Tableau and Cognos on Servers	8/13/20	8/14/20	1 day	8 hrs	1569	1571	Report Analyst or Tableau Developer
1571	1.6.3.1.	Test Access	8/14/20	8/14/20	0.5 days	4 hrs	1570	1573	Report Analyst or Tableau Developer
1572	**1.6.3.1.**	**Portal OPAHHS/Provider/Member UAT**	**8/14/20**	**8/18/20**	**1.92 days**	**36.08 hrs**			
1573	1.6.3.1.	Install Liferay	8/14/20	8/17/20	0.5 days	8 hrs	1571	1574	Application Administrator,Liferay Developer
1574	1.6.3.1.	Portal Configuration	8/17/20	8/17/20	0.25 days	4 hrs	1573	1575	Application Administrator,Liferay Developer
1575	1.6.3.1.	Set Up User Access & security Roles	8/17/20	8/18/20	0.67 days	16.08 hrs	1574	1576	Application Administrator,Information Security Architect / Privacy Dat
1576	1.6.3.1.	Test Configuration and User Access	8/18/20	8/18/20	0.5 days	8 hrs	1575	1578	Application Administrator,Liferay Developer
1577	**1.6.3.1.**	**Symmetry Suite UAT**	**8/18/20**	**8/25/20**	**5 days**	**32 hrs**			
1578	1.6.3.1.	Install Symmetry	8/18/20	8/19/20	1 day	8 hrs	1576	1579	Application Administrator
1579	1.6.3.1.	Configure Symmetry Suite	8/19/20	8/21/20	2 days	8 hrs	1578	1580	ETL Team Lead - Specialists - Operations - Data Modeler
1580	1.6.3.1.	Test Symmetry	8/21/20	8/25/20	2 days	16 hrs	1579	1582	Test Manager - Testers - QA Specialists
1581	**1.6.3.1.**	**OPAHHS ML UAT**	**8/25/20**	**8/27/20**	**1.75 days**	**14 hrs**			
1582	1.6.3.1.	Install ML Services	8/25/20	8/26/20	1 day	8 hrs	1580	1583	Report Analyst or Tableau Developer
1583	1.6.3.1.	Configure ML Services	8/26/20	8/27/20	0.5 days	4 hrs	1582	1584	Report Analyst or Tableau Developer
1584	1.6.3.1.	Test ML Services	8/27/20	8/27/20	0.25 days	2 hrs	1583	1586	Test Manager - Testers - QA Specialists
1585	**1.6.3.1.**	**Rstudio UAT**	**8/27/20**	**8/31/20**	**2.5 days**	**20 hrs**			
1586	1.6.3.1.	Install Rstudio	8/27/20	8/28/20	1 day	8 hrs	1584	1587	Application Administrator
1587	1.6.3.1.	Configure Rstudio	8/28/20	8/28/20	0.5 days	4 hrs	1586	1588	Report Analyst or Tableau Developer
1588	1.6.3.1.	Configure Database Connections	8/28/20	8/31/20	0.5 days	4 hrs	1587	1589	Sr. DBA and DBA

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1589	1.6.3.1.	Test Rstudio	8/31/20	8/31/20	0.5 days	4 hrs	1588	1591	Test Manager - Testers - QA Specialists
1590	**1.6.3.1.**	**Power BI UAT**	**8/31/20**	**9/4/20**	**4 days**	**32 hrs**			
1591	1.6.3.1.	Set Up Power BI Pro on Virtual Desktop	8/31/20	9/1/20	1 day	8 hrs	1589	1592	Application Administrator
1592	1.6.3.1.	Configure Power BI Embedded	9/1/20	9/2/20	1 day	8 hrs	1591	1593	Report Analyst or Tableau Developer
1593	1.6.3.1.	Configure Azure Synapse Connections	9/2/20	9/3/20	1 day	8 hrs	1592	1594	Sr. DBA and DBA
1594	1.6.3.1.	Test Power BI	9/3/20	9/4/20	1 day	8 hrs	1593	1595	Test Manager - Testers - QA Specialists
1595	***1.6.3.1.***	***Milestone: Phase 1 EDS UAT Environment Build Comp***	***9/4/20***	***9/4/20***	***0 days***	***0 hrs***	***1594,1541***	***2275,1599,1***	Account - Project Manager or Asst PM
1596	1.6.3.1.	OPAHHS and Liferay Setup UAT	9/4/20	10/12/20	25 days	400 hrs	1595	1644	Report Analyst or Tableau Developer,Liferay Developer
1597	**1.6.3.1.**	**EDS STAGE Environment (Release Test, Regression Test, Data Conversion Test, ORT, Parallel Test,**	**9/4/20**	**10/14/20**	**26.17 days**	**218.08 hrs**			
1598	**1.6.3.1.**	**Build STAGE Environment**	**9/4/20**	**9/9/20**	**2 days**	**16 hrs**			
1599	1.6.3.1.	Configure Virtual Desktop	9/4/20	9/8/20	0.5 days	4 hrs	1595	1600	Application Administrator
1600	1.6.3.1.	Install Required Desktop Tools	9/8/20	9/9/20	1 day	8 hrs	1599	1601	Application Administrator
1601	1.6.3.1.	Test Virtual Desktop	9/9/20	9/9/20	0.5 days	4 hrs	1600	1603	Test Manager - Testers - QA Specialists
1602	**1.6.3.1.**	**Azure Synapse SW STAGE**	**9/9/20**	**9/14/20**	**3 days**	**24 hrs**			
1603	1.6.3.1.	Configure Azure Synapse DW	9/9/20	9/10/20	1 day	8 hrs	1601	1604	Sr. DBA and DBA
1604	1.6.3.1.	Test Azure Synapse DW	9/10/20	9/11/20	1 day	8 hrs	1603	1605	Sr. DBA and DBA
1605	1.6.3.1.	Open and Connect to Database	9/11/20	9/14/20	1 day	8 hrs	1604	1607	Sr. DBA and DBA
1606	**1.6.3.1.**	**Azure SQL and Oracle DB STAGE**	**9/14/20**	**9/16/20**	**1.25 days**	**10 hrs**			
1607	1.6.3.1.	Configure SQL DB	9/14/20	9/15/20	0.25 days	2 hrs	1605	1608	Sr. DBA and DBA
1608	1.6.3.1.	Test SQL and Oracle DB	9/15/20	9/15/20	0.5 days	4 hrs	1607	1609	Sr. DBA and DBA
1609	1.6.3.1.	Open and Connect to Database	9/15/20	9/16/20	0.5 days	4 hrs	1608	1611	Sr. DBA and DBA
1610	**1.6.3.1.**	**erwin Data Modeler UAT**	**9/16/20**	**9/16/20**	**0.75 days**	**6 hrs**			
1611	1.6.3.1.	Install erwin Data Modeler on Jump Server	9/16/20	9/16/20	0.5 days	4 hrs	1609	1612	Application Administrator
1612	1.6.3.1.	Test erwin Data Modeler	9/16/20	9/16/20	0.25 days	2 hrs	1611	1614	ETL Team Lead - Specialists - Operations - Data Modeler
1613	**1.6.3.1.**	**Informatica STAGE**	**9/16/20**	**9/18/20**	**1.75 days**	**14 hrs**			
1614	1.6.3.1.	Configure Informatica	9/16/20	9/17/20	1 day	8 hrs	1612	1615	Application Administrator
1615	1.6.3.1.	Test Informatica	9/17/20	9/18/20	0.25 days	2 hrs	1614	1616	ETL Team Lead - Specialists - Operations - Data Modeler
1616	1.6.3.1.	Connect Informatica to SQL Database	9/18/20	9/18/20	0.25 days	2 hrs	1615	1617	ETL Team Lead - Specialists - Operations - Data Modeler
1617	1.6.3.1.	Connect Informatica to Azure Synapse	9/18/20	9/18/20	0.25 days	2 hrs	1616	1619	ETL Team Lead - Specialists - Operations - Data Modeler
1618	**1.6.3.1.**	**DevSuite On-line Tool STAGE**	**9/18/20**	**9/22/20**	**2 days**	**16 hrs**			
1619	1.6.3.1.	Configure DevSuite	9/18/20	9/21/20	1 day	8 hrs	1617	1620	Test Manager - Testers - QA Specialists
1620	1.6.3.1.	Test DevSuite	9/21/20	9/22/20	1 day	8 hrs	1619	1622	Test Manager - Testers - QA Specialists
1621	**1.6.3.1.**	**Tableau and Cognos STAGE**	**9/22/20**	**9/24/20**	**2 days**	**16 hrs**			
1622	1.6.3.1.	Configure Tableau and Cognos Server	9/22/20	9/23/20	1 day	8 hrs	1620	1623	Application Administrator
1623	1.6.3.1.	Test Access	9/23/20	9/24/20	1 day	8 hrs	1622	1625	Application Administrator
1624	**1.6.3.1.**	**Portal OPAHHA/Provider/Member STAGE**	**9/24/20**	**9/28/20**	**1.92 days**	**36.08 hrs**			
1625	1.6.3.1.	Install Liferay	9/24/20	9/25/20	0.5 days	8 hrs	1623	1626	Application Administrator,Liferay Developer
1626	1.6.3.1.	Configure Web Server Applications	9/25/20	9/25/20	0.25 days	4 hrs	1625	1627	Application Administrator,Liferay Developer
1627	1.6.3.1.	Test Web Server Applications	9/25/20	9/28/20	0.67 days	16.08 hrs	1626	1628	Application Administrator,Information Security Architect / Privacy Dat
1628	1.6.3.1.	Test Configuration and User Access	9/28/20	9/28/20	0.5 days	8 hrs	1627	1630	Application Administrator,Liferay Developer
1629	**1.6.3.1.**	**Symmetry Suite STAGE**	**9/28/20**	**10/5/20**	**5 days**	**28 hrs**			
1630	1.6.3.1.	Configure Symmetry Suite	9/28/20	10/1/20	3 days	12 hrs	1628	1631	ETL Team Lead - Specialists - Operations - Data Modeler
1631	1.6.3.1.	Test Symmetry	10/1/20	10/5/20	2 days	16 hrs	1630	1633	Test Manager - Testers - QA Specialists
1632	**1.6.3.1.**	**OPAHHS ML STAGE**	**10/5/20**	**10/7/20**	**1.75 days**	**14 hrs**			
1633	1.6.3.1.	Install ML Services	10/5/20	10/6/20	1 day	8 hrs	1631	1634	Report Analyst or Tableau Developer
1634	1.6.3.1.	Configure ML Services	10/6/20	10/7/20	0.5 days	4 hrs	1633	1635	Report Analyst or Tableau Developer
1635	1.6.3.1.	Test ML Services	10/7/20	10/7/20	0.25 days	2 hrs	1634	1637	Test Manager - Testers - QA Specialists
1636	**1.6.3.1.**	**Rstudio STAGE**	**10/7/20**	**10/8/20**	**0.75 days**	**6 hrs**			
1637	1.6.3.1.	Configure DB Connections	10/7/20	10/7/20	0.5 days	4 hrs	1635	1638	Application Administrator
1638	1.6.3.1.	Test Rstudio Access From Virtual Desktop	10/7/20	10/8/20	0.25 days	2 hrs	1637	1640	Technical Lead
1639	**1.6.3.1.**	**Power BI STAGE**	**10/8/20**	**10/14/20**	**4 days**	**32 hrs**			
1640	1.6.3.1.	Set Up Power BI Pro on Virtual Desktop	10/8/20	10/9/20	1 day	8 hrs	1638	1641	Application Administrator
1641	1.6.3.1.	Configure Power BI Embedded	10/9/20	10/12/20	1 day	8 hrs	1640	1642	Report Analyst or Tableau Developer

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1642	1.6.3.1.	Configure Azure Synapse Connections	10/12/20	10/13/20	1 day	8 hrs	1641	1643	Sr. DBA and DBA
1643	1.6.3.1.	Test Power BI	10/13/20	10/14/20	1 day	8 hrs	1642	1644	Test Manager - Testers - QA Specialists
1644	*1.6.3.1.*	***Milestone: Phase 1 EDS STAGE Environment Complete***	***10/14/20***	***10/14/20***	***0 days***	***0 hrs***	***1643,1598***	***1648,2813,1***	Account - Project Manager or Asst PM
1645	1.6.3.1.	OPAHHS and Liferay Setup STAGE	10/14/20	11/25/20	30 days	480 hrs	1644	1695	Report Analyst or Tableau Developer,Liferay Developer
1646	**1.6.3.1.**	**EDS Disaster Recovery (DR) Environment**	**10/14/20**	**11/30/20**	**31.69 days**	**250.08 hrs**			
1647	**1.6.3.1.**	**Build DR Environment**	**10/14/20**	**10/19/20**	**3 days**	**20 hrs**			
1648	1.6.3.1.	Configure Virtual Desktop	10/14/20	10/15/20	1 day	4 hrs	1644	1649	Application Administrator[50%]
1649	1.6.3.1.	Install Required Desktop Tools	10/15/20	10/16/20	1 day	8 hrs	1648	1650	Application Administrator
1650	1.6.3.1.	Test Virtual Desktop	10/16/20	10/19/20	1 day	8 hrs	1649	1652	Test Manager - Testers - QA Specialists
1651	**1.6.3.1.**	**Azure Synapse DW DR**	**10/19/20**	**10/22/20**	**3 days**	**24 hrs**			
1652	1.6.3.1.	Configure Synapse DW	10/19/20	10/21/20	2 days	16 hrs	1650	1653	Sr. DBA and DBA
1653	1.6.3.1.	Test Synapse DW	10/21/20	10/21/20	0.5 days	4 hrs	1652	1654	Sr. DBA and DBA
1654	1.6.3.1.	Open and Connect to Database	10/21/20	10/22/20	0.5 days	4 hrs	1653	1656	Sr. DBA and DBA
1655	**1.6.3.1.**	**Azure SQL and Oracle DB DR**	**10/22/20**	**10/23/20**	**1.25 days**	**10 hrs**			
1656	1.6.3.1.	Configure Microsoft SQL and Oracle	10/22/20	10/22/20	0.25 days	2 hrs	1654	1657	Sr. DBA and DBA
1657	1.6.3.1.	Test Microsoft DQL and Oracle	10/22/20	10/22/20	0.5 days	4 hrs	1656	1658	Sr. DBA and DBA
1658	1.6.3.1.	Open and Connect to Database	10/22/20	10/23/20	0.5 days	4 hrs	1657	1660	Sr. DBA and DBA
1659	**1.6.3.1.**	**erwin Data Modeler DR**	**10/23/20**	**10/26/20**	**0.75 days**	**6 hrs**			
1660	1.6.3.1.	Install erwin Data Modeler	10/23/20	10/23/20	0.5 days	4 hrs	1658	1661	Application Administrator
1661	1.6.3.1.	Test erwin Data Modeler	10/23/20	10/26/20	0.25 days	2 hrs	1660	1663	ETL Team Lead - Specialists - Operations - Data Modeler
1662	**1.6.3.1.**	**Informatica DR**	**10/26/20**	**10/28/20**	**2 days**	**16 hrs**			
1663	1.6.3.1.	Install Informatica	10/26/20	10/27/20	1 day	8 hrs	1661	1664	Application Administrator
1664	1.6.3.1.	Configure Informatica	10/27/20	10/27/20	0.25 days	2 hrs	1663	1665	ETL Team Lead - Specialists - Operations - Data Modeler
1665	1.6.3.1.	Set Up Informatica on Virtual Desktop	10/27/20	10/27/20	0.5 days	4 hrs	1664	1666	ETL Team Lead - Specialists - Operations - Data Modeler
1666	1.6.3.1.	Test Informatica	10/27/20	10/28/20	0.25 days	2 hrs	1665	1668	ETL Team Lead - Specialists - Operations - Data Modeler
1667	**1.6.3.1.**	**DevSuite On-line Tool DR**	**10/28/20**	**11/2/20**	**3 days**	**24 hrs**			
1668	1.6.3.1.	Install DevSuite Online Tool	10/28/20	10/29/20	1 day	8 hrs	1666	1669	Test Manager - Testers - QA Specialists
1669	1.6.3.1.	Configure DevSuite	10/29/20	10/30/20	1 day	8 hrs	1668	1670	Test Manager - Testers - QA Specialists
1670	1.6.3.1.	Test DevSuite	10/30/20	11/2/20	1 day	8 hrs	1669	1672	Test Manager - Testers - QA Specialists
1671	**1.6.3.1.**	**Tableau and Cognos DR**	**11/2/20**	**11/5/20**	**3 days**	**24 hrs**			
1672	1.6.3.1.	Set Up Tableau on Desktops and Cognos	11/2/20	11/3/20	1 day	8 hrs	1670	1673	Application Administrator
1673	1.6.3.1.	Test Access	11/3/20	11/3/20	0.5 days	4 hrs	1672	1674	Report Analyst or Tableau Developer
1674	1.6.3.1.	Set Up Tableau and Cognos on Servers	11/3/20	11/4/20	1 day	8 hrs	1673	1675	Report Analyst or Tableau Developer
1675	1.6.3.1.	Test Access	11/4/20	11/5/20	0.5 days	4 hrs	1674	1677	Report Analyst or Tableau Developer
1676	**1.6.3.1.**	**Portal OPAHHS/Provider/Member DR**	**11/5/20**	**11/9/20**	**2.42 days**	**44.08 hrs**			
1677	1.6.3.1.	Install Liferay	11/5/20	11/5/20	0.5 days	8 hrs	1675	1678	Application Administrator,Liferay Developer
1678	1.6.3.1.	Configure Web Server Applications	11/5/20	11/5/20	0.25 days	4 hrs	1677	1679	Application Administrator,Liferay Developer
1679	1.6.3.1.	Test Web Server Applications	11/5/20	11/6/20	0.67 days	16.08 hrs	1678	1680	Application Administrator,Information Security Architect / Privacy Dat
1680	1.6.3.1.	Test Configuration and User Access	11/6/20	11/9/20	1 day	16 hrs	1679	1682	Application Administrator,Liferay Developer
1681	**1.6.3.1.**	**Symmetry Suite DR**	**11/9/20**	**11/18/20**	**7.02 days**	**32 hrs**			
1682	1.6.3.1.	Install Symmetry	11/9/20	11/10/20	1 day	8 hrs	1680	1683	Application Administrator
1683	1.6.3.1.	Configure Symmetry Suite	11/10/20	11/16/20	4.02 days	8 hrs	1682	1684	ETL Team Lead - Specialists - Operations - Data Modeler
1684	1.6.3.1.	Test Symmetry	11/16/20	11/18/20	2 days	16 hrs	1683	1686	Test Manager - Testers - QA Specialists
1685	**1.6.3.1.**	**Rstudio DR**	**11/18/20**	**11/20/20**	**2.25 days**	**18 hrs**			
1686	1.6.3.1.	Install Rstudio	11/18/20	11/19/20	1 day	8 hrs	1684	1687	Application Administrator
1687	1.6.3.1.	Configure Rstudio	11/19/20	11/20/20	0.5 days	4 hrs	1686	1688	Application Administrator
1688	1.6.3.1.	Configure DB Connections	11/20/20	11/20/20	0.5 days	4 hrs	1687	1689	Sr. DBA and DBA
1689	1.6.3.1.	Test Results	11/20/20	11/20/20	0.25 days	2 hrs	1688	1691	Technical Lead
1690	**1.6.3.1.**	**Power BI DR**	**11/20/20**	**11/30/20**	**4 days**	**32 hrs**			
1691	1.6.3.1.	Set Up Power BI Pro on Virtual Desktop	11/20/20	11/23/20	1 day	8 hrs	1689	1692	Application Administrator
1692	1.6.3.1.	Configure Power BI Embedded	11/23/20	11/24/20	1 day	8 hrs	1691	1693	Report Analyst or Tableau Developer
1693	1.6.3.1.	Configure Azure Synapse Connections	11/24/20	11/25/20	1 day	8 hrs	1692	1694	Sr. DBA and DBA
1694	1.6.3.1.	Test Power BI	11/25/20	11/30/20	1 day	8 hrs	1693	1695	Test Manager - Testers - QA Specialists
1695	*1.6.3.1.*	***Milestone: Phase 1 EDS DR Environment Complete***	***11/30/20***	***11/30/20***	***0 days***	***0 hrs***	***1694,1645***	***2824***	Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1696	1.6.3.2	**Phase 1 EDS Solution Design Deliverables**	4/28/20	9/15/20	97.62 days	2,705.88 hrs			
1697	1.6.3.2.	**D030 Deliverable: Business Process Models (BPMs)**	4/28/20	6/4/20	26.25 days	144.02 hrs			
1698	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria on BPM	4/28/20	4/28/20	0.25 days	6 hrs	1291	1700	DHHR[0%],Business Lead or Analysts[200%],Account - Project Manager or Asst PM
1699	1.6.3.2.	**Cycle 1: Business Process Models (BPM) (DRAFT)**	4/28/20	5/20/20	16 days	90.01 hrs			
1700	1.6.3.2.	Develop Draft BPMs	4/28/20	5/5/20	5 days	80 hrs	1698	1701	Business Lead or Analysts[200%]
1701	1.6.3.2.	Schedule & Conduct Internal Meeting with QA	5/5/20	5/5/20	0.25 days	4 hrs	1700	1702	Quality Assurance Manager,Business Lead or Analysts
1702	1.6.3.2.	Revise BPM From QA Review Feedback	5/5/20	5/5/20	0.25 days	2 hrs	1701	1703	Business Lead or Analysts
1703	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Review BPM	5/5/20	5/6/20	0.5 days	4 hrs	1702	1704	DHHR[0%],Business Lead or Analysts,Tech Writer and Scribe-Tester
1704	1.6.3.2.	Submit BPMs to DHHR For Review (10 Days)	5/6/20	5/20/20	10 days	0.01 hrs	1703	1706	Documentation Management Lead[0%],DHHR[0%]
1705	1.6.3.2.	**Cycle 2: Business Process Models (BPM) (FINAL)**	5/20/20	6/4/20	10 days	48.01 hrs			
1706	1.6.3.2.	Revise BPM From DHHR Comments Log (5 Days)	5/20/20	5/28/20	5 days	48 hrs	1704	1707,1722	Business Lead or Analysts[40%],Tech Writer and Scribe-Tester-QA
1707	1.6.3.2.	Submit BPM to DHHR for Final Review (5 Days)	5/28/20	6/4/20	5 days	0.01 hrs	1706	1708	Documentation Management Lead[0%],DHHR[0%]
1708	*1.6.3.2.*	***Milestone Deliverable D030: Business Process Models (BPM) Approved by DHHR***	*6/4/20*	*6/4/20*	*0 days*	*0 hrs*	*1707*	*40,1769*	Account - Project Manager or Asst PM
1709	1.6.3.2.	**D031 Deliverable: Capacity Plan**	4/28/20	6/4/20	26.51 days	108.26 hrs			
1710	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Capacity	4/28/20	4/28/20	0.26 days	6.24 hrs	1291	1712	Technical Lead,DHHR[0%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1711	1.6.3.2.	**Cycle 1: Capacity Plan (DRAFT)**	4/28/20	5/20/20	16.25 days	52.01 hrs			
1712	1.6.3.2.	Develop Draft Capacity Plan	4/28/20	5/5/20	5 days	40 hrs	1710	1713	Technical Lead
1713	1.6.3.2.	Schedule & Conduct Internal Meeting With QA on Capaci	5/5/20	5/5/20	0.25 days	4 hrs	1712	1714	Quality Assurance Manager,Technical Lead
1714	1.6.3.2.	Revise Capacity Plan From QA Review Feedback	5/5/20	5/6/20	0.5 days	4 hrs	1713	1715	Technical Lead
1715	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Review Cap	5/6/20	5/6/20	0.5 days	4 hrs	1714	1716	Technical Lead[50%],DHHR[0%],Account - Project Manager or Asst
1716	1.6.3.2.	Submit Capacity Plan to DHHR For Review (10 Days)	5/6/20	5/20/20	10 days	0.01 hrs	1715	1718	Documentation Management Lead[0%],DHHR[0%]
1717	1.6.3.2.	**Cycle 2: Capacity Plan (FINAL)**	5/20/20	6/4/20	10 days	50.01 hrs			
1718	1.6.3.2.	Revise Capacity Plan From DHHR Comments Log (5 Da	5/20/20	5/28/20	5 days	50 hrs	1716	1719	Technical Lead[50%],Tech Writer and Scribe-Tester-QA
1719	1.6.3.2.	Submit Capacity Plan to DHHR for Final Review (5 Days)	5/28/20	6/4/20	5 days	0.01 hrs	1718	1720,1734	Documentation Management Lead[0%],DHHR[0%]
1720	*1.6.3.2.*	***Milestone Deliverable D031: Capacity Plan Approved by D***	*6/4/20*	*6/4/20*	*0 days*	*0 hrs*	*1719*	*41,1769*	Account - Project Manager or Asst PM
1721	1.6.3.2.	**D032 Deliverable: Configuration Management Plan**	5/28/20	7/7/20	27.25 days	118.02 hrs			
1722	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria -	5/28/20	5/28/20	0.5 days	8 hrs	1706	1724	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM
1723	1.6.3.2.	**Cycle 1: Configuration Management Plan (DRAFT)**	5/28/20	6/22/20	16.75 days	70.01 hrs			
1724	1.6.3.2.	Develop Draft Configuration Management Plan	5/28/20	6/4/20	5 days	56 hrs	1722	1725	Business Lead or Analysts
1725	1.6.3.2.	Schedule & Conduct Internal Meeting With QA on Configuration Management Plan	6/4/20	6/5/20	0.25 days	4 hrs	1724	1726	Quality Assurance Manager,Business Lead or Analysts
1726	1.6.3.2.	Revise Configuration Management Plan From QA Review Feedback	6/5/20	6/8/20	1 day	8 hrs	1725	1727	Business Lead or Analysts
1727	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Review Configuration Management Plan	6/8/20	6/8/20	0.5 days	2 hrs	1726	1728	DHHR[0%],Business Lead or Analysts,Tech Writer and Scribe-Tester-QA
1728	1.6.3.2.	Submit Configuration Management Plan to DHHR For Review (10 Days)	6/8/20	6/22/20	10 days	0.01 hrs	1727	1730	Documentation Management Lead[0%],DHHR[0%]
1729	1.6.3.2.	**Cycle 2: Configuration Management Plan (FINAL)**	6/22/20	7/7/20	10 days	40.01 hrs			
1730	1.6.3.2.	Revise Configuration Management Plan From DHHR Comments Log (5 Days)	6/22/20	6/29/20	5 days	40 hrs	1728	1731	Business Lead or Analysts
1731	1.6.3.2.	Submit Configuration Management Plan to DHHR for Final Review (5 Days)	6/29/20	7/7/20	5 days	0.01 hrs	1730	1732	Documentation Management Lead[0%],DHHR[0%]
1732	*1.6.3.2.*	***Milestone Deliverable D032: Configuration Management Plan Approved by DHHR***	*7/7/20*	*7/7/20*	*0 days*	*0 hrs*	*1731*	*42,1769*	Account - Project Manager or Asst PM
1733	1.6.3.2.	**D033 Deliverable: Data Conversion Plan (DCP)**	6/4/20	7/14/20	27.25 days	88.02 hrs			
1734	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Data	6/4/20	6/5/20	0.5 days	2 hrs	1719	1736	DHHR[0%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1735	1.6.3.2.	**Cycle 1: Data Conversion Plan (DCP) (DRAFT)**	6/5/20	6/29/20	16.75 days	70.01 hrs			
1736	1.6.3.2.	Develop Draft Data Conversion Plan (DCP)	6/5/20	6/12/20	5 days	56 hrs	1734	1737	Technical Lead
1737	1.6.3.2.	Schedule & Conduct Internal Meeting With QA on Data Conversion Plan (DCP)	6/12/20	6/12/20	0.25 days	4 hrs	1736	1738	Quality Assurance Manager,Technical Lead
1738	1.6.3.2.	Revise Data Conversion Plan (DCP) From QA Review F	6/12/20	6/15/20	1 day	8 hrs	1737	1739	Technical Lead
1739	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Review Data Conversion Plan (DCP)	6/15/20	6/15/20	0.5 days	2 hrs	1738	1740	Technical Lead[50%],DHHR[0%],Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1740	1.6.3.2.	Submit Data Conversion Plan (DCP) to DHHR For Review (10 Days)	6/15/20	6/29/20	10 days	0.01 hrs	1739	1742	Documentation Management Lead[0%],DHHR[0%]
1741	1.6.3.2.	**Cycle 2: Data Conversion Plan (DCP) (FINAL)**	6/29/20	7/14/20	10 days	16.01 hrs			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1742	1.6.3.2.	Revise Data Conversion Plan (DCP) From DHHR Comments Log (5 Days)	6/29/20	7/7/20	5 days	16 hrs	1740	1743	Technical Lead[50%]
1743	1.6.3.2.	Submit Data Conversion Plan (DCP) to DHHR for Final Review (5 Days)	7/7/20	7/14/20	5 days	0.01 hrs	1742	1744	Documentation Management Lead[0%],DHHR[0%]
1744	*1.6.3.2.*	***Milestone Deliverable D033: Data Conversion Plan (DCP) Approved by DHHR***	*7/14/20*	*7/14/20*	*0 days*	*0 hrs*	*1743*	*43,1769*	Account - Project Manager or Asst PM
1745	1.6.3.2.9	**D040 Deliverable: Interface Inventory**	**4/28/20**	**6/17/20**	**35.76 days**	**1,792.18 hrs**			
1746	1.6.3.2.9	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Interface	4/28/20	4/28/20	0.25 days	2 hrs	1291	1748	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1747	1.6.3.2.9	**Cycle 1: Interface Inventory (DRAFT)**	**4/28/20**	**6/10/20**	**30.51 days**	**1,780.17 hrs**			
1748	1.6.3.2.9	Develop Draft Interface Inventory Document	4/28/20	5/27/20	20 days	1,760 hrs	1746	1749	Business Lead or Analysts,Application Administrator,Documentation
1749	1.6.3.2.9	Schedule & Conduct Internal Meeting With QA on Interface Inventory Document	5/27/20	5/27/20	0.01 days	0.16 hrs	1748	1750	Quality Assurance Manager,Business Lead or Analysts
1750	1.6.3.2.9	Revise Interface Inventory Document From QA Review F	5/27/20	5/27/20	0.25 days	18 hrs	1749	1751	Business Lead or Analysts,Application Administrator,Documentation
1751	1.6.3.2.9	Schedule & Conduct Meeting With DHHR to Review Interface Inventory Document	5/27/20	5/27/20	0.25 days	2 hrs	1750	1752	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1752	1.6.3.2.9	Submit Interface Inventory Document to DHHR For Review (10 Days)	5/27/20	6/10/20	10 days	0.01 hrs	1751	1754,1758F	Documentation Management Lead[0%]
1753	1.6.3.2.9	**Cycle 2: Interface Inventory Document (FINAL)**	**6/10/20**	**6/17/20**	**5 days**	**10.01 hrs**		days	
1754	1.6.3.2.9	Revise Interface Inventory Document From DHHR Comments Log (5 Days)	6/10/20	6/17/20	5 days	10 hrs	1752	1755	Business Lead or Analysts,Application Administrator,Documentation Management Lead,ETL Team Lead - Specialists - Operations - Data
1755	1.6.3.2.9	Submit Interface Inventory Document to DHHR for Final Review (5 Days)	6/17/20	6/17/20	0 days	0.01 hrs	1754	1756	DHHR[0%],Documentation Management Lead[0%]
1756	*1.6.3.2.*	***Milestone Deliverable D040: Interface Inventory Document Approved by DHHR***	*6/17/20*	*6/17/20*	*0 days*	*0 hrs*	*1755*	*51,1769*	Account - Project Manager or Asst PM
1757	1.6.3.2.'	**D048 Deliverable: Reports and Forms Inventory**	**7/31/20**	**9/15/20**	**30.75 days**	**455.38 hrs**			
1758	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Reports	7/31/20	8/3/20	0.25 days	4 hrs	1752FS+36 days	1760	DHHR[0%],Business Lead or Analysts,Technical Lead
1759	1.6.3.2.'	**Cycle 1: Reports and Forms Inventory (DRAFT)**	**8/3/20**	**8/31/20**	**20.51 days**	**448.17 hrs**			
1760	1.6.3.2.	Develop Draft Reports and Forms Inventory Document	8/3/20	8/17/20	10 days	440 hrs	1758	1761	Business Lead or Analysts,Documentation Management Lead,Implen
1761	1.6.3.2.	Schedule & Conduct Internal Meeting With QA on Reports and Forms Inventory Document	8/17/20	8/17/20	0.01 days	0.16 hrs	1760	1762	Quality Assurance Manager,Business Lead or Analysts
1762	1.6.3.2.	Revise Reports and Forms Inventory Document From QA Review Feedback	8/17/20	8/17/20	0.25 days	2 hrs	1761	1763	Business Lead or Analysts
1763	1.6.3.2.	Schedule & Conduct Meeting With DHHR to Review Reports and Forms Inventory Document	8/17/20	8/17/20	0.25 days	6 hrs	1762	1764	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
1764	1.6.3.2.	Submit Reports and Forms Inventory Document to DHHR For Review (10 Days)	8/17/20	8/31/20	10 days	0.01 hrs	1763	1766	Documentation Management Lead[0%]
1765	1.6.3.2.'	**Cycle 2: Reports and Forms Inventory Document (FINA**	**8/31/20**	**9/15/20**	**10 days**	**3.21 hrs**			
1766	1.6.3.2.	Revise Reports and Forms Inventory Document From DHHR Comments Log (5 Days)	8/31/20	9/8/20	5 days	3.2 hrs	1764	1767	Business Lead or Analysts[8%]
1767	1.6.3.2.	Submit Reports and Forms Inventory Document to DHHR for Final Review (5 Days)	9/8/20	9/15/20	5 days	0.01 hrs	1766	1768	DHHR[0%],Documentation Management Lead[0%]
1768	*1.6.3.2.*	***Milestone Deliverable D048: Reports and Forms Inventory Document Approved by DHHR***	*9/15/20*	*9/15/20*	*0 days*	*0 hrs*	*1767*	*60,1769*	Account - Project Manager or Asst PM
1769	1.6.3.3	*Milestone: Phase 1 EDS Solution Design Deliverables Compl*	9/15/20	9/15/20	0 days	0 hrs	1708,1720,173	2756	Account - Project Manager or Asst PM
1770	1.6.3.4	**Phase 1 EDS Data Modeling & Conversion**	**3/3/20**	**12/3/20**	**192.69 days**	**7,190.95 hrs**			
1771	1.6.3.4.'	**MMIS Data Source/Conversion (FFS, CHIP, MCO)**	**5/29/20**	**7/2/20**	**24.06 days**	**1,384 hrs**			
1772	1.6.3.4.'	**Member Eligibility Data Source Conversion/Mapping/Re**	**5/29/20**	**6/29/20**	**20.56 days**	**127 hrs**			
1773	1.6.3.4.	Load Initial File For Member Eligibility Data File in PROD Environment	5/29/20	6/3/20	3 days	24 hrs	1435,1162,782	1774	ETL Team Lead - Specialists - Operations - Data Modeler
1774	1.6.3.4.	Profile and Analyze Initial Member Eligibility Data Content of the Initial File & Apply Data Cleansing Rules	6/3/20	6/4/20	1 day	8 hrs	1773	1775	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1775	1.6.3.4.	Adapt Initial Member Eligibility Data Model and Build Baseline Database Conversion Rules	6/4/20	6/8/20	2 days	8 hrs	1774	1776	ETL Team Lead - Specialists - Operations - Data Modeler
1776	1.6.3.4.	Identify & Document Items Requiring Manual Initial Member Eligibility Data Conversion	6/8/20	6/9/20	1 day	8 hrs	1775	1777	ETL Team Lead - Specialists - Operations - Data Modeler
1777	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures Member eligibility Conversion	6/9/20	6/12/20	3 days	24 hrs	1776	1778	Report Analyst or Tableau Developer
1778	1.6.3.4.	Create Design Package - Produce Converted Initial Data Model, S2T Mappings, Initial Member Eligibility Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or Suspect Bad Data Transfer, etc. For DSD	6/12/20	6/16/20	1.5 days	6 hrs	1777	1779	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1779	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Discuss/Confirm Initial Member File Layout. Confirm Timeline for Receiving Incremental Production Member File(S) With DHHR & Present Data Lineage Analysis	6/16/20	6/17/20	1 day	4 hrs	1778	1780	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1780	1.6.3.4.	Change Mapping Specifications for Initial Member eligibility File(s) Based on Feedback from Meeting With	6/17/20	6/18/20	1 day	4 hrs	1779	1781	ETL Team Lead - Specialists - Operations - Data Modeler
1781	1.6.3.4.	Modify Database Tables and Data Mapping Specifications (as required)	6/18/20	6/19/20	1 day	8 hrs	1780	1782	ETL Team Lead - Specialists - Operations - Data Modeler
1782	1.6.3.4.	Reload Member eligibility File in PROD Environment	6/19/20	6/22/20	1 day	4 hrs	1781	1783	ETL Team Lead - Specialists - Operations - Data Modeler
1783	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply Member Reloaded Data Cleansing Rules	6/22/20	6/23/20	1 day	2 hrs	1782	1784	ETL Team Lead - Specialists - Operations - Data Modeler
1784	1.6.3.4.	Produce Converted Member eligibility Reloaded Data Lineage Analysis Outcome Report of Mappings, Error	6/23/20	6/24/20	1 day	2 hrs	1783	1785	ETL Team Lead - Specialists - Operations - Data Modeler
1785	1.6.3.4.	Identify & Document Member eligibility Reload New Data Items Requiring Manual Data Conversion	6/24/20	6/24/20	0.56 days	1 hr	1784	1786	ETL Team Lead - Specialists - Operations - Data Modeler
1786	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted Member Eligibility Data	6/24/20	6/25/20	1 day	8 hrs	1785	1787,1981	Test Manager - Testers - QA Specialists
1787	1.6.3.4.	Finalize Design Package Database Design Document, Database Model and S2T Mapping - Member Eligibility	6/25/20	6/26/20	0.5 days	8 hrs	1786	1788	Documentation Management Lead,Quality Assurance Manager
1788	1.6.3.4.	Develop Member Eligibility Draft Content For Global Database Design Document & Database Model Deliverable and Incremental Input into the DSD	6/26/20	6/29/20	1 day	8 hrs	1787	1960	Tech Writer and Scribe-Tester-QA
1789	**1.6.3.4.**	**Provider, Provider Enrollment, Ownership Data Source Conversion/Mapping/Reporting**	**5/29/20**	**7/1/20**	**23 days**	**188 hrs**			
1790	1.6.3.4.	Load Initial Provider, Provider Enrollment, Ownership Data File In PROD Environment	5/29/20	6/3/20	3 days	24 hrs	1435,1162,786	1791	ETL Team Lead - Specialists - Operations - Data Modeler
1791	1.6.3.4.	Profile, Analyze & Format Initial Member Data Content of the File & Apply Data Cleansing Rules, Convert & Test	6/3/20	6/4/20	1 day	8 hrs	1790	1792	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1792	1.6.3.4.	Adapt Initial Provider Data Model and Build Baseline Database Conversion Rules	6/4/20	6/8/20	2 days	16 hrs	1791	1793	ETL Team Lead - Specialists - Operations - Data Modeler
1793	1.6.3.4.	Identify & Document Items Requiring Manual Initial Provider, Provider Enrollment, Ownership Data	6/8/20	6/9/20	1 day	8 hrs	1792	1794	ETL Team Lead - Specialists - Operations - Data Modeler
1794	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures Provider, Provider Enrollment,	6/9/20	6/12/20	3 days	24 hrs	1793	1795	Report Analyst or Tableau Developer
1795	1.6.3.4.	Create Design Package, Product Initial Data Model, S2T Mappings, Initial Provider Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or	6/12/20	6/17/20	3 days	48 hrs	1794	1796	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1796	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Confirm Initial MMIS Provider File Layouts. Confirm Timeline MMIS Provider Incremental Production MMIS Provider File(S) With DHHR & Present Data Lineage Analysis	6/17/20	6/18/20	1 day	8 hrs	1795	1797	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1797	1.6.3.4.	Change Mapping Specifications for Initial Provider, Provider Enrollment, Ownership File(s) Based on Feedback from Meeting With DHHR	6/18/20	6/19/20	1 day	4 hrs	1796	1798	ETL Team Lead - Specialists - Operations - Data Modeler
1798	1.6.3.4.	Modify Database Tables and Data Mapping Specifications (as necessary)	6/19/20	6/22/20	1 day	8 hrs	1797	1799	ETL Team Lead - Specialists - Operations - Data Modeler
1799	1.6.3.4.	Reload Provider, Provider Enrollment, Ownership File in PROD Environment	6/22/20	6/23/20	1 day	2 hrs	1798	1800	ETL Team Lead - Specialists - Operations - Data Modeler
1800	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply Member Reloaded Data Cleansing Rules	6/23/20	6/24/20	1 day	2 hrs	1799	1801	ETL Team Lead - Specialists - Operations - Data Modeler
1801	1.6.3.4.	Produce Converted Provider, Provider Enrollment, Ownership Reloaded Data Lineage Analysis Outcome Report of Mappings, Error Conditions, etc.	6/24/20	6/25/20	1 day	2 hrs	1800	1802	ETL Team Lead - Specialists - Operations - Data Modeler
1802	1.6.3.4.	Identify & Document Provider, Provider Enrollment, Ownership Reload New Data Items Requiring Manual	6/25/20	6/26/20	1 day	2 hrs	1801	1803	ETL Team Lead - Specialists - Operations - Data Modeler
1803	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted Provider, Provider Enrollment, Ownership	6/26/20	6/29/20	1 day	8 hrs	1802	1804,1990	Test Manager - Testers - QA Specialists
1804	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping Provider Data	6/29/20	6/30/20	1 day	16 hrs	1803	1805	Documentation Management Lead,Quality Assurance Manager
1805	1.6.3.4.	Develop Provider Draft Content For Global Database Design Document & Database Model Deliverables and Incremental Input to DSD	6/30/20	7/1/20	1 day	8 hrs	1804	1961	Tech Writer and Scribe-Tester-QA
1806	**1.6.3.4.**	**MMIS Medical Claims Data Source Conversion/Mapping/Reporting**	**5/29/20**	**7/2/20**	**24.06 days**	**176 hrs**			
1807	1.6.3.4.	Load Initial MMIS Medical Claims Data File In PROD Env	5/29/20	6/3/20	3 days	24 hrs	1435,1162,790	1808	ETL Team Lead - Specialists - Operations - Data Modeler
1808	1.6.3.4.	Profile, Analyze & Format Initial Medical Claims Data Content of the File & Apply Data Cleansing Rules,	6/3/20	6/5/20	2 days	32 hrs	1807	1809	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1809	1.6.3.4.	Adapt Initial Medical Claims Data model and Build Baseline Database Conversion Rules	6/5/20	6/9/20	2 days	8 hrs	1808	1810	ETL Team Lead - Specialists - Operations - Data Modeler
1810	1.6.3.4.	Identify & Document Items Requiring Manual Initial MMIS Medical Claims Data Conversion	6/9/20	6/10/20	1 day	8 hrs	1809	1811	ETL Team Lead - Specialists - Operations - Data Modeler

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1811	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures MMIS Medical Claims Conversion	6/10/20	6/15/20	3 days	24 hrs	1810	1812	Report Analyst or Tableau Developer
1812	1.6.3.4.	Create Design Package. Produce Converted Initial MMIS Medical Claims Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or Suspect Bad	6/15/20	6/18/20	3 days	24 hrs	1811	1813	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1813	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Confirm Initial MMIS Medical File Layout. Confirm Timeline MMIS Pharmacy Claims Incremental Production MMIS Pharmacy Claims File(S) With DHHR & Present Data	6/18/20	6/18/20	0.06 days	4 hrs	1812	1814	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1814	1.6.3.4.	Change Mapping Specifications for Initial MMIS Medical Claims File(s) Based on Feedback from Meeting With	6/18/20	6/22/20	2 days	8 hrs	1813	1815	ETL Team Lead - Specialists - Operations - Data Modeler
1815	1.6.3.4.	Modify Database Tables and Data Mapping Specifications for MMIS Medical Claims Data (as	6/22/20	6/23/20	1 day	4 hrs	1814	1816	ETL Team Lead - Specialists - Operations - Data Modeler
1816	1.6.3.4.	Reload MMIS Medical Claims File in PROD Environment	6/23/20	6/24/20	1 day	2 hrs	1815	1817	ETL Team Lead - Specialists - Operations - Data Modeler
1817	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply Member Reloaded Data Cleansing Rules	6/24/20	6/25/20	1 day	2 hrs	1816	1818	ETL Team Lead - Specialists - Operations - Data Modeler
1818	1.6.3.4.	Produce Converted MMIS Medical Claims Reloaded Data Lineage Analysis Outcome Report of Mappings,	6/25/20	6/26/20	1 day	2 hrs	1817	1819	ETL Team Lead - Specialists - Operations - Data Modeler
1819	1.6.3.4.	Identify & Document MMIS Medical Claims Reload New Data Items Requiring Manual Data Conversion	6/26/20	6/29/20	1 day	2 hrs	1818	1820	ETL Team Lead - Specialists - Operations - Data Modeler
1820	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Medical Claims Data	6/29/20	6/30/20	1 day	8 hrs	1819	1821,1999	Test Manager - Testers - QA Specialists
1821	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping - MMIS Medical	6/30/20	7/1/20	1 day	16 hrs	1820	1822	Documentation Management Lead,Quality Assurance Manager
1822	1.6.3.4.	Develop MMIS Medical Claims Draft Content For Global Database Design Document & Database Model Deliverables and Incremental Input to DSD	7/1/20	7/2/20	1 day	8 hrs	1821	1962	Tech Writer and Scribe-Tester-QA
1823	**1.6.3.4.**	**MMIS Dental Claims Data Source Conversion/Mapping/Reporting**	**5/29/20**	**6/22/20**	**16.14 days**	**107 hrs**			
1824	1.6.3.4.	Load Initial MMIS Dental Claims Data File in PROD Envir	5/29/20	6/2/20	2 days	16 hrs	1435,1162,794	1825	ETL Team Lead - Specialists - Operations - Data Modeler
1825	1.6.3.4.	Profile, Analyze & Format Initial Dental Claims Data Content of the File & Apply Data Cleansing Rules,	6/2/20	6/3/20	1 day	4 hrs	1824	1826	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1826	1.6.3.4.	Adapt Initial MMIS Dental Claims Data Model and Build Baseline Database Conversion Rules	6/3/20	6/4/20	1 day	4 hrs	1825	1827	ETL Team Lead - Specialists - Operations - Data Modeler
1827	1.6.3.4.	Identify & Document Items Requiring Manual Initial MMIS Dental Claims Data Conversion	6/4/20	6/5/20	1 day	8 hrs	1826	1828	ETL Team Lead - Specialists - Operations - Data Modeler
1828	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures MMIS Dental Claims Conversion	6/5/20	6/8/20	1 day	8 hrs	1827	1829	Report Analyst or Tableau Developer
1829	1.6.3.4.	Create Design Package. Produce Converted Initial MMIS Dental Claims Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or Suspect Bad	6/8/20	6/9/20	1 day	8 hrs	1828	1830	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1830	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Confirm Initial MMIS Dental File Layout. Confirm Timeline for MMIS Pharmacy Claims Incremental Production MMIS Dental Claims File(S) With DHHR & Present Data	6/9/20	6/9/20	0.14 days	3 hrs	1829	1831	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1831	1.6.3.4.	Change Mapping Specifications for Initial MMIS Dental Claims File(s) Based on Feedback from Meeting With	6/9/20	6/10/20	1 day	8 hrs	1830	1832	ETL Team Lead - Specialists - Operations - Data Modeler
1832	1.6.3.4.	Modify Database Tables and Data Mapping Specifications (as necessary)	6/10/20	6/11/20	1 day	8 hrs	1831	1833	ETL Team Lead - Specialists - Operations - Data Modeler
1833	1.6.3.4.	Reload MMIS Dental Claims File in PROD Environment	6/11/20	6/12/20	1 day	2 hrs	1832	1834	ETL Team Lead - Specialists - Operations - Data Modeler
1834	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply Dental Claims Reloaded Data Cleansing Rules	6/12/20	6/15/20	1 day	2 hrs	1833	1835	ETL Team Lead - Specialists - Operations - Data Modeler
1835	1.6.3.4.	Produce Converted MMIS Dental Claims Reloaded Data Lineage Analysis Outcome Report of Mappings, Error	6/15/20	6/16/20	1 day	2 hrs	1834	1836	ETL Team Lead - Specialists - Operations - Data Modeler
1836	1.6.3.4.	Identify & Document MMIS Dental Claims Reload New Data Items Requiring Manual Data Conversion	6/16/20	6/17/20	1 day	2 hrs	1835	1837	ETL Team Lead - Specialists - Operations - Data Modeler
1837	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Dental Claims Data	6/17/20	6/18/20	1 day	8 hrs	1836	1838,2008	Test Manager - Testers - QA Specialists
1838	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping MMIS Dental Claims	6/18/20	6/19/20	1 day	16 hrs	1837	1839	Documentation Management Lead,Quality Assurance Manager
1839	1.6.3.4.	Develop MMIS Dental Claims Draft Content For Global Database Design Document & Database Model Deliverables and Incremental Input to DSD	6/19/20	6/22/20	1 day	8 hrs	1838	1963	Tech Writer and Scribe-Tester-QA
1840	**1.6.3.4.**	**MMIS Pharmacy Claims Data Source Conversion/Mapping/Reporting**	**5/29/20**	**6/23/20**	**16.5 days**	**136 hrs**			
1841	1.6.3.4.	Load Initial MMIS Pharmacy Claims Data File in PROD Environment	5/29/20	6/2/20	2 days	16 hrs	1435,1162,798	1842	ETL Team Lead - Specialists - Operations - Data Modeler
1842	1.6.3.4.	Profile, Analyze & Format Initial Pharmacy Claims Data Content of the File & Apply Data Cleansing Rules,	6/2/20	6/3/20	1 day	16 hrs	1841	1843	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1843	1.6.3.4.	Adapt Initial MMIS Pharmacy Claims Model and Build Baseline Database Conversion Rules	6/3/20	6/4/20	1 day	8 hrs	1842	1844	ETL Team Lead - Specialists - Operations - Data Modeler

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1844	1.6.3.4.	Identify & Document Items Requiring Manual Initial MMIS Pharmacy Claims Data Conversion	6/4/20	6/5/20	1 day	8 hrs	1843	1845	ETL Team Lead - Specialists - Operations - Data Modeler
1845	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures MMIS Pharmacy Claims	6/5/20	6/8/20	1 day	8 hrs	1844	1846	Report Analyst or Tableau Developer
1846	1.6.3.4.	Create Design Package. Produce Converted Initial MMIS Pharmacy Claims Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or Suspect Bad	6/8/20	6/9/20	1 day	16 hrs	1845	1847	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1847	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Discuss/Confirm Initial Pharmacy File Layout. Confirm Timeline for MMIS Pharmacy Claims Incremental Production MMIS Pharmacy Claims File(S) With DHHR	6/9/20	6/10/20	0.5 days	8 hrs	1846	1848	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1848	1.6.3.4.	Change Mapping Specifications for Initial MMIS Pharmacy Claims File(s) Based on Feedback from	6/10/20	6/11/20	1 day	8 hrs	1847	1849	ETL Team Lead - Specialists - Operations - Data Modeler
1849	1.6.3.4.	Modify Database Tables and Data Mapping Specifications (as necessary)	6/11/20	6/12/20	1 day	8 hrs	1848	1850	ETL Team Lead - Specialists - Operations - Data Modeler
1850	1.6.3.4.	Reload MMIS Pharmacy Claims File in PROD Environm	6/12/20	6/15/20	1 day	2 hrs	1849	1851	ETL Team Lead - Specialists - Operations - Data Modeler
1851	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply Pharmacy Claims Reloaded Data Cleansing Rules	6/15/20	6/16/20	1 day	2 hrs	1850	1852	ETL Team Lead - Specialists - Operations - Data Modeler
1852	1.6.3.4.	Produce Converted MMIS Pharmacy Claims Reloaded Data Lineage Analysis Outcome Report of Mappings, Error Conditions, etc.	6/16/20	6/17/20	1 day	2 hrs	1851	1853	ETL Team Lead - Specialists - Operations - Data Modeler
1853	1.6.3.4.	Identify & Document MMIS Pharmacy Claims Reload New Data Items Requiring Manual Data Conversion	6/17/20	6/18/20	1 day	2 hrs	1852	1854	ETL Team Lead - Specialists - Operations - Data Modeler
1854	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Pharmacy Claims Data	6/18/20	6/19/20	1 day	8 hrs	1853	1855,2017	Test Manager - Testers - QA Specialists
1855	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping of MMIS Pharmacy	6/19/20	6/22/20	1 day	16 hrs	1854	1856	Documentation Management Lead,Quality Assurance Manager
1856	1.6.3.4.	Develop MMIS Pharmacy Claims Data Content For Global Database Design Document & Database Model Deliverables and Incremental Input to DSD	6/22/20	6/23/20	1 day	8 hrs	1855	1964	Tech Writer and Scribe-Tester-QA
1857	**1.6.3.4.**	**MMIS Financial Capitation Data Source Conversion/Mapping/Reporting**	**5/29/20**	**6/23/20**	**16.5 days**	**112 hrs**			
1858	1.6.3.4.	Load Initial MMIS Financial Capitation Data File in PROD Environment	5/29/20	6/2/20	2 days	16 hrs	1435,1162,802	1859	ETL Team Lead - Specialists - Operations - Data Modeler
1859	1.6.3.4.	Profile, Analyze & Format Initial Financial Capitation Data Content of the File & Apply Data Cleansing Rules,	6/2/20	6/3/20	1 day	8 hrs	1858	1860	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1860	1.6.3.4.	Adapt Initial MMIS Financial Capitation Data Model and Build Baseline Database Conversion Rules	6/3/20	6/4/20	1 day	4 hrs	1859	1861	ETL Team Lead - Specialists - Operations - Data Modeler
1861	1.6.3.4.	Identify & Document Items Requiring Manual Initial MMIS Financial Capitation Data Conversion	6/4/20	6/5/20	1 day	8 hrs	1860	1862	ETL Team Lead - Specialists - Operations - Data Modeler
1862	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures MMIS Financial Capitation	6/5/20	6/8/20	1 day	8 hrs	1861	1863	Report Analyst or Tableau Developer
1863	1.6.3.4.	Create Design Package. Produce Converted Initial MMIS Financial Capitation Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or	6/8/20	6/9/20	1 day	16 hrs	1862	1864	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1864	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Discuss/Confirm Initial Financial Capitation File Layout. Confirm Timeline for PEIA PA Incremental Production Financial Capitation File(S) With DHHR & Present Data	6/9/20	6/10/20	0.5 days	4 hrs	1863	1865	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1865	1.6.3.4.	Change Mapping Specifications for Initial MMIS Financial Capitation File(s) Based on Feedback from Meeting With	6/10/20	6/11/20	1 day	4 hrs	1864	1866	ETL Team Lead - Specialists - Operations - Data Modeler
1866	1.6.3.4.	Modify Database Tables and Data Mapping Specification (as necessary)	6/11/20	6/12/20	1 day	4 hrs	1865	1867	ETL Team Lead - Specialists - Operations - Data Modeler
1867	1.6.3.4.	Reload MMIS Financial Capitation File in PROD Environ	6/12/20	6/15/20	1 day	2 hrs	1866	1868	ETL Team Lead - Specialists - Operations - Data Modeler
1868	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply Financial Capitation Reloaded Data Cleansing	6/15/20	6/16/20	1 day	2 hrs	1867	1869	ETL Team Lead - Specialists - Operations - Data Modeler
1869	1.6.3.4.	Produce Converted MMIS Financial Capitation Reloaded Data Lineage Analysis Outcome Report of Mappings, Error Conditions, etc.	6/16/20	6/17/20	1 day	2 hrs	1868	1870	ETL Team Lead - Specialists - Operations - Data Modeler
1870	1.6.3.4.	Identify & Document MMIS Financial Capitation Reload New Data Items Requiring Manual Data Conversion	6/17/20	6/18/20	1 day	2 hrs	1869	1871	ETL Team Lead - Specialists - Operations - Data Modeler
1871	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Financial Capitation Data	6/18/20	6/19/20	1 day	8 hrs	1870	1872,2026	Test Manager - Testers - QA Specialists
1872	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping of MMIS Financial	6/19/20	6/22/20	1 day	16 hrs	1871	1873	Documentation Management Lead,Quality Assurance Manager
1873	1.6.3.4.	Develop MMIS Financial Capitation Data Content For Global Database Design Document & Database Model Deliverables and Incremental Input to DSD	6/22/20	6/23/20	1 day	8 hrs	1872	1965	Tech Writer and Scribe-Tester-QA
1874	**1.6.3.4.**	**MMIS Prior Authorization Data Source Conversion/Mapping/Reporting**	**5/29/20**	**6/23/20**	**16.5 days**	**102 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1875	1.6.3.4.	Load Initial MMIS Prior Authorization Data File in PROD Environment	5/29/20	6/2/20	2 days	16 hrs	1435,1162,806	1876	ETL Team Lead - Specialists - Operations - Data Modeler
1876	1.6.3.4.	Profile, Analyze & Format Initial Prior Authorization Data Content of the File & Apply Data Cleansing Rules,	6/2/20	6/3/20	1 day	8 hrs	1875	1877	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1877	1.6.3.4.	Adapt Initial MMIS PA Data Model and Build Baseline Database Conversion Rules	6/3/20	6/4/20	1 day	4 hrs	1876	1878	ETL Team Lead - Specialists - Operations - Data Modeler
1878	1.6.3.4.	Identify & Document Items Requiring Manual Initial MMIS Prior Authorization Data Conversion	6/4/20	6/5/20	1 day	8 hrs	1877	1879	ETL Team Lead - Specialists - Operations - Data Modeler
1879	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures MMIS Prior Authorization	6/5/20	6/8/20	1 day	8 hrs	1878	1880	Report Analyst or Tableau Developer
1880	1.6.3.4.	Create Design Package. Produce Converted Initial MMIS Prior Authorization Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or	6/8/20	6/9/20	1 day	8 hrs	1879	1881	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1881	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Discuss/Confirm Initial Prior Authorization File Layout. Confirm Timeline for MMIS PA Incremental Production MMIS PA File(S) With DHHR & Present Data Lineage	6/9/20	6/10/20	0.5 days	4 hrs	1880	1882	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1882	1.6.3.4.	Change Mapping Specifications for Initial MMIS Prior Authorization File(s) Based on Feedback from Meeting	6/10/20	6/11/20	1 day	2 hrs	1881	1883	ETL Team Lead - Specialists - Operations - Data Modeler
1883	1.6.3.4.	Modify Database Tables and Data Mapping Specifications (as necessary)	6/11/20	6/12/20	1 day	4 hrs	1882	1884	ETL Team Lead - Specialists - Operations - Data Modeler
1884	1.6.3.4.	Reload MMIS Prior Authorization File In PROD Environm	6/12/20	6/15/20	1 day	2 hrs	1883	1885	ETL Team Lead - Specialists - Operations - Data Modeler
1885	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply Prior Authorization Reloaded Data Cleansing	6/15/20	6/16/20	1 day	2 hrs	1884	1886	ETL Team Lead - Specialists - Operations - Data Modeler
1886	1.6.3.4.	Produce Converted MMIS Prior Authorization Reloaded Data Lineage Analysis Outcome Report of Mappings, Error Conditions, etc.	6/16/20	6/17/20	1 day	2 hrs	1885	1887	ETL Team Lead - Specialists - Operations - Data Modeler
1887	1.6.3.4.	Identify & Document MMIS Prior Authorization Reload New Data Items Requiring Manual Data Conversion	6/17/20	6/18/20	1 day	2 hrs	1886	1888	ETL Team Lead - Specialists - Operations - Data Modeler
1888	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Prior Authorization Data	6/18/20	6/19/20	1 day	8 hrs	1887	1889,2035	Test Manager - Testers - QA Specialists
1889	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping of MMIS PA Data	6/19/20	6/22/20	1 day	16 hrs	1888	1890	Documentation Management Lead,Quality Assurance Manager
1890	1.6.3.4.	Develop MMIS PA Data Content For Global Database Design Document & Database Model Deliverables and Incremental Input to DSD	6/22/20	6/23/20	1 day	8 hrs	1889	1966	Tech Writer and Scribe-Tester-QA
1891	**1.6.3.4.**	**PEIA Medical Claims Data Source Conversion/Mapping/Reporting**	**5/29/20**	**6/23/20**	**16.5 days**	**100 hrs**			
1892	1.6.3.4.	Load Initial PEIA Medical Claims Data File in PROD Envir	5/29/20	6/2/20	2 days	16 hrs	1435,1162,810	1893	ETL Team Lead - Specialists - Operations - Data Modeler
1893	1.6.3.4.	Profile, Analyze & Format Initial PEIA Medical Claims Data Content of the File & Apply Data Cleansing Rules,	6/2/20	6/3/20	1 day	8 hrs	1892	1894	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1894	1.6.3.4.	Adapt Initial PEIA Medical Claims Data Model and Build Baseline Database Conversion Rules	6/3/20	6/4/20	1 day	4 hrs	1893	1895	ETL Team Lead - Specialists - Operations - Data Modeler
1895	1.6.3.4.	Identify & Document Items Requiring Manual Initial PEIA Medical Claims Data Conversion	6/4/20	6/5/20	1 day	8 hrs	1894	1896	ETL Team Lead - Specialists - Operations - Data Modeler
1896	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures PEIA Medical Claims Conversion	6/5/20	6/8/20	1 day	8 hrs	1895	1897	Report Analyst or Tableau Developer
1897	1.6.3.4.	Create Design Package. Produce Converted Initial PEIA Medical Claims Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or Suspect Bad Data	6/8/20	6/9/20	1 day	4 hrs	1896	1898	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1898	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Discuss/Confirm Initial PEIA Medical Claims File Layout. Confirm Timeline for Receiving Incremental Production PEIA Medical Claims File(S) With DHHR & Present Data	6/9/20	6/10/20	0.5 days	4 hrs	1897	1899	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1899	1.6.3.4.	Change Mapping Specifications for Initial PEIA Medical Claims File(s) Based on Feedback from Meeting With	6/10/20	6/11/20	1 day	4 hrs	1898	1900	ETL Team Lead - Specialists - Operations - Data Modeler
1900	1.6.3.4.	Modify Database Tables and Data Mapping Specifications (as necessary)	6/11/20	6/12/20	1 day	4 hrs	1899	1901	ETL Team Lead - Specialists - Operations - Data Modeler
1901	1.6.3.4.	Reload PEIA Medical Claims File In PROD Environment	6/12/20	6/15/20	1 day	2 hrs	1900	1902	ETL Team Lead - Specialists - Operations - Data Modeler
1902	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply Claims Reloaded Data Cleansing Rules	6/15/20	6/16/20	1 day	2 hrs	1901	1903	ETL Team Lead - Specialists - Operations - Data Modeler
1903	1.6.3.4.	Produce Converted PEIA Medical Claims Reloaded Data Lineage Analysis Outcome Report of Mappings, Error	6/16/20	6/17/20	1 day	2 hrs	1902	1904	ETL Team Lead - Specialists - Operations - Data Modeler
1904	1.6.3.4.	Identify & Document PEIA Medical Claims Reload New Data Items Requiring Manual Data Conversion	6/17/20	6/18/20	1 day	2 hrs	1903	1905	ETL Team Lead - Specialists - Operations - Data Modeler
1905	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted PEIA Medical Claims Data	6/18/20	6/19/20	1 day	8 hrs	1904	1906,2044	Test Manager - Testers - QA Specialists
1906	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping of PEIA Medical	6/19/20	6/22/20	1 day	16 hrs	1905	1907	Documentation Management Lead,Quality Assurance Manager

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1907	1.6.3.4.	Develop PEIA Medical Data Content For Global Database Design Document & Database Model Deliverables and Incremental Input to DSD	6/22/20	6/23/20	1 day	8 hrs	1906	1967	Tech Writer and Scribe-Tester-QA
1908	**1.6.3.4.**	**PEIA Pharmacy Claims Data Source Conversion/Mapping/Reporting**	**5/29/20**	**6/23/20**	**16.5 days**	**112 hrs**			
1909	1.6.3.4.	Load Initial PEIA Pharmacy Claims Data File in PROD Er	5/29/20	6/2/20	2 days	16 hrs	1435,1162,814	1910	ETL Team Lead - Specialists - Operations - Data Modeler
1910	1.6.3.4.	Profile, Analyze & Format Initial PEIA Pharmacy Claims Data Content of the File & Apply Data Cleansing Rules,	6/2/20	6/3/20	1 day	8 hrs	1909	1911	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1911	1.6.3.4.	Adapt Initial PEIA Pharmacy Claims Data Model and Build Baseline Database Conversion Rules	6/3/20	6/4/20	1 day	4 hrs	1910	1912	ETL Team Lead - Specialists - Operations - Data Modeler
1912	1.6.3.4.	Identify & Document Items Requiring Manual Initial PEIA Pharmacy Claims Data Conversion	6/4/20	6/5/20	1 day	8 hrs	1911	1913	ETL Team Lead - Specialists - Operations - Data Modeler
1913	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures PEIA Pharmacy Claims Conversion	6/5/20	6/8/20	1 day	8 hrs	1912	1914	Report Analyst or Tableau Developer
1914	1.6.3.4.	Create Design Package. Produce Converted Initial PEIA Pharmacy Claims Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or Suspect Bad	6/8/20	6/9/20	1 day	16 hrs	1913	1915	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1915	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Discuss/Confirm Initial PEIA Pharmacy Claims File Layout. Confirm Timeline for Receiving Incremental Production PEIA Pharmacy Claims File(S) With DHHR &	6/9/20	6/10/20	0.5 days	4 hrs	1914	1916	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1916	1.6.3.4.	Change Mapping Specifications for Initial PEIA Pharmacy Claims File(s) Based on Feedback from	6/10/20	6/11/20	1 day	4 hrs	1915	1917	ETL Team Lead - Specialists - Operations - Data Modeler
1917	1.6.3.4.	Modify Database Tables and Data Mapping Specifications (as necessary)	6/11/20	6/12/20	1 day	4 hrs	1916	1918	ETL Team Lead - Specialists - Operations - Data Modeler
1918	1.6.3.4.	Reload PEIA Pharmacy Claims File in PROD Environme	6/12/20	6/15/20	1 day	2 hrs	1917	1919	ETL Team Lead - Specialists - Operations - Data Modeler
1919	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply Member Reloaded Data Cleansing Rules	6/15/20	6/16/20	1 day	2 hrs	1918	1920	ETL Team Lead - Specialists - Operations - Data Modeler
1920	1.6.3.4.	Produce Converted PEIA Pharmacy Claims Reloaded Data Lineage Analysis Outcome Report of Mappings, Error Conditions, etc.	6/16/20	6/17/20	1 day	2 hrs	1919	1921	ETL Team Lead - Specialists - Operations - Data Modeler
1921	1.6.3.4.	Identify & Document PEIA Pharmacy Claims Reload New Data Items Requiring Manual Data Conversion	6/17/20	6/18/20	1 day	2 hrs	1920	1922	ETL Team Lead - Specialists - Operations - Data Modeler
1922	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted PEIA Pharmacy Claims Data	6/18/20	6/19/20	1 day	8 hrs	1921	1923,2053	Test Manager - Testers - QA Specialists
1923	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping PEIA Pharmacy	6/19/20	6/22/20	1 day	16 hrs	1922	1924	Documentation Management Lead,Quality Assurance Manager
1924	1.6.3.4.	Develop PEIA Pharmacy Claims Draft Content for Global Database Design Document & Database Model Deliverables and Incremental Input to DSD	6/22/20	6/23/20	1 day	8 hrs	1923	1968	Tech Writer and Scribe-Tester-QA
1925	**1.6.3.4.**	**HSC Birth Data Conversion/Mapping/Reporting**	**5/29/20**	**6/23/20**	**16.5 days**	**128 hrs**			
1926	1.6.3.4.	Load Initial HSC Birth Data File in PROD Environment	5/29/20	6/2/20	2 days	16 hrs	1435,1162,818	1927	ETL Team Lead - Specialists - Operations - Data Modeler
1927	1.6.3.4.	Profile, Analyze & Format Initial HSC Birth Data Content of the File & Apply Data Cleansing Rules, Convert & Test	6/2/20	6/3/20	1 day	8 hrs	1926	1928	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1928	1.6.3.4.	Adapt Initial HSC Birth Data Model and Build Baseline Database Conversion Rules	6/3/20	6/4/20	1 day	8 hrs	1927	1929	ETL Team Lead - Specialists - Operations - Data Modeler
1929	1.6.3.4.	Identify & Document Items Requiring Manual Initial HSC Birth Data Conversion	6/4/20	6/5/20	1 day	8 hrs	1928	1930	ETL Team Lead - Specialists - Operations - Data Modeler
1930	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures HSC Birth Data Conversion	6/5/20	6/8/20	1 day	8 hrs	1929	1931	Report Analyst or Tableau Developer
1931	1.6.3.4.	Create Design Package. Produce Converted Initial HSC Birth Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or Suspect Bad Data	6/8/20	6/9/20	1 day	16 hrs	1930	1932	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1932	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Discuss/Confirm Initial Birth File Layout. Confirm Timeline for Receiving Incremental Production Birth File(S) With DHHR & Present Data Lineage Analysis	6/9/20	6/10/20	0.5 days	8 hrs	1931	1933	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1933	1.6.3.4.	Change Mapping Specifications for Initial HSC Birth Data File(s) Based on Feedback from Meeting With DHHR	6/10/20	6/11/20	1 day	8 hrs	1932	1934	ETL Team Lead - Specialists - Operations - Data Modeler
1934	1.6.3.4.	Modify Database Tables and Data Mapping Specification (as necessary)	6/11/20	6/12/20	1 day	8 hrs	1933	1935	ETL Team Lead - Specialists - Operations - Data Modeler
1935	1.6.3.4.	Reload HSC Birth Data File in PROD Environment	6/12/20	6/15/20	1 day	2 hrs	1934	1936	ETL Team Lead - Specialists - Operations - Data Modeler
1936	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply HSC Birth Data Reloaded Data Cleansing Rules	6/15/20	6/16/20	1 day	2 hrs	1935	1937	ETL Team Lead - Specialists - Operations - Data Modeler
1937	1.6.3.4.	Produce Converted HSC Birth Data Reloaded Data Lineage Analysis Outcome Report of Mappings, Error	6/16/20	6/17/20	1 day	2 hrs	1936	1938	ETL Team Lead - Specialists - Operations - Data Modeler
1938	1.6.3.4.	Identify & Document HSC Birth Data Reload New Data Items Requiring Manual Data Conversion	6/17/20	6/18/20	1 day	2 hrs	1937	1939	ETL Team Lead - Specialists - Operations - Data Modeler
1939	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted HSC Birth Data	6/18/20	6/19/20	1 day	8 hrs	1938	1940,2062	Test Manager - Testers - QA Specialists

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1940	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping HSC Birth Data	6/19/20	6/22/20	1 day	16 hrs	1939	1941	Documentation Management Lead,Quality Assurance Manager
1941	1.6.3.4.	Develop HSC Birth Data Content For Global Database Design Document & Database Model Deliverable and Incremental Input to DSD	6/22/20	6/23/20	1 day	8 hrs	1940	1969	Tech Writer and Scribe-Tester-QA
1942	**1.6.3.4.**	**HSC Death Data Conversion/Mapping/Reporting**	**5/29/20**	**6/22/20**	**15.5 days**	**98 hrs**			
1943	1.6.3.4.	Load Initial HSC Death Data File in PROD Environment	5/29/20	6/1/20	1 day	8 hrs	1435,1162,822	1944	ETL Team Lead - Specialists - Operations - Data Modeler
1944	1.6.3.4.	Profile, Analyze & Format Initial HSC Death Data Content of the File & Apply Data Cleansing Rules,	6/1/20	6/2/20	1 day	8 hrs	1943	1945	Business Lead or Analysts,ETL Team Lead - Specialists - Operations - Data Modeler
1945	1.6.3.4.	Adapt Initial HSC Death Data Model and Build Baseline Database Conversion Rules	6/2/20	6/3/20	1 day	4 hrs	1944	1946	ETL Team Lead - Specialists - Operations - Data Modeler
1946	1.6.3.4.	Identify & Document Items Requiring Manual Initial HSC Death Data Conversion	6/3/20	6/4/20	1 day	8 hrs	1945	1947	ETL Team Lead - Specialists - Operations - Data Modeler
1947	1.6.3.4.	Create & Document Balancing & Reconciliation Process/Procedures HSC Death Data Conversion	6/4/20	6/5/20	1 day	8 hrs	1946	1948	Report Analyst or Tableau Developer
1948	1.6.3.4.	Create Design Package: Produce Converted Initial HSC Death Data Lineage Analysis Outcome Report of Mappings, Error Conditions, or Suspect Bad Data	6/5/20	6/8/20	0.5 days	4 hrs	1947	1949	Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations - Data Modeler
1949	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Discuss/Confirm Initial HSC Death File Layout. Confirm Timeline for Receiving Incremental Production HSC Death File(S) With DHHR & Present Data Lineage	6/8/20	6/9/20	1 day	8 hrs	1948	1950	DHHR[0%],ETL Team Lead - Specialists - Operations - Data Modeler,Business Lead or Analysts
1950	1.6.3.4.	Change Mapping Specifications for Initial HSC Death Data File(s) Based on Feedback from Meeting With	6/9/20	6/10/20	1 day	4 hrs	1949	1951	ETL Team Lead - Specialists - Operations - Data Modeler
1951	1.6.3.4.	Modify Database Tables and Data Mapping Specifications (as necessary)	6/10/20	6/11/20	1 day	4 hrs	1950	1952	ETL Team Lead - Specialists - Operations - Data Modeler
1952	1.6.3.4.	Reload HSC Death Data File in PROD Environment	6/11/20	6/12/20	1 day	2 hrs	1951	1953	ETL Team Lead - Specialists - Operations - Data Modeler
1953	1.6.3.4.	Profile, Analyze & Format Data Content of the File & Apply HSC Death Reloaded Data Cleansing Rules	6/12/20	6/15/20	1 day	2 hrs	1952	1954	ETL Team Lead - Specialists - Operations - Data Modeler
1954	1.6.3.4.	Produce Converted HSC Death Data Reloaded Data Lineage Analysis Outcome Report of Mappings, Error	6/15/20	6/16/20	1 day	2 hrs	1953	1955	ETL Team Lead - Specialists - Operations - Data Modeler
1955	1.6.3.4.	Identify & Document HSC Death Data Reload New Data Items Requiring Manual Data Conversion	6/16/20	6/17/20	1 day	2 hrs	1954	1956	ETL Team Lead - Specialists - Operations - Data Modeler
1956	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted HSC Death Data	6/17/20	6/18/20	1 day	8 hrs	1955	1957,2071	Test Manager - Testers - QA Specialists
1957	1.6.3.4.	Finalize Design Package: Database Design Document, Database Model and S2T Mapping For HSC Death Data	6/18/20	6/19/20	1 day	16 hrs	1956	1958	Documentation Management Lead,Quality Assurance Manager
1958	1.6.3.4.	Develop HSC Death Data Draft Content For Global Database Design Document & Database Model Deliverables and Incremental Input to DSD	6/19/20	6/22/20	1 day	8 hrs	1957	1970,2061	Tech Writer and Scribe-Tester-QA
1959	**1.6.3.4.**	**D034 Deliverable: Data Conversion Test Cases - All Data S**	**6/29/20**	**9/2/20**	**46.44 days**	**610.02 hrs**			
1960	1.6.3.4.	Create MMIS Member Eligibility Data Sources Conversion Test Cases	6/29/20	7/1/20	2 days	32 hrs	1788	1961	Test Manager - Testers - QA Specialists
1961	1.6.3.4.	Create MMIS Provider Data Sources Conversion Test Case	7/1/20	7/6/20	2 days	32 hrs	1960,1805	1962	Test Manager - Testers - QA Specialists
1962	1.6.3.4.	Create MMIS Medical Claims Data Sources Conversion Tes	7/6/20	7/9/20	3 days	48 hrs	1961,1822	1963	Test Manager - Testers - QA Specialists
1963	1.6.3.4.	Create MMIS Dental Data Sources Conversion Test Cases	7/9/20	7/14/20	3 days	48 hrs	1962,1839	1964	Test Manager - Testers - QA Specialists
1964	1.6.3.4.	Create MMIS Pharmacy Claims Data Sources Conversion Test Cases	7/14/20	7/17/20	3 days	48 hrs	1963,1856	1965	Test Manager - Testers - QA Specialists
1965	1.6.3.4.	Create MMIS Financial Capitation Data Sources Conversion Test Cases	7/17/20	7/21/20	2 days	32 hrs	1964,1873	1966	Test Manager - Testers - QA Specialists
1966	1.6.3.4.	Create MMIS Prior Authorization Data Sources Conversion Test Cases	7/21/20	7/23/20	2 days	32 hrs	1965,1890	1967	Test Manager - Testers - QA Specialists
1967	1.6.3.4.	Create PEIA Medical Claims Data Source Conversion Test C	7/23/20	7/28/20	3 days	48 hrs	1966,1907	1968	Test Manager - Testers - QA Specialists
1968	1.6.3.4.	Create PEIA Pharmacy Claims Data Source Conversion Te	7/28/20	7/31/20	3 days	48 hrs	1967,1924	1969	Test Manager - Testers - QA Specialists
1969	1.6.3.4.	Create HSC Birth Data Sources Conversion Test Cases	7/31/20	8/3/20	1 day	16 hrs	1968,1941	1970	Test Manager - Testers - QA Specialists
1970	1.6.3.4.	Create HSC Death Data Sources Conversion Test Cases	8/3/20	8/4/20	1 day	16 hrs	1969,1958	1971	Test Manager - Testers - QA Specialists
1971	1.6.3.4.	Schedule & Conduct Walkthrough of Conversion Test Cases With DHHR	8/4/20	8/5/20	1 day	2 hrs	1970	1972	DHHR[0%],Account - Project Manager or Asst PM,ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers -
1972	1.6.3.4.	Send Conversion Test Cases to DHHR For Review (10 Da	8/5/20	8/19/20	10 days	0.01 hrs	1971	1973	Documentation Management Lead[0%],DHHR[0%]
1973	1.6.3.4.	Revise Converted Cases Based on Feedback From DHHR (if applicable) (5 Days)	8/19/20	8/26/20	5 days	208 hrs	1972	1974	Test Manager - Testers - QA Specialists[20%],Business Lead or Analysts[300%],Tech Writer and Scribe-Tester-QA[200%]
1974	1.6.3.4.	Package Converted Test Cases and Send to DHHR for Review and Approval (5 Days)	8/26/20	9/2/20	5 days	0.01 hrs	1973	1975	Documentation Management Lead[0%],DHHR[0%]
1975	***1.6.3.4.***	***Milestone Deliverable D034: DHHR Approved Conversion Data Sources Test Cases***	***9/2/20***	***9/2/20***	***0 days***	***0 hrs***	***1974***	***2244,44,213***	Account - Project Manager or Asst PM
1976	**1.6.3.4.**	**Data Modeling & Conversion: Incremental 1 (3 Months PROD Data Source Files Request to DHHR**	**3/3/20**	**7/24/20**	**101.3 days**	**578 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
1977	1.6.3.4.	Request DHHR to Send 1st 3 Months Production MMIS Data Sources (1 month wait)	3/3/20	3/3/20	1 day	4 hrs	3	1978FS+70 days	DHHR,Technical Lead
1978	*1.6.3.4.*	***Milestone: Receive 1st Incremental Data Sources From***	*6/10/20*	*6/10/20*	*0 days*	*0 hrs*	*1977FS+70 da*	*1980,1989,1*	Account - Project Manager or Asst PM
1979	**1.6.3.4.**	**Incremental Data Source 1 (3 Months) - Member Eligibility (FFS, CHIP, MCO)**	**6/11/20**	**7/24/20**	**30.3 days**	**48 hrs**			
1980	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - Member Eligibility (FFS, CHIP, MCO)	6/11/20	6/11/20	0.5 days	4 hrs	1978,1162	2314	ETL Team Lead - Specialists - Operations - Data Modeler
1981	1.6.3.4.	Load Member Eligibility Incremental Data File 1 in PROD Environment	6/25/20	6/26/20	1 day	4 hrs	1786	1982,2080	ETL Team Lead - Specialists - Operations - Data Modeler
1982	1.6.3.4.	Perform Member Eligibility Incremental Data File 1 Conversion Tool Suite Processing & Balancing & Modify	6/26/20	6/30/20	2 days	4 hrs	1981	1983	ETL Team Lead - Specialists - Operations - Data Modeler
1983	1.6.3.4.	Identify & Document New Member Eligibility Data File 1 Data Items Requiring Manual Data Conversion	6/30/20	7/1/20	1 day	4 hrs	1982	1984	ETL Team Lead - Specialists - Operations - Data Modeler
1984	1.6.3.4.	Perform Dev Functional Testing of Member Eligibility Data - Incremental Data File 1	7/1/20	7/2/20	1 day	8 hrs	1983	1985	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
1985	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted Member Eligibility Data File 1	7/2/20	7/6/20	1 day	8 hrs	1984	1986	Test Manager - Testers - QA Specialists
1986	1.6.3.4.	Generate Member Eligibility Data File 1 Error Reports and/or Generate Report of Bad Data Transferred	7/6/20	7/7/20	1 day	8 hrs	1985	1987	Report Analyst or Tableau Developer
1987	1.6.3.4.	Load 3 Months of Production Data in SIT & UAT Environn	7/23/20	7/24/20	1 day	8 hrs	1986,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
1988	**1.6.3.4.**	**Incremental Data Source 1 (3 Months) - Provider, Provider Enrollment, Ownership (FFS, CHIP, MCO)**	**6/11/20**	**7/24/20**	**30.3 days**	**52 hrs**			
1989	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - Provider, Provider Enrollment, Ownership (FFS, CHIP,	6/11/20	6/11/20	0.5 days	4 hrs	1978	1990	ETL Team Lead - Specialists - Operations - Data Modeler
1990	1.6.3.4.	Load Provider, Provider Enrollment, Ownership Incremental File 1 in PROD Environment	6/29/20	6/30/20	1 day	4 hrs	1803,1989	1991,2080	ETL Team Lead - Specialists - Operations - Data Modeler
1991	1.6.3.4.	Perform Provider, Provider Enrollment, Ownership Incremental File 1 Conversion Tool Suite Processing &	6/30/20	7/1/20	1 day	4 hrs	1990	1992	ETL Team Lead - Specialists - Operations - Data Modeler
1992	1.6.3.4.	Identify & Document New Provider, Provider Enrollment, Ownership File 1 Data Items Requiring Manual Data	7/1/20	7/6/20	2 days	8 hrs	1991	1993	ETL Team Lead - Specialists - Operations - Data Modeler
1993	1.6.3.4.	Perform Dev Functional Testing of Provider Data - Incremental Data File 1	7/6/20	7/7/20	1 day	8 hrs	1992	1994	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
1994	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted Provider, Provider Enrollment, Ownership	7/7/20	7/8/20	1 day	8 hrs	1993	1995	Test Manager - Testers - QA Specialists
1995	1.6.3.4.	Generate Provider, Provider Enrollment, Ownership File 1 Error Reports and/or Generate Report of Bad Data	7/8/20	7/9/20	1 day	8 hrs	1994	1996	Report Analyst or Tableau Developer
1996	1.6.3.4.	Load 3 Months of Production Data in SIT & UAT Environn	7/23/20	7/24/20	1 day	8 hrs	1995,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
1997	**1.6.3.4.**	**Incremental Data Source 1 (3 Months) - MMIS Medical Claims (FFS, CHIP, MCO)**	**6/11/20**	**7/24/20**	**30.3 days**	**56 hrs**			
1998	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - MMIS Medical Claims (FFS, CHIP, MCO)	6/11/20	6/11/20	0.5 days	4 hrs	1978	1999	ETL Team Lead - Specialists - Operations - Data Modeler
1999	1.6.3.4.	Load MMIS Medical Claims Incremental File 1 in PROD Environment	6/30/20	7/2/20	*2 days*	*8 hrs*	*1820,1998*	*2000,2080*	ETL Team Lead - Specialists - Operations - Data Modeler
2000	1.6.3.4.	Perform MMIS Medical Claims Incremental File 1 Conversion Tool Suite Processing & Balancing	7/2/20	7/6/20	1 day	4 hrs	1999	2001	ETL Team Lead - Specialists - Operations - Data Modeler
2001	1.6.3.4.	Identify & Document New MMIS Medical Claims File 1 Data Items Requiring Manual Data Conversion	7/6/20	7/8/20	2 days	8 hrs	2000	2002	ETL Team Lead - Specialists - Operations - Data Modeler
2002	1.6.3.4.	Perform Dev Functional Testing of MMIA Medical Claims Data - Incremental Data File 1	7/8/20	7/9/20	1 day	8 hrs	2001	2003	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2003	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Medical Claims Data File 1	7/9/20	7/10/20	1 day	8 hrs	2002	2004	Test Manager - Testers - QA Specialists
2004	1.6.3.4.	Generate MMIS Medical Claims File 1 Error Reports and/or Generate Report of Bad Data Transferred	7/10/20	7/13/20	1 day	8 hrs	2003	2005	Report Analyst or Tableau Developer
2005	1.6.3.4.	Load 3 Months of MMIS Medical Claims Production Data Into SIT & UAT Environments	7/23/20	7/24/20	1 day	8 hrs	2004,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
2006	**1.6.3.4.**	**Incremental Data Source 1 (3 Months) - MMIS Dental Claims (FFS, CHIP, MCO)**	**6/11/20**	**7/24/20**	**30.3 days**	**52 hrs**			
2007	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - MMIS Dental Claims (FFS, CHIP, MCO)	6/11/20	6/11/20	0.5 days	4 hrs	1978	2008	ETL Team Lead - Specialists - Operations - Data Modeler
2008	1.6.3.4.	Load MMIS Dental Claims Incremental File 1 in PROD Er	6/18/20	6/22/20	*2 days*	*4 hrs*	*1837,2007*	*2009,2080*	ETL Team Lead - Specialists - Operations - Data Modeler
2009	1.6.3.4.	Perform MMIS Dental Claims Incremental File 1 Conversion Tool Suite Processing & Balancing	6/22/20	6/23/20	1 day	4 hrs	2008	2010	ETL Team Lead - Specialists - Operations - Data Modeler
2010	1.6.3.4.	Identify & Document New MMIS Dental Claims File 1 Data Items Requiring Manual Data Conversion	6/23/20	6/25/20	2 days	8 hrs	2009	2011	ETL Team Lead - Specialists - Operations - Data Modeler
2011	1.6.3.4.	Perform Dev Functional Testing of MMIS Dental Claims Data - Incremental Data File 1	6/25/20	6/26/20	1 day	8 hrs	2010	2012	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2012	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Dental Claims Data File 1	6/26/20	6/29/20	1 day	8 hrs	2011	2013	Test Manager - Testers - QA Specialists
2013	1.6.3.4.	Generate MMIS Dental Claims File 1 Error Reports and/or Generate Report of Bad Data Transferred	6/29/20	6/30/20	1 day	8 hrs	2012	2014	Report Analyst or Tableau Developer

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2014	1.6.3.4.	Load 3 Months of MMIS Dental Claims Data Into SIT & UAT Environments	7/23/20	7/24/20	1 day	8 hrs	2013,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
2015	1.6.3.4.	**Incremental Data Source 1 (3 Months) - MMIS Pharmacy Claims (FFS, CHIP, MCO)**	6/11/20	7/24/20	30.3 days	46 hrs			
2016	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - MMIS Pharmacy Claims (FFS, CHIP, MCO)	6/11/20	6/11/20	0.5 days	4 hrs	1978	2017	ETL Team Lead - Specialists - Operations - Data Modeler
2017	1.6.3.4.	Load MMIS Pharmacy Claims Incremental File 1 in PROD Environment	6/19/20	6/23/20	*2 days*	*8 hrs*	*1854,2016*	*2018,2080*	ETL Team Lead - Specialists - Operations - Data Modeler
2018	1.6.3.4.	Perform MMIS Pharmacy Claims Incremental File 1 Conversion Tool Suite Processing & Balancing	6/23/20	6/24/20	1 day	2 hrs	2017	2019	ETL Team Lead - Specialists - Operations - Data Modeler
2019	1.6.3.4.	Identify & Document New MMIS Pharmacy Claims File 1 Data Items Requiring Manual Data Conversion	6/24/20	6/26/20	2 days	4 hrs	2018	2020	ETL Team Lead - Specialists - Operations - Data Modeler
2020	1.6.3.4.	Perform Dev Functional Testing of MMIS Pharmacy Claims Data - Incremental Data File 1	6/26/20	6/29/20	1 day	8 hrs	2019	2021	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2021	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Pharmacy Claims Data File 1	6/29/20	6/30/20	1 day	8 hrs	2020	2022	Test Manager - Testers - QA Specialists
2022	1.6.3.4.	Generate MMIS Pharmacy Claims File 1 Error Reports and/or Generate Report of Bad Data Transferred	6/30/20	7/1/20	1 day	8 hrs	2021	2023	Report Analyst or Tableau Developer
2023	1.6.3.4.	Load 3 Months of MMIS Pharmacy Claims Production Data Into SIT & UAT Environments	7/23/20	7/24/20	1 day	4 hrs	2022,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
2024	1.6.3.4.	**Incremental Data Source 1 (3 Months) - MMIS Financial Capitation (FFS, CHIP, MCO)**	6/11/20	7/24/20	30.3 days	44 hrs			
2025	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - MMIS Financial Capitation (FFS, CHIP, MCO)	6/11/20	6/11/20	0.5 days	4 hrs	1978	2026	ETL Team Lead - Specialists - Operations - Data Modeler
2026	1.6.3.4.	Load MMIS Financial Capitation Incremental File 1 in PROD Environment	6/19/20	6/23/20	*2 days*	*8 hrs*	*1871,2025*	*2027,2080*	ETL Team Lead - Specialists - Operations - Data Modeler
2027	1.6.3.4.	Perform MMIS Financial Capitation Incremental File 1 Conversion Tool Suite Processing & Balancing	6/23/20	6/24/20	1 day	4 hrs	2026	2028	FADS Automation Analyst
2028	1.6.3.4.	Identify & Document New MMIS Financial Capitation File 1 Data Items Requiring Manual Data Conversion	6/24/20	6/26/20	2 days	8 hrs	2027	2029	ETL Team Lead - Specialists - Operations - Data Modeler
2029	1.6.3.4.	Perform Dev Functional Testing of Financial Capitation Data - Incremental Data File 1	6/26/20	6/29/20	1 day	8 hrs	2028	2030	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2030	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Financial Capitation Data File 1	6/29/20	6/30/20	1 day	0 hrs	2029	2031	
2031	1.6.3.4.	Generate MMIS Financial Capitation File 1 Error Reports and/or Generate Report of Bad Data Transferred	6/30/20	7/1/20	1 day	8 hrs	2030	2032	Report Analyst or Tableau Developer
2032	1.6.3.4.	Load 3 Months of MMIS Financial Capitation Data Into SIT & UAT Environments	7/23/20	7/24/20	1 day	4 hrs	2031,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
2033	1.6.3.4.	**Incremental Data Source 1 (3 Months) - MMIS Prior Authorization (FFS, CHIP, MCO)**	6/11/20	7/24/20	30.3 days	60 hrs			
2034	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - MMIS Prior Authorization (FFS, CHIP, MCO)	6/11/20	6/11/20	0.5 days	4 hrs	1978	2035	ETL Team Lead - Specialists - Operations - Data Modeler
2035	1.6.3.4.	Load MMIS Prior Authorization Incremental File 1 in PROD Environment	6/19/20	6/23/20	*2 days*	*16 hrs*	*1888,2034*	*2036,2080*	ETL Team Lead - Specialists - Operations - Data Modeler
2036	1.6.3.4.	Perform MMIS Prior Authorization Incremental File 1 Conversion Tool Suite Processing & Balancing	6/23/20	6/24/20	1 day	4 hrs	2035	2037	ETL Team Lead - Specialists - Operations - Data Modeler
2037	1.6.3.4.	Identify & Document New MMIS Prior Authorization File 1 Data Items Requiring Manual Data Conversion	6/24/20	6/26/20	2 days	4 hrs	2036	2038	ETL Team Lead - Specialists - Operations - Data Modeler
2038	1.6.3.4.	Perform Dev Functional Testing of Prior Authorization Data - Incremental Data File 1	6/26/20	6/29/20	1 day	12 hrs	2037	2039	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2039	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted MMIS Prior Authorization Data File 1	6/29/20	6/30/20	1 day	8 hrs	2038	2040	Test Manager - Testers - QA Specialists
2040	1.6.3.4.	Generate MMIS Prior Authorization File 1 Error Reports and/or Generate Report of Bad Data Transferred	6/30/20	7/1/20	1 day	8 hrs	2039	2041	Report Analyst or Tableau Developer
2041	1.6.3.4.	Load 3 Months of MMIS PA Production Data in SIT & UAT Environments	7/23/20	7/24/20	1 day	4 hrs	2040,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
2042	1.6.3.4.	**Incremental Data Source 1 (3 Months) - PEIA Medical Claims (FFS, CHIP, MCO)**	6/11/20	7/24/20	30.3 days	52 hrs			
2043	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - PEIA Medical Claims (FFS, CHIP, MCO)	6/11/20	6/11/20	0.5 days	4 hrs	1978	2044	ETL Team Lead - Specialists - Operations - Data Modeler
2044	1.6.3.4.	Load PEIA Medical Claims Incremental File 1 in PROD Environment	6/19/20	6/23/20	*2 days*	*8 hrs*	*1905,2043*	*2045,2080*	ETL Team Lead - Specialists - Operations - Data Modeler
2045	1.6.3.4.	Perform PEIA Medical Claims Incremental File 1 Conversion Tool Suite Processing & Balancing	6/23/20	6/24/20	1 day	4 hrs	2044	2046	ETL Team Lead - Specialists - Operations - Data Modeler
2046	1.6.3.4.	Identify & Document New PEIA Medical Claims File 1 Data Items Requiring Manual Data Conversion	6/24/20	6/26/20	2 days	8 hrs	2045	2047	ETL Team Lead - Specialists - Operations - Data Modeler
2047	1.6.3.4.	Perform Dev Functional Testing of PEIA Medical Data - Incremental Data File 1	6/26/20	6/29/20	1 day	8 hrs	2046	2048	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2048	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted PEIA Medical Claims Data File 1	6/29/20	6/30/20	1 day	8 hrs	2047	2049	Test Manager - Testers - QA Specialists

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2049	1.6.3.4.	Generate PEIA Medical Claims File 1 Error Reports and/or Generate Report of Bad Data Transferred	6/30/20	7/1/20	1 day	8 hrs	2048	2050	Report Analyst or Tableau Developer
2050	1.6.3.4.	Load 3 Months of PEIA Medical Claims Data Into SIT & UAT Environments	7/23/20	7/24/20	1 day	4 hrs	2049,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
2051	**1.6.3.4.**	**Incremental Data Source 1 (3 Months) - PEIA Pharmacy**	**6/11/20**	**7/24/20**	**30.3 days**	**52 hrs**			
2052	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - PEIA Pharmacy Claims	6/11/20	6/11/20	0.5 days	4 hrs	1978	2053	ETL Team Lead - Specialists - Operations - Data Modeler
2053	1.6.3.4.	Load PEIA Pharmacy Claims Incremental File 1 in PROD Environment	6/19/20	6/23/20	*2 days*	*8 hrs*	*1922,2052*	*2054,2080*	ETL Team Lead - Specialists - Operations - Data Modeler
2054	1.6.3.4.	Perform PEIA Pharmacy Claims Incremental File 1 Conversion Tool Suite Processing & Balancing	6/23/20	6/24/20	1 day	4 hrs	2053	2055	ETL Team Lead - Specialists - Operations - Data Modeler
2055	1.6.3.4.	Identify & Document New PEIA Pharmacy Claims File 1 Data Items Requiring Manual Data Conversion	6/24/20	6/26/20	2 days	4 hrs	2054	2056	ETL Team Lead - Specialists - Operations - Data Modeler
2056	1.6.3.4.	Perform Dev Functional Testing of PEIA Pharmacy Data - Incremental Data File 1	6/26/20	6/29/20	1 day	8 hrs	2055	2057	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2057	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted PEIA Pharmacy Claims Data File 1	6/29/20	6/30/20	1 day	8 hrs	2056	2058	Test Manager - Testers - QA Specialists
2058	1.6.3.4.	Generate PEIA Pharmacy Claims File 1 Error Reports and/or Generate Report of Bad Data Transferred	6/30/20	7/1/20	1 day	8 hrs	2057	2059	Report Analyst or Tableau Developer
2059	1.6.3.4.	Load 3 Months of PEIA Pharmacy Data in SIT & UAT Env	7/23/20	7/24/20	1 day	8 hrs	2058,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
2060	**1.6.3.4.**	**Incremental Data Source 1 (3 Months) - HSC Birth Data**	**6/22/20**	**7/24/20**	**23.3 days**	**60 hrs**			
2061	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - HSC B	6/22/20	6/22/20	0.5 days	4 hrs	1978,1958	2062	ETL Team Lead - Specialists - Operations - Data Modeler
2062	1.6.3.4.	Load HSC Birth Data Incremental File 1 in PROD Environ	6/22/20	6/24/20	*2 days*	*8 hrs*	*1939,2061*	*2063*	ETL Team Lead - Specialists - Operations - Data Modeler
2063	1.6.3.4.	Perform HSC Birth Data Incremental File 1 Conversion Tool Suite Processing & Balancing	6/24/20	6/25/20	1 day	12 hrs	2062	2064	ETL Team Lead - Specialists - Operations - Data Modeler,Sr. DBA and DBA
2064	1.6.3.4.	Identify & Document New HSC Birth Data File 1 Data Items Requiring Manual Data Conversion	6/25/20	6/29/20	2 days	8 hrs	2063	2065	ETL Team Lead - Specialists - Operations - Data Modeler
2065	1.6.3.4.	Perform Dev Functional Testing of HSC Birth Data - Incremental Data File 1	6/29/20	6/30/20	1 day	8 hrs	2064	2066	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2066	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted HSC Birth Data File 1	6/30/20	7/1/20	1 day	8 hrs	2065	2067	Test Manager - Testers - QA Specialists
2067	1.6.3.4.	Generate HSC Birth Data File 1 Error Reports and/or Generate Report of Bad Data Transferred	7/1/20	7/2/20	1 day	8 hrs	2066	2068	Report Analyst or Tableau Developer
2068	1.6.3.4.	Load 3 Months of HSC Birth Data Into SIT & UAT Environ	7/23/20	7/24/20	1 day	4 hrs	2067,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
2069	**1.6.3.4.**	**Incremental Data Source 1 (3 Months) - HSC Death Data**	**6/11/20**	**7/24/20**	**30.3 days**	**52 hrs**			
2070	1.6.3.4.	Received Incremental Data Source 1 (3 Months) - HSC Death Data	6/11/20	6/11/20	0.5 days	4 hrs	1978	2071	ETL Team Lead - Specialists - Operations - Data Modeler
2071	1.6.3.4.	Load HSC Death Data Incremental File 1 in PROD Envir	6/18/20	6/19/20	1 day	4 hrs	1956,2070	2072	ETL Team Lead - Specialists - Operations - Data Modeler
2072	1.6.3.4.	Perform HSC Death Data Incremental File 1 Conversion Tool Suite Processing & Balancing	6/19/20	6/23/20	2 days	8 hrs	2071	2073	ETL Team Lead - Specialists - Operations - Data Modeler
2073	1.6.3.4.	Identify & Document New HSC Death Data File 1 Data Items Requiring Manual Data Conversion	6/23/20	6/24/20	1 day	8 hrs	2072	2074	ETL Team Lead - Specialists - Operations - Data Modeler
2074	1.6.3.4.	Perform Dev Functional Testing of HSC Death Data - Incremental Data File 1	6/24/20	6/25/20	1 day	8 hrs	2073	2075	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2075	1.6.3.4.	Perform Quality Checks and Validate Accuracy of Converted HSC Death Data File 1	6/25/20	6/26/20	1 day	8 hrs	2074	2076	Test Manager - Testers - QA Specialists
2076	1.6.3.4.	Generate HSC Death Data File 1 Error Reports and/or Generate Report of Bad Data Transferred	6/26/20	6/29/20	1 day	8 hrs	2075	2077	Report Analyst or Tableau Developer
2077	1.6.3.4.	Load 3 Months of Production HSC Death Data in SIT & UAT Environments	7/23/20	7/24/20	1 day	4 hrs	2076,1540	2139,2078	ETL Team Lead - Specialists - Operations - Data Modeler
2078	1.6.3.4.	*Milestone: Incremental Data Source (3 Months) All files co*	7/24/20	7/24/20	0 days	0 hrs	1987,1996,200		Account - Project Manager or Asst PM
2079	**1.6.3.4.**	**D035 Deliverable: Data Conversion Test Results**	**7/2/20**	**8/4/20**	**22 days**	**302.03 hrs**			
2080	1.6.3.4.	Generate Balancing, Error Reports and/or Generate Report of Bad Data Transferred	7/2/20	7/10/20	5 days	30 hrs	1981,1990,199	2081	ETL Team Lead - Specialists - Operations - Data Modeler[75%],Test Manager - Testers - QA Specialists[38%]
2081	1.6.3.4.	Record, Mitigate and Track Defects - Retest Cases and Package For Walkthrough With DHHR	7/10/20	7/13/20	1 day	8 hrs	2080	2082	Test Manager - Testers - QA Specialists
2082	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Discuss Conversion Outcomes	7/13/20	7/14/20	1 day	24 hrs	2081	2083	DHHR[0%],Technical Lead,ETL Team Lead - Specialists - Operations - Data Modeler,Account - Project Manager or Asst PM
2083	1.6.3.4.	Send Data Conversion Test Results to DHHR for Review	7/14/20	7/28/20	10 days	80 hrs	2082	2084,2088,2	DHHR[60%],Quality Assurance Manager,Documentation Manageme
2084	1.6.3.4.	Respond to Comment Log From DHHR. If needed, Rerun Reports, Modify and/or Retest Data Conversation Results Based on Feedback From DHHR	7/28/20	8/4/20	5 days	160 hrs	2083	2085	Test Manager - Testers - QA Specialists,Business Lead or Analysts[200%],Tech Writer and Scribe-Tester-QA
2085	1.6.3.4.	Send Final Data Conversion Test Results to DHHR for Appr	8/4/20	8/4/20	0 days	0.03 hrs	2084	2086	DHHR[60%],Quality Assurance Manager[0%],Documentation Manag
2086	*1.6.3.4.*	***Milestone Deliverable D035: DHHR Approval of Data Conversion Test Results & Balancing/Reconciliation of***	***8/4/20***	***8/4/20***	***0 days***	***0 hrs***	***2085***	***45,2144,215 days,2781,***	Account - Project Manager or Asst PM
2087	**1.6.3.4.**	**D036 Deliverable: Database Design Document and Data M**	**7/28/20**	**9/2/20**	**26.75 days**	**212.02 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2088	1.6.3.4.I	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria For The Database Design and Data Models	7/28/20	7/28/20	0.25 days	6 hrs	2083	2089	Documentation Management Lead,Technical Lead,DHHR
2089	1.6.3.4.I	Finalize the Development of the Database Design and Data	7/28/20	7/31/20	3 days	48 hrs	2088	2090	Technical Lead,ETL Team Lead - Specialists - Operations - Data Mo
2090	1.6.3.4.I	QA Database Design Document and Database Models	7/31/20	8/3/20	0.25 days	2 hrs	2089	2091	Quality Assurance Manager
2091	1.6.3.4.I	Revise Database Design Document and Database Models Based on Feedback From QA	8/3/20	8/4/20	1 day	8 hrs	2090	2092	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2092	1.6.3.4.I	Schedule and Conduct Walkthrough of the Database Design/Models With DHHR	8/4/20	8/4/20	0.25 days	4 hrs	2091	2093	DHHR[0%],Technical Lead,Account - Project Manager or Asst PM
2093	1.6.3.4.I	Revise Design/Models Based on Feedback From DHHR	8/4/20	8/5/20	1 day	4 hrs	2092	2094	ETL Team Lead - Specialists - Operations - Data Modeler
2094	1.6.3.4.I	Send Final Design/Models to DHHR for Review (10 Days)	8/5/20	8/19/20	10 days	0.01 hrs	2093	2095	Documentation Management Lead[0%],DHHR[0%]
2095	1.6.3.4.I	Modify Based on Feedback from DHHR (5 Days)	8/19/20	8/26/20	5 days	140 hrs	2094	2096	ETL Team Lead - Specialists - Operations - Data Modeler,Business L
2096	1.6.3.4.I	Send Final Design/Models to DHHR for Approval (5 Days)	8/26/20	9/2/20	5 days	0.01 hrs	2095	2097	DHHR[0%],Documentation Management Lead[0%]
2097	*1.6.3.4.*	***Milestone Deliverable D036: DHHR Approved Database Design/Models***	***9/2/20***	***9/2/20***	***0 days***	***0 hrs***	***2096***	***46,2136***	Account - Project Manager or Asst PM
2098	**1.6.3.4.**	**D037 Deliverable: Detailed System Design (DSD) Docume**	**7/28/20**	**10/22/20**	**60.89 days**	**3,506.02 hrs**			
2099	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Detailed System Design (DSD) Document	7/28/20	7/29/20	0.5 days	12 hrs	2083	2104	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
2100	**1.6.3.4.**	**Cycle 1: Detailed System Design (DSD) Document (DR/**	**8/26/20**	**10/12/20**	**31.5 days**	**3,134.01 hrs**			
2101	1.6.3.4.	Implementation and ETL Support	9/1/20	9/30/20	20 days	1,600 hrs	2110	2123	Account - Project Manager or Asst PM,Business Lead or Analysts[250
2102	1.6.3.4.	Application Administrator Support	9/1/20	10/12/20	28 days	1,008 hrs	2110	2123	Application Administrator,Tech Writer and Scribe-Tester-QA[200%],S
2103	**1.6.3.4.**	**Conduct JAD Sessions as Identified in Requirements Analysis (by RTM Categories)**	**8/26/20**	**9/9/20**	**8.5 days**	**426 hrs**			
2104	1.6.3.4.	Design Session 1: Care Management	8/26/20	8/27/20	0.5 days	36 hrs	2099,1353	2105	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2105	1.6.3.4.	Design Sessions 2: Data Sources, Delivery & Display	8/27/20	8/27/20	0.5 days	36 hrs	2104	2106	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2106	1.6.3.4.	Design Session 3: Data Quality	8/27/20	8/28/20	0.5 days	36 hrs	2105	2107	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2107	1.6.3.4.	Design Session 4: Solution Backup, Disaster Recovery &	8/28/20	8/28/20	0.5 days	36 hrs	2106	2108	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2108	1.6.3.4.	Design Session 5: Financial Management	8/28/20	8/31/20	0.5 days	36 hrs	2107	2109	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2109	1.6.3.4.	Design Session 6: Hardware and Infrastructure	8/31/20	8/31/20	0.5 days	36 hrs	2108	2110	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2110	1.6.3.4.	Design Session 7: Operations	8/31/20	9/1/20	0.5 days	36 hrs	2109	2111,2102,2	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2111	1.6.3.4.	Design Session 8: Program & Project Management	9/1/20	9/1/20	0.5 days	36 hrs	2110	2112	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2112	1.6.3.4.	Design Session 9: Security Management	9/1/20	9/2/20	0.5 days	36 hrs	2111	2113	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2113	1.6.3.4.	Design Session 10: Training	9/2/20	9/2/20	0.5 days	36 hrs	2112	2114	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2114	1.6.3.4.	Design Session 11: Service Level Agreements (SLA)	9/2/20	9/3/20	0.5 days	36 hrs	2113	2115	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2115	1.6.3.4.	Additional Design Sessions as required	9/3/20	9/9/20	3 days	30 hrs	2114	2116	Business Lead or Analysts,Quality Assurance Manager,DHHR[0%],Tes
2116	1.6.3.4.	Develop Draft Detailed System Design (DSD) Document	9/9/20	9/23/20	10 days	80 hrs	2115	2117	Business Lead or Analysts
2117	1.6.3.4.	Schedule & Conduct Internal Meeting With QA on Detailed System Design (DSD) Document	9/23/20	9/23/20	0.25 days	4 hrs	2116	2118	Quality Assurance Manager,Business Lead or Analysts
2118	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Review Detailed System Design (DSD) Document	9/23/20	9/24/20	1 day	16 hrs	2117	2119	DHHR[0%],Business Lead or Analysts,Tech Writer and Scribe-Tester-QA
2119	1.6.3.4.	Submit Detailed System Design (DSD) Document to DHHR For Review (10 Days)	9/24/20	10/8/20	10 days	0.01 hrs	2118	2121	Documentation Management Lead[0%],DHHR[0%]
2120	**1.6.3.4.**	**Cycle 2: Detailed System Design (DSD) Document (FIN/**	**10/8/20**	**10/22/20**	**10 days**	**360.01 hrs**			
2121	1.6.3.4.	Revise Detailed System Design (DSD) Document From DHHR Comments Log (5 Days)	10/8/20	10/15/20	5 days	360 hrs	2119	2122	Business Lead or Analysts[300%],Sr. DBA and DBA,Tech Writer and Scribe-Tester-QA,ETL Team Lead - Specialists - Operations -
2122	1.6.3.4.	Submit Detailed System Design (DSD) Document to DHHR for Final Review (5 Days)	10/15/20	10/22/20	5 days	0.01 hrs	2121	2123	DHHR[0%],Documentation Management Lead[0%]
2123	*1.6.3.4.*	***Milestone Deliverable D037: Detailed System Design (DSD) Document Approved by DHHR***	***10/22/20***	***10/22/20***	***0 days***	***0 hrs***	***2122,2102,210***	***2125,47,23***	Account - Project Manager or Asst PM
2124	**1.6.3.4.**	**D38 Deliverable: Disaster Recovery and Business Continuity Plan**	**10/22/20**	**12/3/20**	**28.24 days**	**598.86 hrs**			
2125	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Disaster Recovery and Business Continuity	10/22/20	10/22/20	0.24 days	3.84 hrs	2123	2127,2128	Documentation Management Lead,Information Security Architect / Privacy Data Protection Officer,DHHR[0%]
2126	**1.6.3.4.**	**Cycle 1: Disaster Recovery and Business Continuity (D**	**10/22/20**	**11/17/20**	**18 days**	**345.01 hrs**			
2127	1.6.3.4.	Develop Draft Disaster Recovery and Business Continuity	10/22/20	11/2/20	7 days	288 hrs	2125	2129	Information Security Architect / Privacy Data Protection Officer,Tech
2128	1.6.3.4.	Schedule & Conduct Internal Meeting With QA on Disaster Recovery and Business Continuity	10/22/20	10/22/20	0.25 days	5 hrs	2125	2130	Information Security Architect / Privacy Data Protection Officer[50%],Quality Assurance Manager,Test Manager - Testers -
2129	1.6.3.4.	Revise Disaster Recovery and Business Continuity From QA Review Feedback	11/2/20	11/3/20	1 day	50 hrs	2127	2131	Information Security Architect / Privacy Data Protection Officer[50%],Tech Writer and Scribe-Tester-QA,Sr. DBA and

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2130	1.6.3.4.	Schedule & Conduct Meeting With DHHR to Review Disaster Recovery and Business Continuity	10/22/20	10/23/20	0.5 days	2 hrs	2128	2131	DHHR[0%],Information Security Architect / Privacy Data Protection Officer[50%],Account - Project Manager or Asst PM,Tech Writer and
2131	1.6.3.4.	Submit Disaster Recovery and Business Continuity to DHHR For Review (10 Days)	11/3/20	11/17/20	10 days	0.01 hrs	2129,2130	2133	Documentation Management Lead[0%],DHHR[0%]
2132	**1.6.3.4.**	**Cycle 2: Disaster Recovery and Business Continuity (FI**	**11/17/20**	**12/3/20**	**10 days**	**250.01 hrs**			
2133	1.6.3.4.	Revise Disaster Recovery and Business Continuity From DHHR Comments Log (5 Days)	11/17/20	11/24/20	5 days	250 hrs	2131	2134	Information Security Architect / Privacy Data Protection Officer[50%],Tech Writer and Scribe-Tester-QA,Sr. DBA and
2134	1.6.3.4.	Submit Disaster Recovery and Business Continuity to DHHR for Final Review (5 Days)	11/24/20	12/3/20	5 days	0.01 hrs	2133	2135	DHHR[0%],Documentation Management Lead[0%]
2135	*1.6.3.4.*	***Milestone D038: Disaster Recovery and Business Continuity Approved by DHHR***	***12/3/20***	***12/3/20***	***0 days***	***0 hrs***	***2134***	***48,2136***	Account - Project Manager or Asst PM
2136	1.6.3.5	***Milestone: Phase 1 EDS Data Modeling & Conversion***	12/3/20	12/3/20	0 days	0 hrs	1975,2086,209	2756	Account - Project Manager or Asst PM
2137	**1.6.3.6**	**Phase 1 EDS System Integration Testing (SIT) Preparation**	**6/26/20**	**10/23/20**	**82.45 days**	**2,704.61 hrs**			
2138	**1.6.3.6.**	**Data Modeling and Conversion For SIT**	**7/24/20**	**9/2/20**	**28.21 days**	**1,432.58 hrs**			
2139	1.6.3.6.	Request Incremental Data Source Files #2 (12 Mos. MMIS Prod Data to Convert For SIT) 1 month wait	7/24/20	8/14/20	15 days	4 hrs	2068,2077,208 days,2059,205	2140,2141	Technical Lead[0%],DHHR[0%]
2140	*1.6.3.6.*	***Milestone: 12 Months of Data Source Files Received From DHHR***	***8/14/20***	***8/14/20***	***0 days***	***0 hrs***	***2139***	***2143,2152,2 days,2206,***	Account - Project Manager or Asst PM
2141	1.6.3.6.	Additional Support	8/14/20	8/25/20	7 days	280 hrs	2139	2241	Business Lead or Analysts[200%],Sr. DBA and DBA,Tech Writer and S
2142	**1.6.3.6.**	**Incremental Data Source #2 (12 Months): MMIS Member Eligibility (FFS, CHIP, MCO) File**	**8/14/20**	**8/25/20**	**7.5 days**	**60 hrs**			
2143	1.6.3.6.	Received Incremental Data Source # 2 (12 Months) - Member Eligibility (FFS, CHIP, MCO)	8/14/20	8/14/20	0.5 days	4 hrs	2140	2144	ETL Team Lead - Specialists - Operations - Data Modeler
2144	1.6.3.6.	Load Member Eligibility Incremental Data File # 2 in PROD Environment	8/14/20	8/17/20	1 day	8 hrs	2086,2143,116	2145	ETL Team Lead - Specialists - Operations - Data Modeler
2145	1.6.3.6.	Perform Member Eligibility Incremental Data File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	8 hrs	2144	2146	ETL Team Lead - Specialists - Operations - Data Modeler
2146	1.6.3.6.	Identify & Document New Member Eligibility Data File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	8 hrs	2145	2147	ETL Team Lead - Specialists - Operations - Data Modeler
2147	1.6.3.6.	Perform Dev Functional Testing of Member Eligibility Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2146	2148	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2148	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted Member Eligibility Data File #2	8/20/20	8/21/20	1 day	8 hrs	2147	2149	Test Manager - Testers - QA Specialists
2149	1.6.3.6.	Generate Member Eligibility Data File #2 Error Reports and/or Generate Report of Bad Data Transferred	8/21/20	8/24/20	1 day	8 hrs	2148	2150	Report Analyst or Tableau Developer
2150	1.6.3.6.	Load 12 Months of Production Data in SIT & UAT Enviror	8/24/20	8/25/20	1 day	8 hrs	2149	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2151	**1.6.3.6.**	**Incremental Data Source #2 (12 Months): Provider, Provider Enrollment, Ownership (FFS, CHIP, MCO) File**	**8/14/20**	**8/25/20**	**7.1 days**	**56.8 hrs**			
2152	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - Provider, Provider Enrollment, Ownership (FFS, CHIP,	8/14/20	8/14/20	0.1 days	0.8 hrs	2140	2153	ETL Team Lead - Specialists - Operations - Data Modeler
2153	1.6.3.6.	Load Provider, Provider Enrollment, Ownership Incremental File #2 in PROD Environment	8/14/20	8/17/20	1 day	*8 hrs*	*2086,2152*	2154	ETL Team Lead - Specialists - Operations - Data Modeler
2154	1.6.3.6.	Perform Provider, Provider Enrollment, Ownership Incremental File #2 Conversion Tool Suite Processing &	8/17/20	8/18/20	1 day	8 hrs	2153	2155	ETL Team Lead - Specialists - Operations - Data Modeler
2155	1.6.3.6.	Identify & Document New Provider, Provider Enrollment, Ownership File #2 Data Items Requiring Manual Data	8/18/20	8/19/20	1 day	8 hrs	2154	2156	ETL Team Lead - Specialists - Operations - Data Modeler
2156	1.6.3.6.	Perform Dev Functional Testing of Provider Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2155	2157	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2157	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted Provider, Provider Enrollment, Ownership File	8/20/20	8/21/20	1 day	8 hrs	2156	2158	Test Manager - Testers - QA Specialists
2158	1.6.3.6.	Generate Provider, Provider Enrollment, Ownership File #2 Error Reports and/or Generate Report of Bad Data	8/21/20	8/24/20	1 day	8 hrs	2157	2159	Report Analyst or Tableau Developer
2159	1.6.3.6.	Load 12 Months of Provider Production Data in SIT & UAT Environments	8/24/20	8/25/20	1 day	8 hrs	2158	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2160	**1.6.3.6.**	**Incremental Data Source #2 (12 Months): MMIS Medical Claims (FFS, CHIP, MCO) File**	**8/14/20**	**8/25/20**	**7.1 days**	**56.8 hrs**			
2161	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - MMIS Medical Claims (FFS, CHIP, MCO)	8/14/20	8/14/20	0.1 days	0.8 hrs	2140	2162	ETL Team Lead - Specialists - Operations - Data Modeler
2162	1.6.3.6.	Load MMIS Medical Claims Incremental File #2 in PROD Environment	8/14/20	8/17/20	1 day	***8 hrs***	***2086,2161***	2163	ETL Team Lead - Specialists - Operations - Data Modeler
2163	1.6.3.6.	Perform MMIS Medical Claims Incremental File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	8 hrs	2162	2164	ETL Team Lead - Specialists - Operations - Data Modeler
2164	1.6.3.6.	Identify & Document New MMIS Medical Claims File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	8 hrs	2163	2165	ETL Team Lead - Specialists - Operations - Data Modeler
2165	1.6.3.6.	Perform Dev Functional Testing of MMIS Medical Claims Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2164	2166	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2166	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted MMIS Medical Claims File #2	8/20/20	8/21/20	1 day	8 hrs	2165	2167	Test Manager - Testers - QA Specialists

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2167	1.6.3.6.	Generate MMIS Medical Claims File #2 Error Reports and/or Generate Report of Bad Data Transferred	8/21/20	8/24/20	1 day	8 hrs	2166	2168,2247,2	Report Analyst or Tableau Developer
2168	1.6.3.6.	Load 12 Months of MMIS Medical Claims Production Data Into SIT & UAT Environments	8/24/20	8/25/20	1 day	8 hrs	2167	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2169	1.6.3.6.	**Incremental Data Source #2 (12 Months): MMIS Dental Claims (FFS, CHIP, MCO) File**	**8/14/20**	**8/25/20**	**7.1 days**	**56.8 hrs**			
2170	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - MMIS Dental Claims (FFS, CHIP, MCO)	8/14/20	8/14/20	0.1 days	0.8 hrs	2140	2171	ETL Team Lead - Specialists - Operations - Data Modeler
2171	1.6.3.6.	Load MMIS Dental Claims Incremental File #2 in PROD Environment	8/14/20	8/17/20	1 day	***8 hrs***	***2086,2170***	2172	ETL Team Lead - Specialists - Operations - Data Modeler
2172	1.6.3.6.	Perform MMIS Dental Claims Incremental File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	8 hrs	2171	2173	ETL Team Lead - Specialists - Operations - Data Modeler
2173	1.6.3.6.	Identify & Document New MMIS Dental Claims File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	8 hrs	2172	2174	ETL Team Lead - Specialists - Operations - Data Modeler
2174	1.6.3.6.	Perform Dev Functional Testing of MMIS Dental Claims Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2173	2175	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2175	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted MMIS Dental Claims File #2	8/20/20	8/21/20	1 day	8 hrs	2174	2176	Test Manager - Testers - QA Specialists
2176	1.6.3.6.	Generate MMIS Dental Claims File #2 Error Reports and/or Generate Report of Bad Data Transferred	8/21/20	8/24/20	1 day	8 hrs	2175	2177,2248	Report Analyst or Tableau Developer
2177	1.6.3.6.	Load 12 Months of MMIS Dental Claims Production Data in SIT & UAT Environments	8/24/20	8/25/20	1 day	8 hrs	2176	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2178	1.6.3.6.	**Incremental Data Source #2 (12 Months): MMIS Pharmacy Claims (FFS, CHIP, MCO) File**	**8/14/20**	**8/25/20**	**7.1 days**	**56.8 hrs**			
2179	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - MMIS Pharmacy Claims (FFS, CHIP, MCO)	8/14/20	8/14/20	0.1 days	0.8 hrs	2140	2180	ETL Team Lead - Specialists - Operations - Data Modeler
2180	1.6.3.6.	Load MMIS Pharmacy Claims Incremental File #2 in PROD Environment	8/14/20	8/17/20	1 day	8 hrs	2086,2179	2181	ETL Team Lead - Specialists - Operations - Data Modeler
2181	1.6.3.6.	Perform MMIS Pharmacy Claims Incremental File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	8 hrs	2180	2182	ETL Team Lead - Specialists - Operations - Data Modeler
2182	1.6.3.6.	Identify & Document New MMIS Pharmacy Claims File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	8 hrs	2181	2183	ETL Team Lead - Specialists - Operations - Data Modeler
2183	1.6.3.6.	Perform Dev Functional Testing of Pharmacy Claims Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2182	2184	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2184	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted MMIS Pharmacy Claims File #2	8/20/20	8/21/20	1 day	8 hrs	2183	2185	Test Manager - Testers - QA Specialists
2185	1.6.3.6.	Generate MMIS Pharmacy Claims File #2 Error Reports and/or Generate Report of Bad Data Transferred	8/21/20	8/24/20	1 day	8 hrs	2184	2186,2249	Report Analyst or Tableau Developer
2186	1.6.3.6.	Load 12 Months of MMIS Pharmacy Claims Production Data Into SIT & UAT Environments	8/24/20	8/25/20	1 day	8 hrs	2185	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2187	1.6.3.6.	**Incremental Data Source #2 (12 Months): MMIS Financial Capitation (FFS, CHIP, MCO) File**	**8/14/20**	**8/25/20**	**7.1 days**	**56.8 hrs**			
2188	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - MMIS Financial Capitation (FFS, CHIP, MCO)	8/14/20	8/14/20	0.1 days	0.8 hrs	2140	2189	ETL Team Lead - Specialists - Operations - Data Modeler
2189	1.6.3.6.	Load MMIS Financial Capitation Incremental File #2 in PROD Environment	8/14/20	8/17/20	1 day	8 hrs	2086,2188	2190	ETL Team Lead - Specialists - Operations - Data Modeler
2190	1.6.3.6.	Perform MMIS Financial Capitation Incremental File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	8 hrs	2189	2191	ETL Team Lead - Specialists - Operations - Data Modeler
2191	1.6.3.6.	Identify & Document New MMIS Financial Capitation File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	8 hrs	2190	2192	ETL Team Lead - Specialists - Operations - Data Modeler
2192	1.6.3.6.	Perform Dev Functional Testing of Financial Capitation Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2191	2193	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2193	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted MMIS Financial Capitation File #2	8/20/20	8/21/20	1 day	8 hrs	2192	2194	Test Manager - Testers - QA Specialists
2194	1.6.3.6.	Generate MMIS Financial Capitation File #2 Error Reports and/or Generate Report of Bad Data	8/21/20	8/24/20	1 day	8 hrs	2193	2195,2250	Report Analyst or Tableau Developer
2195	1.6.3.6.	Load 12 Months of MMIS Financial Capitation Data in SIT & UAT Environments	8/24/20	8/25/20	1 day	8 hrs	2194	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2196	1.6.3.6.	**Incremental Data Source #2 (12 Months): MMIS Prior Authorization (FFS, CHIP, MCO) File**	**8/14/20**	**8/25/20**	**7.1 days**	**44.8 hrs**			
2197	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - MMIS Prior Authorization (FFS, CHIP, MCO)	8/14/20	8/14/20	0.1 days	0.8 hrs	2140	2198	ETL Team Lead - Specialists - Operations - Data Modeler
2198	1.6.3.6.	Load MMIS Prior Authorization Incremental File #2 in PROD Environment	8/14/20	8/17/20	1 day	*4 hrs*	*2086,2197*	2199	ETL Team Lead - Specialists - Operations - Data Modeler
2199	1.6.3.6.	Perform MMIS Prior Authorization Incremental File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	4 hrs	2198	2200	ETL Team Lead - Specialists - Operations - Data Modeler
2200	1.6.3.6.	Identify & Document New MMIS Prior Authorization File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	4 hrs	2199	2201	ETL Team Lead - Specialists - Operations - Data Modeler
2201	1.6.3.6.	Perform Dev Functional Testing of Prior Authorization Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2200	2202	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2202	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted MMIS Prior Authorization File #2	8/20/20	8/21/20	1 day	8 hrs	2201	2203	Test Manager - Testers - QA Specialists
2203	1.6.3.6.	Generate MMIS Prior Authorization File #2 Error Reports and/or Generate Report of Bad Data Transferred	8/21/20	8/24/20	1 day	8 hrs	2202	2204,2251	Report Analyst or Tableau Developer
2204	1.6.3.6.	Load 12 Months of MMIS PA Production Data in SIT & UAT Environments	8/24/20	8/25/20	1 day	8 hrs	2203	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2205	**1.6.3.6.**	**Incremental Data Source #2 (12 Months): PEIA Medical Claims (FFS, CHIP, MCO) File**	**8/14/20**	**8/25/20**	**7.1 days**	**40.8 hrs**			
2206	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - PEIA Medical Claims (FFS, CHIP, MCO)	8/14/20	8/14/20	0.1 days	0.8 hrs	2140	2207	ETL Team Lead - Specialists - Operations - Data Modeler
2207	1.6.3.6.	Load PEIA Medical Claims Incremental File #2 in PROD Environment	8/14/20	8/17/20	1 day	4 hrs	2086,2206	2208	ETL Team Lead - Specialists - Operations - Data Modeler
2208	1.6.3.6.	Perform PEIA Medical Claims Incremental File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	4 hrs	2207	2209	ETL Team Lead - Specialists - Operations - Data Modeler
2209	1.6.3.6.	Identify & Document New PEIA Medical Claims File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	4 hrs	2208	2210	ETL Team Lead - Specialists - Operations - Data Modeler
2210	1.6.3.6.	Perform Dev Functional Testing of PEIA Medical Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2209	2211	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2211	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted PEIA Medical Claims File #2	8/20/20	8/21/20	1 day	8 hrs	2210	2212	Test Manager - Testers - QA Specialists
2212	1.6.3.6.	Generate PEIA Medical Claims File #2 Error Reports and/or Generate Report of Bad Data Transferred	8/21/20	8/24/20	1 day	8 hrs	2211	2213,2252	Report Analyst or Tableau Developer
2213	1.6.3.6.	Load 12 Months of PEIA Medical Claims Production Data Into SIT & UAT Environments	8/24/20	8/25/20	1 day	4 hrs	2212	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2214	**1.6.3.6.**	**Incremental Data Source #2 (12 Months): PEIA Pharmacy Claims File**	**8/14/20**	**8/25/20**	**7.1 days**	**40.8 hrs**			
2215	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - PEIA Pharmacy Claims	8/14/20	8/14/20	0.1 days	0.8 hrs	2140	2216	ETL Team Lead - Specialists - Operations - Data Modeler
2216	1.6.3.6.	Load PEIA Pharmacy Claims Incremental File #2 in PROD Environment	8/14/20	8/17/20	1 day	4 hrs	2086,2215	2217	ETL Team Lead - Specialists - Operations - Data Modeler
2217	1.6.3.6.	Perform PEIA Pharmacy Claims Incremental File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	4 hrs	2216	2218	ETL Team Lead - Specialists - Operations - Data Modeler
2218	1.6.3.6.	Identify & Document New PEIA Pharmacy Claims File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	4 hrs	2217	2219	ETL Team Lead - Specialists - Operations - Data Modeler
2219	1.6.3.6.	Perform Dev Functional Testing of PEIA Pharmacy Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2218	2220	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2220	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted PEIA Pharmacy Claims File #2	8/20/20	8/21/20	1 day	8 hrs	2219	2221	Test Manager - Testers - QA Specialists
2221	1.6.3.6.	Generate PEIA Pharmacy Claims File #2 Error Reports and/or Generate Report of Bad Data Transferred	8/21/20	8/24/20	1 day	8 hrs	2220	2222,2253	Report Analyst or Tableau Developer
2222	1.6.3.6.	Load 12 Months of PEIA Pharmacy Data in SIT & UAT Er	8/24/20	8/25/20	1 day	4 hrs	2221	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2223	**1.6.3.6.**	**Incremental Data Source #2 (12 Months): HSC Birth Dat**	**8/14/20**	**9/1/20**	**12.01 days**	**84.08 hrs**			
2224	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - HSC Birth Data	8/14/20	8/14/20	0.01 days	0.08 hrs	2140	2225	ETL Team Lead - Specialists - Operations - Data Modeler
2225	1.6.3.6.	Load HSC Birth Data Incremental File #2 in PROD Enviro	8/14/20	8/17/20	1 day	4 hrs	2086,2224	2226	ETL Team Lead - Specialists - Operations - Data Modeler
2226	1.6.3.6.	Perform HSC Birth Data Incremental File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	4 hrs	2225	2227	ETL Team Lead - Specialists - Operations - Data Modeler
2227	1.6.3.6.	Identify & Document New HSC Birth Data File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	4 hrs	2226	2228	ETL Team Lead - Specialists - Operations - Data Modeler
2228	1.6.3.6.	Perform Dev Functional Testing of HSC Birth Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2227	2229	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2229	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted HSC Birth Data File #2	8/20/20	8/21/20	1 day	8 hrs	2228	2230	Test Manager - Testers - QA Specialists
2230	1.6.3.6.	Generate HSC Birth Data File #2 Error Reports and/or Generate Report of Bad Data Transferred	8/21/20	8/24/20	1 day	8 hrs	2229	2231,2254	Report Analyst or Tableau Developer
2231	1.6.3.6.	Load 12 Months of HSC Birth Data in SIT & UAT Environ	8/24/20	9/1/20	6 days	48 hrs	2230	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2232	**1.6.3.6.**	**Incremental Data Source #2 (12 Months): HSC Death D**	**8/14/20**	**9/1/20**	**12.01 days**	**84.08 hrs**			
2233	1.6.3.6.	Received Incremental Data Source #2 (12 Months) - HSC Death Data	8/14/20	8/14/20	0.01 days	0.08 hrs	2140	2234	ETL Team Lead - Specialists - Operations - Data Modeler
2234	1.6.3.6.	Load HSC Death Data Incremental File #2 in PROD Envi	8/14/20	8/17/20	1 day	4 hrs	2086,2233	2235	ETL Team Lead - Specialists - Operations - Data Modeler
2235	1.6.3.6.	Perform HSC Death Data Incremental File #2 Conversion Tool Suite Processing & Balancing	8/17/20	8/18/20	1 day	4 hrs	2234	2236	ETL Team Lead - Specialists - Operations - Data Modeler
2236	1.6.3.6.	Identify & Document New HSC Death Data File #2 Data Items Requiring Manual Data Conversion	8/18/20	8/19/20	1 day	4 hrs	2235	2237	ETL Team Lead - Specialists - Operations - Data Modeler
2237	1.6.3.6.	Perform Dev Functional Testing of HSC Death Data - Incremental Data File #2	8/19/20	8/20/20	1 day	8 hrs	2236	2238	ETL Team Lead - Specialists - Operations - Data Modeler,Test Manager - Testers - QA Specialists
2238	1.6.3.6.	Perform Quality Checks and Validate Accuracy of Converted HSC Death Data File #2	8/20/20	8/21/20	1 day	8 hrs	2237	2239	Test Manager - Testers - QA Specialists
2239	1.6.3.6.	Generate HSC Death Data File #2 Error Reports and/or Generate Report of Bad Data Transferred	8/21/20	8/24/20	1 day	8 hrs	2238	2240,2255	Report Analyst or Tableau Developer

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2240	1.6.3.6.	Load 12 Months of HSC Death Data Into SIT & UAT Envi	8/24/20	9/1/20	6 days	48 hrs	2239	2276,2241	ETL Team Lead - Specialists - Operations - Data Modeler
2241	1.6.3.6.	***Milestone : Load 12 Months of Data into SIT and UAT Environments Complete***	9/1/20	9/1/20	0 days	0 hrs	2240,2231,222	2279	Account - Project Manager or Asst PM
2242	1.6.3.6.	Prepare for SIT Test Case Meeting with DHHR	8/12/20	9/2/20	15 days	510 hrs	1975FS-15 days	2544	Account - Project Manager or Asst PM,Certification Lead[25%],Sr. DB
2243	1.6.3.6.	**D050 Deliverable: SIT Test Cases and Scripts**	**9/2/20**	**10/23/20**	**35.75 days**	**232.03 hrs**			
2244	1.6.3.6.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - System Integration Test Cases and Scripts	9/2/20	9/2/20	0.25 days	4 hrs	1109,1975	2245	Documentation Management Lead,Test Manager - Testers - QA Specialists,DHHR[0%]
2245	1.6.3.6.	Create SIT Test Cases and Scripts for Member Eligibility Data Sources	9/2/20	9/4/20	2 days	24 hrs	2167,2244	2246	Test Manager - Testers - QA Specialists[150%]
2246	1.6.3.6.	Create SIT Test Cases and Scripts for Provider, Provider Enrollment, Ownership Data Sources	9/4/20	9/9/20	2 days	24 hrs	2167,2245	2247	Test Manager - Testers - QA Specialists[150%]
2247	1.6.3.6.	Create SIT Test Cases and Scripts For MMIS Medical Claims Data Sources	9/9/20	9/14/20	3 days	36 hrs	2167,2246	2248	Test Manager - Testers - QA Specialists[150%]
2248	1.6.3.6.	Create SIT Test Cases and Scripts For MMIS Dental Claims Data Sources	9/14/20	9/15/20	1 day	12 hrs	2176,2247	2249	Test Manager - Testers - QA Specialists[150%]
2249	1.6.3.6.	Create SIT Test Cases and Scripts For MMIS Pharmacy Claims Data Sources	9/15/20	9/16/20	1 day	12 hrs	2185,2248	2250	Test Manager - Testers - QA Specialists[150%]
2250	1.6.3.6.	Create SIT Test Cases and Scripts For MMIS Financial Capitation Data Sources	9/16/20	9/18/20	2 days	24 hrs	2194,2249	2251	Test Manager - Testers - QA Specialists[150%]
2251	1.6.3.6.	Create SIT Test Cases and Scripts for MMIS Prior Authorization Data Sources	9/18/20	9/21/20	1 day	12 hrs	2203,2250	2252	Test Manager - Testers - QA Specialists[150%]
2252	1.6.3.6.	Create SIT Test Cases and Scripts for PEIA Medical Claims	9/21/20	9/22/20	1 day	12 hrs	2212,2251	2253	Test Manager - Testers - QA Specialists[150%]
2253	1.6.3.6.	Create SIT Test Cases and Scripts for PEIA Pharmacy Clair	9/22/20	9/23/20	1 day	12 hrs	2221,2252	2254	Test Manager - Testers - QA Specialists[150%]
2254	1.6.3.6.	Create SIT Test Cases and Scripts for HSC Birth Data Sour	9/23/20	9/24/20	0.5 days	6 hrs	2230,2253	2255	Test Manager - Testers - QA Specialists[150%]
2255	1.6.3.6.	Create SIT Test Cases and Scripts for HSC Death Data Sou	9/24/20	9/24/20	0.5 days	6 hrs	2239,2254	2256	Test Manager - Testers - QA Specialists[150%]
2256	1.6.3.6.	Schedule & Conduct Walkthrough of SIT Test Cases With D	9/24/20	9/25/20	0.5 days	8 hrs	2255	2257	DHHR[0%],Test Manager - Testers - QA Specialists,Account - Projec
2257	1.6.3.6.	Send SIT Test Cases to DHHR For Review (10 Days)	9/25/20	10/9/20	10 days	0.02 hrs	2256	2258,2688	DHHR[60%],Documentation Management Lead[0%]
2258	1.6.3.6.	Revise Based on Feedback From DHHR (if applicable) (5 D	10/9/20	10/16/20	5 days	40 hrs	2257	2259	Test Manager - Testers - QA Specialists
2259	1.6.3.6.	Package Final SIT Test Cases and Send to DHHR for Review and Approval (5 Days)	10/16/20	10/23/20	5 days	0.01 hrs	2258	2260	Documentation Management Lead[0%],DHHR[0%]
2260	***1.6.3.6.***	***Milestone Deliverable D050: DHHR Approved SIT Test Ca***	***10/23/20***	***10/23/20***	***0 days***	***0 hrs***	***2259***	***62,2279***	Account - Project Manager or Asst PM
2261	1.6.3.6.	**D049 Deliverable: System Integration Plan**	**6/26/20**	**8/3/20**	**24.25 days**	**1,024.02 hrs**			
2262	1.6.3.6.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - System	6/26/20	6/29/20	0.25 days	4 hrs	1109	2265,2263	DHHR[0%],Test Manager - Testers - QA Specialists,Account - Project Manager or Asst PM
2263	1.6.3.6.	Additional Support	6/29/20	8/3/20	24 days	960 hrs	2262	2273FF	Application Administrator,Business Lead or Analysts,Liferay Develop
2264	1.6.3.6.	**Cycle 1: System Integration Plan (DRAFT)**	**6/29/20**	**7/17/20**	**13.75 days**	**40.01 hrs**			
2265	1.6.3.6.	Develop Draft System Integration Plan	6/29/20	7/2/20	3 days	24 hrs	2262	2266	Test Manager - Testers - QA Specialists
2266	1.6.3.6.	Schedule & Conduct Internal Meeting With QA on System Integration Plan	7/2/20	7/2/20	0.25 days	4 hrs	2265	2267	Test Manager - Testers - QA Specialists,DHHR[0%],Account - Project Manager or Asst PM
2267	1.6.3.6.	Revise System Integration Plan From QA Review Feedba	7/2/20	7/2/20	0.25 days	8 hrs	2266	2268	Test Manager - Testers - QA Specialists[400%]
2268	1.6.3.6.	Schedule & Conduct Meeting With DHHR to Review System Integration Plan	7/2/20	7/2/20	0.25 days	4 hrs	2267	2269	DHHR[0%],Test Manager - Testers - QA Specialists,Account - Project Manager or Asst PM
2269	1.6.3.6.	Submit System Integration Plan to DHHR For Review (10	7/2/20	7/17/20	10 days	0.01 hrs	2268	2271	Documentation Management Lead[0%],DHHR[0%]
2270	1.6.3.6.	**Cycle 2: System Integration Plan (FINAL)**	**7/17/20**	**8/3/20**	**10.25 days**	**20.01 hrs**			
2271	1.6.3.6.	Revise System Integration Plan From DHHR Comments Log (5 Days)	7/17/20	7/24/20	5 days	20 hrs	2269	2272	Test Manager - Testers - QA Specialists[50%]
2272	1.6.3.6.	Submit System Integration Plan to DHHR for Final Reviev	7/24/20	7/31/20	5 days	0.01 hrs	2271	2273	Documentation Management Lead[0%],DHHR[0%]
2273	***1.6.3.6.***	***Milestone Deliverable D049: System Integration Plan Approved by DHHR***	***8/3/20***	***8/3/20***	***0 days***	***0 hrs***	***2272,2263FF***	***2284,2577,6***	Account - Project Manager or Asst PM
2274	1.6.3.6.	**EDS SIT Environment Readiness**	**9/4/20**	**9/9/20**	**2 days**	**16 hrs**			
2275	1.6.3.6.	Confirm Environment Set Up	9/4/20	9/8/20	1 day	8 hrs	1595	2276	Test Manager - Testers - QA Specialists
2276	1.6.3.6.	Confirm Data Sources Are Uploaded in Environment	9/8/20	9/9/20	1 day	8 hrs	2275,2240,223	2279,2345,2	Test Manager - Testers - QA Specialists
2277	1.6.3.7	**Phase 1 EDS System Integration Testing (SIT) & Regression Testing Execution**	**8/3/20**	**12/21/20**	**97.45 days**	**1,780.71 hrs**			
2278	1.6.3.7.	**SIT Execution**	**10/23/20**	**10/30/20**	**5 days**	**420 hrs**			
2279	1.6.3.7.	Execute Test Cases and Scripts & Generate Package of Te	10/23/20	10/30/20	5 days	420 hrs	2276,2241,226	2616,2629,2	Test Manager - Testers - QA Specialists,Account - Project Manager
2280	1.6.3.7.	**SIT Defect Tracking & Resolution**	**10/23/20**	**11/6/20**	**10 days**	**65 hrs**			
2281	1.6.3.7.	Document, Investigate, Mitigate & Track Defects	10/23/20	10/30/20	5 days	45 hrs	2279SS	2282	ETL Team Lead - Specialists - Operations - Data Modeler,Test Mana
2282	1.6.3.7.	Execute Retesting of Defects	10/30/20	11/6/20	5 days	20 hrs	2281	2303,2292	Test Manager - Testers - QA Specialists
2283	1.6.3.7.	**D046 Deliverable: SIT Regression Test Cases**	**8/3/20**	**9/2/20**	**22.1 days**	**26.02 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2284	1.6.3.7.	Schedule & Conduct Meeting With DHHR to Discuss SIT Regression Test Acceptance Criteria	8/3/20	8/4/20	1 day	8 hrs	2273	2285	DHHR[0%],Test Manager - Testers - QA Specialists,Account - Project Manager or Asst PM[33%]
2285	1.6.3.7.	Prepare SIT Regression Test Cases	8/4/20	8/5/20	1 day	8 hrs	2284	2286	Test Manager - Testers - QA Specialists
2286	1.6.3.7.	Schedule & Conduct Walkthrough of SIT Regression Test Cases With DHHR	8/5/20	8/5/20	0.1 days	2 hrs	2285	2287	Test Manager - Testers - QA Specialists[83%],Account - Project Manager or Asst PM[83%]
2287	1.6.3.7.	Send SIT Regression Test Cases to DHHR for Review (10 D	8/5/20	8/19/20	10 days	0.01 hrs	2286	2288	Documentation Management Lead[0%],DHHR[0%]
2288	1.6.3.7.	Revise/Add SIT Regression Test Cases as Requested by DHHR (5 Days)	8/19/20	8/26/20	5 days	8 hrs	2287	2289	Test Manager - Testers - QA Specialists[20%]
2289	1.6.3.7.	Submit Final SIT Regression Test Cases to DHHR for Approval (5 Days)	8/26/20	9/2/20	5 days	0.01 hrs	2288	2290	Documentation Management Lead[0%],DHHR[0%]
2290	*1.6.3.7.*	***Milestone Deliverable D046: DHHR Approved SIT Regression Test Cases***	***9/2/20***	***9/2/20***	***0 days***	***0 hrs***	***2289***	***58,2313***	Account - Project Manager or Asst PM
2291	**1.6.3.7.**	**D051 Deliverable: SIT Test Results**	**11/6/20**	**12/21/20**	**29.25 days**	**584.69 hrs**			
2292	1.6.3.7.	Schedule & Conduct Meeting With DHHR to Discuss SIT Test Results Criteria	11/6/20	11/9/20	1 day	8 hrs	2282	2293,2298	DHHR[0%],Test Manager - Testers - QA Specialists,Account - Project Manager or Asst PM[33%]
2293	1.6.3.7.	Prepare SIT Test Results	11/9/20	11/12/20	3 days	168 hrs	2292	2294	Test Manager - Testers - QA Specialists,Documentation Managemer
2294	1.6.3.7.	Schedule & Conduct Walkthrough of SIT Test Results With I	11/12/20	11/12/20	0.25 days	4 hrs	2293,2298	2295,2296	DHHR[0%],Test Manager - Testers - QA Specialists,Account - Projec
2295	1.6.3.7.	Revise/Add SIT Test Cases & Re-execute Based on Feedback From Walkthrough	11/12/20	11/19/20	5 days	13.33 hrs	2294	2297	Test Manager - Testers - QA Specialists[33%]
2296	1.6.3.7.	Document & Retest SIT Defects	11/12/20	11/19/20	5 days	13.33 hrs	2294	2297	Test Manager - Testers - QA Specialists,Documentation Managemer
2297	1.6.3.7.	Package SIT Final Test Results and Send to DHHR for Review (10 Days)	11/19/20	12/7/20	10 days	0.01 hrs	2296,2295	2299	Documentation Management Lead[0%],DHHR[0%]
2298	1.6.3.7.	Prepare SIT Test Results	11/9/20	11/12/20	3 days	168 hrs	2292	2294	Test Manager - Testers - QA Specialists,Documentation Managemer
2299	1.6.3.7.	Revised SIT Test Results and Re-execute (if needed) & Prepare Final Test Results Package (5 Days)	12/7/20	12/14/20	5 days	210 hrs	2297	2300	Test Manager - Testers - QA Specialists,Documentation Management Lead,ETL Team Lead - Specialists - Operations - Data
2300	1.6.3.7.	Send Final SIT Test Results to DHHR for Review ad Approval (5 Days)	12/14/20	12/21/20	5 days	0.01 hrs	2299	2301	Documentation Management Lead[0%],DHHR[0%]
2301	*1.6.3.7.*	***Milestone Deliverable D051: DHHR Approved SIT Test F***	***12/21/20***	***12/21/20***	***0 days***	***0 hrs***	***2300***	***63,2563***	Account - Project Manager or Asst PM
2302	**1.6.3.7.**	**D047 Deliverable: SIT Regression Test Results**	**11/6/20**	**12/21/20**	**29.25 days**	**685 hrs**			
2303	1.6.3.7.	Schedule & Conduct Meeting With DHHR to Discuss SIT Test Results Criteria	11/6/20	11/9/20	1 day	8 hrs	2282	2304	Documentation Management Lead,DHHR[0%],Account - Project Manager or Asst PM[50%]
2304	1.6.3.7.	Execute SIT Regression Test Results & Prepare Test Results Package	11/9/20	11/12/20	3 days	292 hrs	2303	2305	Test Manager - Testers - QA Specialists,Account - Project Manager or Asst PM,Documentation Management Lead,ETL Team Lead -
2305	1.6.3.7.	Schedule & Conduct Walkthrough of SIT Regression Test Results With DHHR	11/12/20	11/12/20	0.25 days	3 hrs	2304	2306FS+5 days	DHHR[0%],Test Manager - Testers - QA Specialists[50%],Account - Project Manager or Asst PM
2306	1.6.3.7.	Send SIT Regression Test Cases to DHHR for Review (10 D	11/19/20	12/7/20	10 days	2 hrs	2305FS+5 days	2307	Documentation Management Lead[0%],DHHR[0%]
2307	1.6.3.7.	Revise/Add SIT Regression Test Cases & Re-execute as Requested by DHHR & Re-execute (5 Days)	12/7/20	12/14/20	5 days	340 hrs	2306	2308	Test Manager - Testers - QA Specialists,Account - Project Manager or Asst PM,Documentation Management Lead,ETL Team Lead -
2308	1.6.3.7.	Package Final Regression Test Results and Send to DHHR for Review (5 Days)	12/14/20	12/21/20	5 days	40 hrs	2307	2309	Documentation Management Lead,DHHR[0%]
2309	*1.6.3.7.*	***Milestone Deliverable D047: DHHR Approved SIT Regression Test Results***	***12/21/20***	***12/21/20***	***0 days***	***0 hrs***	***2308***	***2678,59***	Account - Project Manager or Asst PM
2310	**1.6.3.8**	**Phase 1 EDS Miscellaneous Testing Phases**	**9/2/20**	**12/28/20**	**79.6 days**	**2,451.41 hrs**			
2311	**1.6.3.8.**	**Load and Stress Testing**	**9/2/20**	**12/4/20**	**64.6 days**	**641.13 hrs**			
2312	**1.6.3.8.**	**D041 Deliverable: Load and Stress Test Cases**	**9/2/20**	**10/20/20**	**33.2 days**	**406.11 hrs**			
2313	1.6.3.8.	Schedule & Conduct Meeting With DHHR to Discuss Load & Stress Testing	9/2/20	9/2/20	0.24 days	2 hrs	2290	2314	Documentation Management Lead[52%],DHHR[0%],Account - Project Manager or Asst PM[52%]
2314	1.6.3.8.	Create Load and Stress Test Cases for Member Eligibility Data Sources	9/2/20	9/3/20	1 day	24 hrs	1980,2313	2315	Report Analyst or Tableau Developer,Test Manager - Testers - QA Specialists
2315	1.6.3.8.	Create Load and Stress Test Cases for Provider, Provider Enrollment, Ownership Data Sources	9/3/20	9/4/20	1 day	24 hrs	2314	2316	Report Analyst or Tableau Developer,Test Manager - Testers - QA Specialists
2316	1.6.3.8.	Create Load and Stress Test Cases For MMIS Medical Claims Data Sources	9/4/20	9/10/20	3 days	72 hrs	2315	2317	Report Analyst or Tableau Developer,Test Manager - Testers - QA Specialists
2317	1.6.3.8.	Create Load and Stress Test Cases For MMIS Dental Claims Data Sources	9/10/20	9/11/20	1 day	24 hrs	2316	2318	Report Analyst or Tableau Developer,Test Manager - Testers - QA Specialists
2318	1.6.3.8.	Create Load and Stress Test Cases For MMIS Pharmacy Claims Data Sources	9/11/20	9/15/20	2 days	48 hrs	2317	2319	Report Analyst or Tableau Developer,Test Manager - Testers - QA Specialists
2319	1.6.3.8.	Create Load and Stress Test Cases For MMIS Financial Capitation Data Sources	9/15/20	9/17/20	2 days	48 hrs	2318	2320	Report Analyst or Tableau Developer,Test Manager - Testers - QA Specialists
2320	1.6.3.8.	Create Load and Stress Test Cases for MMIS Prior Authorization Data Sources	9/17/20	9/18/20	1 day	24 hrs	2319	2321	Report Analyst or Tableau Developer,Test Manager - Testers - QA Specialists
2321	1.6.3.8.	Create Load and Stress Test Cases for PEIA Medical Claim	9/18/20	9/21/20	1 day	24 hrs	2320	2322	Report Analyst or Tableau Developer,Test Manager - Testers - QA Sp
2322	1.6.3.8.	Create Load and Stress Test Cases for PEIA Pharmacy Clai	9/21/20	9/22/20	1 day	24 hrs	2321	2323	Report Analyst or Tableau Developer,Test Manager - Testers - QA Sp

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2323	1.6.3.8.	Create Load and Stress Test Cases for HSC Birth Data Sou	9/22/20	9/23/20	1 day	24 hrs	2322	2324	Report Analyst or Tableau Developer,Test Manager - Testers - QA Sp
2324	1.6.3.8.	Create Load and Stress Test Cases for HSC Death Data So	9/23/20	9/24/20	1 day	24 hrs	2323	2325	Report Analyst or Tableau Developer,Test Manager - Testers - QA Sp
2325	1.6.3.8.	Schedule & Conduct Walkthrough of Load and Stress Test Cases With DHHR	9/24/20	9/25/20	1 day	8 hrs	2324	2326	Report Analyst or Tableau Developer[400%],DHHR[0%],Account - Project Manager or Asst PM[50%]
2326	1.6.3.8.	Send Load and Stress Test Cases to DHHR For Review (10	9/25/20	10/9/20	10 days	0.1 hrs	2325	2327	Documentation Management Lead[0%],DHHR[0%]
2327	1.6.3.8.	Revise Load and Stress Test Cases Based on Feedback From DHHR (if applicable) (5 Days)	10/9/20	10/13/20	1.96 days	36 hrs	2326	2328	Report Analyst or Tableau Developer,Test Manager - Testers - QA Specialists
2328	1.6.3.8.	Package Final Load and Stress Test Cases and Send to DHHR for Review and Approval (5 Days)	10/13/20	10/20/20	5 days	0.01 hrs	2327	2329,2331,2	Documentation Management Lead[0%],Report Analyst or Tableau Developer[0%]
2329	*1.6.3.8.*	*Milestone Deliverable D041: DHHR Approved Load and Stress Test Cases*	*10/20/20*	*10/20/20*	*0 days*	*0 hrs*	*2328*	*52,2336*	Account - Project Manager or Asst PM
2330	**1.6.3.8.**	**Load and Stress Test Execution**	**10/20/20**	**10/26/20**	**4 days**	**64 hrs**			
2331	1.6.3.8.	Execute Test Cases and Scripts	10/20/20	10/22/20	2 days	36 hrs	2328	2333	Report Analyst or Tableau Developer,Test Manager - Testers - QA Sp
2332	**1.6.3.8.**	**Load and Stress Test Defect Tracking & Resolution**	**10/22/20**	**10/26/20**	**2 days**	**28 hrs**			
2333	1.6.3.8.	Document, Investigate, Mitigate & Track Defects	10/22/20	10/23/20	1 day	24 hrs	2328,2331	2334	Report Analyst or Tableau Developer,Test Manager - Testers - QA Sp
2334	1.6.3.8.	Execute Retesting of Defects	10/23/20	10/26/20	1 day	4 hrs	2328,2333	2337	Report Analyst or Tableau Developer,Test Manager - Testers - QA Sp
2335	**1.6.3.8.**	**Deliverable D042: Load and Stress Test Results**	**10/30/20**	**12/4/20**	**23.5 days**	**171.02 hrs**			
2336	1.6.3.8.	Schedule & Conduct Meeting With DHHR to Discuss Load & Stress Testing	10/30/20	10/30/20	0.25 days	2 hrs	2329,2279	2337	Documentation Management Lead[50%],Report Analyst or Tableau Developer[50%],DHHR[0%]
2337	1.6.3.8.	Prepare Load and Stress Test Results Package	10/30/20	11/2/20	1 day	16 hrs	2336,2334	2338	Report Analyst or Tableau Developer,Tech Writer and Scribe-Tester-(
2338	1.6.3.8.	Schedule & Conduct Walkthrough of Load and Stress Test Results With DHHR	11/2/20	11/2/20	0.25 days	2 hrs	2337	2339	DHHR[0%],Report Analyst or Tableau Developer[50%],Account - Project Manager or Asst PM[50%]
2339	1.6.3.8.	Revise/Add Load and Stress Test Cases & Re-execute Based on Feedback From Walkthrough	11/2/20	11/4/20	2 days	16 hrs	2338	2340	Report Analyst or Tableau Developer
2340	1.6.3.8.	Send Load and Stress Test Cases to DHHR For Review (10	11/4/20	11/18/20	10 days	0.01 hrs	2339	2341	Documentation Management Lead[0%],DHHR[0%]
2341	1.6.3.8.	Revise Load and Stress Test Cases Based on Feedback From DHHR (if applicable) (5 Days)	11/18/20	11/25/20	5 days	135 hrs	2340	2342	Report Analyst or Tableau Developer[38%],Tech Writer and Scribe-Tester-QA,Business Lead or Analysts[200%]
2342	1.6.3.8.	Send Final Load and Stress Test Cases to DHHR For Final Approval	11/25/20	12/4/20	5 days	0.01 hrs	2341	2343	DHHR[30%],Documentation Management Lead[0%]
2343	*1.6.3.8.*	*Milestone Deliverable D042: DHHR Approved Load and Stress Test Results*	*12/4/20*	*12/4/20*	*0 days*	*0 hrs*	*2342*	*53,2756,236*	Account - Project Manager or Asst PM
2344	**1.6.3.8.**	**Performance Testing**	**10/30/20**	**11/13/20**	**10 days**	**45.5 hrs**			
2345	1.6.3.8.	Schedule & Execute Performance Testing	10/30/20	11/13/20	10 days	5 hrs	2276,2279	2351	Test Manager - Testers - QA Specialists[25%]
2346	1.6.3.8.	Record and Mitigate Issues (if applicable)	10/30/20	11/13/20	10 days	5 hrs	2276,2279	2351	Test Manager - Testers - QA Specialists[6%]
2347	1.6.3.8.	Conduct Retest (if required)	10/30/20	11/13/20	10 days	5 hrs	2276,2279	2351	Test Manager - Testers - QA Specialists[25%]
2348	1.6.3.8.	Application Administrator Support	10/30/20	11/13/20	10 days	25 hrs	2276,2279	2351	Application Administrator
2349	1.6.3.8.	Prepare Performance Testing Results Document	10/30/20	11/13/20	10 days	5 hrs	2276,2279	2351	Test Manager - Testers - QA Specialists
2350	1.6.3.8.	Conduct Meeting With DHHR to Present Performance Testing Results	10/30/20	11/13/20	10 days	0.5 hrs	2276,2279	2351	Test Manager - Testers - QA Specialists[1%],DHHR[0%]
2351	*1.6.3.8.*	*Milestone: Performance Testing Complete*	*11/13/20*	*11/13/20*	*0 days*	*0 hrs*	*2350,2345,234*	*2756*	Account - Project Manager or Asst PM
2352	**1.6.3.8.**	**Penetration Testing**	**10/30/20**	**11/13/20**	**10 days**	**362.67 hrs**			
2353	1.6.3.8.	Schedule & Execute Penetration Testing	10/30/20	11/13/20	10 days	165 hrs	2276,2279	2359	Test Manager - Testers - QA Specialists[13%],Business Lead or Ana
2354	1.6.3.8.	Record and Mitigate Issues (if applicable)	10/30/20	11/13/20	10 days	5 hrs	2276,2279	2359	Test Manager - Testers - QA Specialists[13%]
2355	1.6.3.8.	Conduct Retest (if required)	10/30/20	11/13/20	10 days	5 hrs	2276,2279	2359	Test Manager - Testers - QA Specialists[13%]
2356	1.6.3.8.	Application Administrator Support	10/30/20	11/13/20	10 days	25 hrs	2276,2279	2359	Application Administrator
2357	1.6.3.8.	Prepare Penetration Testing Results Document	10/30/20	11/13/20	10 days	161.67 hrs	2276,2279	2359	Report Analyst or Tableau Developer,Test Manager - Testers - QA S
2358	1.6.3.8.	Conduct Meeting With DHHR to Present Penetration Testing	10/30/20	11/13/20	10 days	1 hr	2276,2279	2359	Test Manager - Testers - QA Specialists[1%],DHHR[0%]
2359	*1.6.3.8.*	*Milestone: Penetration Testing Complete*	*11/13/20*	*11/13/20*	*0 days*	*0 hrs*	*2358,2353,235*	*2756*	Account - Project Manager or Asst PM
2360	**1.6.3.8.**	**Parallel Testing**	**10/30/20**	**11/13/20**	**10 days**	**206.8 hrs**			
2361	1.6.3.8.	Schedule & Execute Parallel Testing	10/30/20	11/13/20	10 days	85 hrs	2276,2279	2367	Test Manager - Testers - QA Specialists[13%],Business Lead or Ana
2362	1.6.3.8.	Record and Mitigate Issues (if applicable)	10/30/20	11/13/20	10 days	5 hrs	2276,2279	2367	Test Manager - Testers - QA Specialists[13%]
2363	1.6.3.8.	Conduct Retest (if required)	10/30/20	11/13/20	10 days	5 hrs	2276,2279	2367	Test Manager - Testers - QA Specialists[13%]
2364	1.6.3.8.	Application Administrator Support	10/30/20	11/13/20	10 days	25 hrs	2276,2279	2367	Application Administrator
2365	1.6.3.8.	Prepare Parallel Testing Results Document	10/30/20	11/13/20	10 days	85 hrs	2276,2279	2367	Report Analyst or Tableau Developer,Test Manager - Testers - QA S
2366	1.6.3.8.	Conduct Meeting With DHHR to Present Parallel Testing Re	10/30/20	11/13/20	10 days	0.8 hrs	2276,2279	2367	Test Manager - Testers - QA Specialists[1%],DHHR[0%]
2367	*1.6.3.8.*	*Milestone: Parallel Testing Complete*	*11/13/20*	*11/13/20*	*0 days*	*0 hrs*	*2361,2366,236*	*2756*	Account - Project Manager or Asst PM
2368	**1.6.3.8.**	**Disaster Recovery Testing Exercise**	**12/4/20**	**12/28/20**	**15 days**	**1,196.32 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2369	1.6.3.8.	Schedule DR Failover Exercise	12/4/20	12/18/20	10 days	30 hrs	2276FS+10 day	2374	Information Security Architect / Privacy Data Protection Officer[38%]
2370	1.6.3.8.	Execute DR Exercise to Confirm Failover	12/4/20	12/18/20	10 days	766.32 hrs	2276FS+10 day	2374	Information Security Architect / Privacy Data Protection Officer[50%],
2371	1.6.3.8.	Application Administrator Support	12/4/20	12/18/20	10 days	80 hrs	2276FS+10 day	2374	Application Administrator[50%]
2372	1.6.3.8.	Prepare Test Summary & Reports	12/4/20	12/18/20	10 days	312 hrs	2276FS+10 day	2374	Information Security Architect / Privacy Data Protection Officer[50%],
2373	1.6.3.8.	Schedule & Meet With DHHR to Present DR Outcomes of T	12/4/20	12/28/20	15 days	8 hrs	2276FS+10 day	2374	DHHR[0%],Information Security Architect / Privacy Data Protection O
2374	*1.6.3.8.*	***Milestone: Disaster Recovery Exercise Complete***	***12/28/20***	***12/28/20***	***0 days***	***0 hrs***	***2369,2370,237***	***2756***	Account - Project Manager or Asst PM
2375	**1.6.3.9**	**Phase 1 EDS Training, UAT & ORT**	**6/26/20**	**3/2/21**	**170.45 days**	**6,866.92 hrs**			
2376	**1.6.3.9.**	**Deliverable D052: Training Management Plan**	**6/26/20**	**8/14/20**	**33.25 days**	**166.02 hrs**			
2377	1.6.3.9.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Training	6/26/20	6/29/20	0.25 days	4 hrs	1109	2379	DHHR[50%],Documentation Management Lead[50%],Training Lead
2378	**1.6.3.9.**	**Cycle 1: Training Management Plan (DRAFT)**	**6/29/20**	**7/31/20**	**23 days**	**112.01 hrs**			
2379	1.6.3.9.	Develop Draft Training Management Plan	6/29/20	7/14/20	10 days	80 hrs	2377	2380	Training Lead
2380	1.6.3.9.	Schedule & Conduct Internal Meeting With QA on Training Management Plan	7/14/20	7/14/20	0.5 days	8 hrs	2379	2381	Quality Assurance Manager,Training Lead
2381	1.6.3.9.	Revise Training Management Plan From QA Review Fee	7/14/20	7/16/20	2 days	16 hrs	2380	2382	Training Lead
2382	1.6.3.9.	Schedule & Conduct Meeting With DHHR to Review Training Management Plan	7/16/20	7/17/20	0.5 days	8 hrs	2381	2383	DHHR[0%],Training Lead,Account - Project Manager or Asst PM
2383	1.6.3.9.	Submit Training Management Plan to DHHR For Review	7/17/20	7/31/20	10 days	0.01 hrs	2382	2385	Documentation Management Lead[0%],DHHR[0%]
2384	**1.6.3.9.**	**Cycle 2: Training Management Plan (FINAL)**	**7/31/20**	**8/14/20**	**10 days**	**40.01 hrs**			
2385	1.6.3.9.	Revise Training Management Plan From DHHR Comments Log (5 Days)	7/31/20	8/7/20	5 days	40 hrs	2383	2386	Training Lead
2386	1.6.3.9.	Submit Training Management Plan to DHHR for Final Review (5 Days)	8/7/20	8/14/20	5 days	0.01 hrs	2385	2387	Documentation Management Lead[0%],DHHR[0%]
2387	*1.6.3.9.*	***Milestone Deliverable D052: Training Management Plan Approved by DHHR***	***8/14/20***	***8/14/20***	***0 days***	***0 hrs***	***2386***	***2389,64***	Account - Project Manager or Asst PM
2388	**1.6.3.9.**	**D068 Deliverable: EDS Training Schedule**	**8/14/20**	**10/6/20**	**36.5 days**	**134.42 hrs**			
2389	1.6.3.9.	Develop Training Curriculums	8/14/20	8/21/20	5 days	40 hrs	2387	2390	Training Lead
2390	1.6.3.9.	Establish Training Schedule to Train Optum & DHHR Staff	8/21/20	8/28/20	5 days	40 hrs	2389	2391	Training Lead
2391	1.6.3.9.	Meet With DHHS to Discuss Training Schedules	8/28/20	8/28/20	0.5 days	6 hrs	2390	2392	Training Lead[50%],Account - Project Manager or Asst PM
2392	1.6.3.9.	Revise Training Schedule Based on Feedback from DHHR	8/28/20	9/2/20	3 days	24 hrs	2391	2393	Training Lead
2393	1.6.3.9.	Seek List of Trainees From DHHR and Assign Trainees to Classes and the Type of Classes	9/2/20	9/8/20	3 days	0.4 hrs	2392	2394	DHHR[0%],Training Lead[2%]
2394	1.6.3.9.	Send Training Schedule to DHHR for Review (10 Days)	9/8/20	9/22/20	10 days	0.01 hrs	2393	2395	Documentation Management Lead[0%],DHHR[0%]
2395	1.6.3.9.	Adjust Training Schedule Based on Comments from DHHR (if needed) (5 Days)	9/22/20	9/29/20	5 days	24 hrs	2394	2396	Training Lead[60%]
2396	1.6.3.9.	Send Final EDS Training Schedule to DHHR for Approval (5	9/29/20	10/6/20	5 days	0.01 hrs	2395	2397	Documentation Management Lead[0%],DHHR[0%]
2397	*1.6.3.9.*	***Milestone Deliverable D068: EDS Training Schedule Ap***	***10/6/20***	***10/6/20***	***0 days***	***0 hrs***	***2396***	***84***	Account - Project Manager or Asst PM
2398	**1.6.3.9.**	**D066 Deliverable: EDS Training Materials**	**10/22/20**	**12/29/20**	**45.11 days**	**566.14 hrs**			
2399	1.6.3.9.	Develop Care Management Training Materials	10/22/20	10/29/20	5 days	70 hrs	2123	2403	Training Lead[25%],Report Analyst or Tableau Developer[50%],Docu
2400	1.6.3.9.	Develop Financial Management Training Materials	10/22/20	10/29/20	5 days	70 hrs	2123	2403	Training Lead[25%],Report Analyst or Tableau Developer[50%],Docu
2401	1.6.3.9.	Develop Program Management Training Materials	10/22/20	10/29/20	5 days	70 hrs	2123	2403	Training Lead[25%],Report Analyst or Tableau Developer[50%],Docu
2402	1.6.3.9.	Develop Program Integrity Training Materials	10/22/20	10/29/20	5 days	70 hrs	2123	2403	Training Lead[25%],Report Analyst or Tableau Developer[50%],Docu
2403	1.6.3.9.	Meet With Quality Assurance to Review Training Materials	10/29/20	11/12/20	10 days	16 hrs	2399,2400,240	2404FS-5 d	Quality Assurance Manager[10%],Training Lead[10%]
2404	1.6.3.9.	Schedule & Conduct Walkthrough of the Training Materials	11/5/20	11/19/20	10 days	60 hrs	2403FS-5 days	2405FS-5 d	DHHR[0%],Training Lead[50%],Account - Project Manager or Asst P
2405	1.6.3.9.	Revise Training Materials Based on Feedback From DHHR	11/12/20	11/30/20	10 days	140 hrs	2404FS-5 days	2406	Training Lead[25%],Report Analyst or Tableau Developer[50%],Docu
2406	1.6.3.9.	Post Training Materials on DHHR & Optum Liferay	11/30/20	11/30/20	0.1 days	0.1 hrs	2405	2407	Training Lead[13%]
2407	1.6.3.9.	Send Training Materials to DHHR to Review and Approve (1	11/30/20	12/14/20	10 days	0.02 hrs	2406	2408	Documentation Management Lead[0%],DHHR[60%]
2408	1.6.3.9.	Revise Final Training Materials Based on Comments From DHHR (5 Days)	12/14/20	12/21/20	5 days	70 hrs	2407	2409	Training Lead[25%],Report Analyst or Tableau Developer[50%],Documentation Management Lead[25%],Tech
2409	1.6.3.9.	Send Final Training Materials to DHHR for Approval (5 Days	12/21/20	12/29/20	5 days	0.01 hrs	2408	2410	DHHR[0%],Documentation Management Lead[0%]
2410	1.6.3.9.	Post Final Training Materials to DHHR & Optum Liferay	12/29/20	12/29/20	0.01 days	0.01 hrs	2409	2411	Training Lead[13%]
2411	*1.6.3.9.*	***Milestone Deliverable D066: EDS Training Materials Completed and Approved by DHHR***	***12/29/20***	***12/29/20***	***0 days***	***0 hrs***	***2410***	***82,2414***	Account - Project Manager or Asst PM
2412	**1.6.3.9.**	**Deliverable D065: Training - EDS System and User Documentation**	**12/29/20**	**2/25/21**	**41.3 days**	**2,790.91 hrs**			
2413	**1.6.3.9.**	**Deliverable: EDS System and User Documentation (Del**	**12/29/20**	**2/25/21**	**41.3 days**	**2,790.91 hrs**			
2414	1.6.3.9.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - System and User Documentation (EDS)	12/29/20	12/29/20	0.25 days	4.5 hrs	2411	2416	DHHR[0%],Documentation Management Lead,Business Lead or Analysts,Account - Project Manager or Asst PM
2415	**1.6.3.9.**	**Cycle 1: System and User Documentation (EDS) (DR**	**12/29/20**	**2/11/21**	**31.05 days**	**2,346.41 hrs**			

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2416	1.6.3.9.	Develop Draft System and User Documentation (EDS)	12/29/20	1/20/21	15 days	1,920 hrs	2414	2417	Report Analyst or Tableau Developer,Business Lead or Analysts[200
2417	1.6.3.9.	Schedule & Conduct Internal Meeting With QA on System and User Documentation (EDS)	1/20/21	1/21/21	1 day	24 hrs	2416	2418	Quality Assurance Manager,Training Lead,Business Lead or Analysts
2418	1.6.3.9.	Revise System and User Documentation (EDS) From QA Review Feedback	1/21/21	1/28/21	5 days	400 hrs	2417	2419	Report Analyst or Tableau Developer,Business Lead or Analysts[200%],Tech Writer and Scribe-Tester-QA[200%],Account -
2419	1.6.3.9.	Schedule & Conduct Meeting With DHHR to Review System and User Documentation (EDS)	1/28/21	1/28/21	0.05 days	2.4 hrs	2418	2420	DHHR[0%],Training Lead[200%],Business Lead or Analysts,Account - Project Manager or Asst PM
2420	1.6.3.9.	Submit System and User Documentation (EDS) to DHHR For Review (10 Days)	1/28/21	2/11/21	10 days	0.01 hrs	2419	2422	DHHR[0%],Documentation Management Lead[0%]
2421	1.6.3.9.	**Cycle 2: System and User Documentation (EDS) (FINA**	**2/11/21**	**2/25/21**	**10 days**	**440 hrs**			
2422	1.6.3.9.	Revise System and User Documentation (EDS) From DHHR Comments Log (5 Days)	2/11/21	2/18/21	5 days	400 hrs	2420	2423	Report Analyst or Tableau Developer,Business Lead or Analysts[200%],Tech Writer and Scribe-Tester-QA[200%],Account -
2423	1.6.3.9.	Submit System and User Documentation (EDS) to DHHR for Final Review (5 Days)	2/18/21	2/25/21	5 days	40 hrs	2422	2424	DHHR[0%],Documentation Management Lead
2424	*1.6.3.9.*	***Milestone Deliverable D065: System and User Documentation (EDS) Approved by DHHR***	***2/25/21***	***2/25/21***	***0 days***	***0 hrs***	***2423***	***81,2425***	Account - Project Manager or Asst PM
2425	1.6.3.9.	***Milestone: EDS UAT/ORT Training Complete***	2/25/21	2/25/21	0 days	0 hrs	2424	2756	Account - Project Manager or Asst PM
2426	1.6.3.9.	**Phase 1 EDS (UAT) User Acceptance Testing**	**9/14/20**	**3/2/21**	**116.96 days**	**1,824.51 hrs**			
2427	1.6.3.9.	**EDS UAT Planning**	**9/14/20**	**11/3/20**	**36.1 days**	**519.47 hrs**			
2428	1.6.3.9.	Request Incremental Data Source # 3 (3 Years of Production) Data From DHHR	9/14/20	10/26/20	30 days	0.01 hrs	2140FS+20 days	2429,2532	Technical Lead[0%],DHHR[0%]
2429	*1.6.3.9.*	***Milestone: 3 Years of Production Data Received For UAT Execution***	***10/26/20***	***10/26/20***	***0 days***	***0 hrs***	***2428,643***	***2432,2441,2***	Account - Project Manager or Asst PM
2430	1.6.3.9.	Additional Support	10/26/20	11/3/20	6 days	96 hrs	2429	2530FF	Business Lead or Analysts,Quality Assurance Manager
2431	1.6.3.9.	**Incremental Data Source # 3 (3 Years of Production) MMIS Member Eligibility (FFS, CHIP, MCO) File**	**10/26/20**	**11/3/20**	**6.1 days**	**36.8 hrs**			
2432	1.6.3.9.	Received Member Eligibility 3 Years Production Data File (FFS, CHIP, MCO) From MMIS	10/26/20	10/26/20	0.1 days	0.8 hrs	2429	2433	ETL Team Lead - Specialists - Operations - Data Modeler
2433	1.6.3.9.	Load Member Eligibility Incremental Data File #3 in PROD Environment	10/26/20	10/27/20	1 day	4 hrs	2432	2434	ETL Team Lead - Specialists - Operations - Data Modeler
2434	1.6.3.9.	Perform Member Eligibility Incremental Data File #3 Conversion Tool Suite Processing & Balancing	10/27/20	10/28/20	1 day	4 hrs	2433	2435	ETL Team Lead - Specialists - Operations - Data Modeler
2435	1.6.3.9.	Identify & Document New Member Eligibility Data File #3 Data Items Requiring Manual Data Conversion	10/28/20	10/29/20	1 day	4 hrs	2434	2436,2437	ETL Team Lead - Specialists - Operations - Data Modeler
2436	1.6.3.9.	Perform Dev Functional Testing of Member Eligibility Data - Incremental Data File #3	10/29/20	10/30/20	1 day	4 hrs	2435	2438	ETL Team Lead - Specialists - Operations - Data Modeler
2437	1.6.3.9.	Perform Quality Checks and Validate Accuracy of Converted Member Eligibility Data File #3	10/29/20	10/30/20	1 day	4 hrs	2435	2438	ETL Team Lead - Specialists - Operations - Data Modeler
2438	1.6.3.9.	Generate Member Eligibility Data File #3 Error Reports and/or Generate Report of Bad Data	10/30/20	11/2/20	1 day	8 hrs	2437,2436	2439	Report Analyst or Tableau Developer
2439	1.6.3.9.	Load 3 Years PROD Data Into SIT, UAT & Prod Enviro	11/2/20	11/3/20	1 day	8 hrs	2438	2733,2563	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. D
2440	1.6.3.9.	**Incremental Data Source #3 (3 Years Production): Provider, Provider Enrollment, Ownership (FFS,**	**10/26/20**	**11/2/20**	**5.1 days**	**40.8 hrs**			
2441	1.6.3.9.	Received Provider, Provider Enrollment, Ownership Full Production File (FFS, CHIP, MCO) From MMIS	10/26/20	10/26/20	0.1 days	0.8 hrs	2429	2442	ETL Team Lead - Specialists - Operations - Data Modeler
2442	1.6.3.9.	Load Provider, Provider Enrollment, Ownership Incremental File #3 in PROD Environment	10/26/20	10/27/20	1 day	4 hrs	*2441*	*2444,2443*	ETL Team Lead - Specialists - Operations - Data Modeler
2443	1.6.3.9.	Perform Provider, Provider Enrollment, Ownership Incremental File #3 Conversion Tool Suite Processing	10/27/20	10/28/20	1 day	4 hrs	2442	2445,2446	ETL Team Lead - Specialists - Operations - Data Modeler
2444	1.6.3.9.	Identify & Document New Provider, Provider Enrollment, Ownership File #3 Data Items Requiring	10/27/20	10/28/20	1 day	4 hrs	2442	2445	ETL Team Lead - Specialists - Operations - Data Modeler
2445	1.6.3.9.	Perform Dev Functional Testing of Provider Data - Incremental File #3	10/28/20	10/29/20	1 day	4 hrs	2443,2444	2447	ETL Team Lead - Specialists - Operations - Data Modeler
2446	1.6.3.9.	Perform Quality Checks and Validate Accuracy of Converted Provider, Provider Enrollment, Ownership	10/28/20	10/29/20	1 day	4 hrs	2443	2447	ETL Team Lead - Specialists - Operations - Data Modeler
2447	1.6.3.9.	Generate Provider, Provider Enrollment, Ownership File #3 Error Reports and/or Generate Report of Bad	10/29/20	10/30/20	1 day	8 hrs	2446,2445	2448	Report Analyst or Tableau Developer
2448	1.6.3.9.	Load Full Production Provider Data Into UAT & PROD Environments	10/30/20	11/2/20	1 day	12 hrs	2447	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. DBA and DBA
2449	1.6.3.9.	**Incremental Data Source #3 (3 Years Production): MMIS Medical Claims (FFS, CHIP, MCO) File**	**10/26/20**	**11/2/20**	**5.11 days**	**34.9 hrs**			
2450	1.6.3.9.	Received MMIS Medical Claims 3 Years Production File (FFS, CHIP, MCO) From MMIS	10/26/20	10/26/20	0.1 days	0.8 hrs	2429	2451	ETL Team Lead - Specialists - Operations - Data Modeler
2451	1.6.3.9.	Load MMIS Medical Claims Incremental File #3 in PROD Environment	10/26/20	10/26/20	0.01 days	0.1 hrs	*2450*	2452	ETL Team Lead - Specialists - Operations - Data Modeler
2452	1.6.3.9.	Perform MMIS Medical Claims Incremental File #3 Conversion Tool Suite Processing & Balancing	10/26/20	10/27/20	1 day	4 hrs	2451	2453	ETL Team Lead - Specialists - Operations - Data Modeler

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2453	1.6.3.9.(	Identify & Document New MMIS Medical Claims File #3 Data Items Requiring Manual Data Conversion	10/27/20	10/28/20	1 day	4 hrs	2452	2454,2455	ETL Team Lead - Specialists - Operations - Data Modeler
2454	1.6.3.9.(	Perform Dev Functional Testing of Member Eligibility Data - Incremental File #3	10/28/20	10/29/20	1 day	4 hrs	2453	2456	ETL Team Lead - Specialists - Operations - Data Modeler
2455	1.6.3.9.(	Perform Quality Checks and Validate Accuracy of Converted MMIS Medical Claims File #3	10/28/20	10/29/20	1 day	4 hrs	2453	2456	ETL Team Lead - Specialists - Operations - Data Modeler
2456	1.6.3.9.(	Generate MMIS Medical Claims File #3 Error Reports and/or Generate Report of Bad Data Transferred	10/29/20	10/30/20	1 day	8 hrs	2455,2454	2457	Report Analyst or Tableau Developer
2457	1.6.3.9.(	Load MMIS Medical Claims 3 Years Production Data Into UAT & PROD Environments	10/30/20	11/2/20	1 day	10 hrs	2456	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. DBA and DBA
2458	1.6.3.9.(	**Incremental Data Source #3 (3 Years Production): MMIS Dental Claims (FFS, CHIP, MCO) File**	**10/26/20**	**11/2/20**	**5.6 days**	**38.8 hrs**			
2459	1.6.3.9.(	Received MMIS Dental Claims 3 Years Production File (FFS, CHIP, MCO) From MMIS	10/26/20	10/26/20	0.1 days	0.8 hrs	2429	2460	ETL Team Lead - Specialists - Operations - Data Modeler
2460	1.6.3.9.(	Load MMIS Dental Claims Incremental File #3 in PROD Environment	10/26/20	10/26/20	0.5 days	4 hrs	*2459*	*2461*	ETL Team Lead - Specialists - Operations - Data Modeler
2461	1.6.3.9.(	Perform MMIS Dental Claims Incremental File #3 Conversion Tool Suite Processing & Balancing	10/26/20	10/27/20	1 day	4 hrs	2460	2462	ETL Team Lead - Specialists - Operations - Data Modeler
2462	1.6.3.9.(	Identify & Document New MMIS Dental Claims File #3 Data Items Requiring Manual Data Conversion	10/27/20	10/28/20	1 day	4 hrs	2461	2463,2464	ETL Team Lead - Specialists - Operations - Data Modeler
2463	1.6.3.9.(	Perform Dev Functional Testing of MMIS Dental Claims Data - Incremental File #3	10/28/20	10/29/20	1 day	4 hrs	2462	2465	ETL Team Lead - Specialists - Operations - Data Modeler
2464	1.6.3.9.(	Perform Quality Checks and Validate Accuracy of Converted MMIS Dental Claims File #3	10/28/20	10/29/20	1 day	4 hrs	2462	2465	ETL Team Lead - Specialists - Operations - Data Modeler
2465	1.6.3.9.(	Generate MMIS Dental Claims File #3 Error Reports and/or Generate Report of Bad Data Transferred	10/29/20	10/30/20	1 day	8 hrs	2464,2463	2466	Report Analyst or Tableau Developer
2466	1.6.3.9.(	Load 3 Years Production of MMIS Dental Claims Data Into UAT & PROD Environments	10/30/20	11/2/20	1 day	10 hrs	2465	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. DBA and DBA
2467	1.6.3.9.(	**Incremental Data Source #3 (3 Years Production): MMIS Pharmacy Claims (FFS, CHIP, MCO) File**	**10/26/20**	**11/2/20**	**5.6 days**	**40.8 hrs**			
2468	1.6.3.9.(	Received MMIS Pharmacy Claims 3 Years Production File (FFS, CHIP, MCO) From MMIS	10/26/20	10/26/20	0.1 days	0.8 hrs	2429	2469	ETL Team Lead - Specialists - Operations - Data Modeler
2469	1.6.3.9.(	Load MMIS Pharmacy Claims Incremental File #3 in PROD Environment	10/26/20	10/26/20	0.5 days	4 hrs	*2468*	*2470*	ETL Team Lead - Specialists - Operations - Data Modeler
2470	1.6.3.9.(	Perform MMIS Pharmacy Claims Incremental File #3 Conversion Tool Suite Processing & Balancing	10/26/20	10/27/20	1 day	4 hrs	2469	2471	ETL Team Lead - Specialists - Operations - Data Modeler
2471	1.6.3.9.(	Identify & Document New MMIS Pharmacy Claims File #3 Data Items Requiring Manual Data Conversion	10/27/20	10/28/20	1 day	4 hrs	2470	2472,2473	ETL Team Lead - Specialists - Operations - Data Modeler
2472	1.6.3.9.(	Perform Dev Functional Testing of MMIS Pharmacy Claims Data - Incremental File #3	10/28/20	10/29/20	1 day	4 hrs	2471	2474	ETL Team Lead - Specialists - Operations - Data Modeler
2473	1.6.3.9.(	Perform Quality Checks and Validate Accuracy of Converted MMIS Pharmacy Claims File #3	10/28/20	10/29/20	1 day	4 hrs	2471	2474	ETL Team Lead - Specialists - Operations - Data Modeler
2474	1.6.3.9.(	Generate MMIS Pharmacy Claims File #3 Error Reports and/or Generate Report of Bad Data	10/29/20	10/30/20	1 day	8 hrs	2473,2472	2475	Report Analyst or Tableau Developer
2475	1.6.3.9.(	Load 3 Years Production MMIS Pharmacy Claims in UAT & PROD Environments	10/30/20	11/2/20	1 day	12 hrs	2474	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. DBA and DBA
2476	1.6.3.9.(	**Incremental Data Source #3 (3 Years Production): MMIS Financial Capitation (FFS, CHIP, MCO) File**	**10/26/20**	**11/2/20**	**5.6 days**	**38.8 hrs**			
2477	1.6.3.9.(	Received MMIS Financial Capitation 3 Years Production File (FFS, CHIP, MCO) From MMIS	10/26/20	10/26/20	0.1 days	0.8 hrs	2429	2478	ETL Team Lead - Specialists - Operations - Data Modeler
2478	1.6.3.9.(	Load MMIS Financial Capitation Incremental File #3 in PROD Environment	10/26/20	10/26/20	0.5 days	4 hrs	*2477*	*2479*	ETL Team Lead - Specialists - Operations - Data Modeler
2479	1.6.3.9.(	Perform MMIS Financial Capitation Incremental File #3 Conversion Tool Suite Processing & Balancing	10/26/20	10/27/20	1 day	4 hrs	2478	2480	ETL Team Lead - Specialists - Operations - Data Modeler
2480	1.6.3.9.(	Identify & Document New MMIS Financial Capitation File #3 Data Items Requiring Manual Data Conversion	10/27/20	10/28/20	1 day	4 hrs	2479	2481,2482	ETL Team Lead - Specialists - Operations - Data Modeler
2481	1.6.3.9.(	Perform Dev Functional Testing of Financial Capitation Data - Incremental File #3	10/28/20	10/29/20	1 day	4 hrs	2480	2483	ETL Team Lead - Specialists - Operations - Data Modeler
2482	1.6.3.9.(	Perform Quality Checks and Validate Accuracy of Converted MMIS Financial Capitation File #3	10/28/20	10/29/20	1 day	4 hrs	2480	2483	ETL Team Lead - Specialists - Operations - Data Modeler
2483	1.6.3.9.(	Generate MMIS Financial Capitation File #3 Error Reports and/or Generate Report of Bad Data	10/29/20	10/30/20	1 day	8 hrs	2482,2481	2484	Report Analyst or Tableau Developer
2484	1.6.3.9.(	Load 3 Years Production Data For MMIS Financial Capitation in UAT & PROD Environments	10/30/20	11/2/20	1 day	10 hrs	2483	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. DBA and DBA
2485	1.6.3.9.(	**Incremental Data Source #3 (3 Years Production): MMIS Prior Authorization (FFS, CHIP, MCO) File**	**10/26/20**	**11/2/20**	**5.6 days**	**38.8 hrs**			
2486	1.6.3.9.(	Received MMIS Prior Authorization 3 Years Production File (FFS, CHIP, MCO) From MMIS	10/26/20	10/26/20	0.1 days	0.8 hrs	2429	2487	ETL Team Lead - Specialists - Operations - Data Modeler
2487	1.6.3.9.(	Load MMIS Prior Authorization Incremental File #3 in PROD Environment	10/26/20	10/26/20	0.5 days	4 hrs	*2486*	*2488*	ETL Team Lead - Specialists - Operations - Data Modeler

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2488	1.6.3.9.(	Perform MMIS Prior Authorization Incremental File #3 Conversion Tool Suite Processing & Balancing	10/26/20	10/27/20	1 day	4 hrs	2487	2489	ETL Team Lead - Specialists - Operations - Data Modeler
2489	1.6.3.9.(	Identify & Document New MMIS Prior Authorization File #3 Data Items Requiring Manual Data Conversion	10/27/20	10/28/20	1 day	4 hrs	2488	2490,2491	ETL Team Lead - Specialists - Operations - Data Modeler
2490	1.6.3.9.(	Perform Dev Functional Testing of MMIS Prior Authorization Data - Incremental File #3	10/28/20	10/29/20	1 day	4 hrs	2489	2492	ETL Team Lead - Specialists - Operations - Data Modeler
2491	1.6.3.9.(	Perform Quality Checks and Validate Accuracy of Converted MMIS Prior Authorization File #3	10/28/20	10/29/20	1 day	4 hrs	2489	2492	ETL Team Lead - Specialists - Operations - Data Modeler
2492	1.6.3.9.(	Generate MMIS Prior Authorization File #3 Error Reports and/or Generate Report of Bad Data	10/29/20	10/30/20	1 day	8 hrs	2491,2490	2493	Report Analyst or Tableau Developer
2493	1.6.3.9.(	Load 3 Years Production MMIS PA Data in UAT & PROD Environments	10/30/20	11/2/20	1 day	10 hrs	2492	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. DBA and DBA
2494	1.6.3.9.(	**Incremental Data Source #3 (3 Years Production): PEIA Medical Claims (FFS, CHIP, MCO) File**	**10/26/20**	**11/2/20**	**5.6 days**	**38.8 hrs**			
2495	1.6.3.9.(	Received PEIA Medical Claims 3 Years Production File (FFS, CHIP, MCO) From MMIS	10/26/20	10/26/20	0.1 days	0.8 hrs	2429	2496	ETL Team Lead - Specialists - Operations - Data Modeler
2496	1.6.3.9.(	Load PEIA Medical Claims Incremental File #3 In PROD Environment	10/26/20	10/26/20	0.5 days	4 hrs	*2495*	*2497*	ETL Team Lead - Specialists - Operations - Data Modeler
2497	1.6.3.9.(	Perform PEIA Medical Claims Incremental File #3 Conversion Tool Suite Processing & Balancing	10/26/20	10/27/20	1 day	4 hrs	2496	2498	ETL Team Lead - Specialists - Operations - Data Modeler
2498	1.6.3.9.(	Identify & Document New PEIA Medical Claims File #3 Data Items Requiring Manual Data Conversion	10/27/20	10/28/20	1 day	4 hrs	2497	2499,2500	ETL Team Lead - Specialists - Operations - Data Modeler
2499	1.6.3.9.(	Perform Dev Functional Testing of PEIA Medical Data - Incremental File #3	10/28/20	10/29/20	1 day	4 hrs	2498	2501	ETL Team Lead - Specialists - Operations - Data Modeler
2500	1.6.3.9.(	Perform Quality Checks and Validate Accuracy of Converted PEIA Medical Claims File #3	10/28/20	10/29/20	1 day	4 hrs	2498	2501	ETL Team Lead - Specialists - Operations - Data Modeler
2501	1.6.3.9.(	Generate PEIA Medical Claims File #3 Error Reports and/or Generate Report of Bad Data Transferred	10/29/20	10/30/20	1 day	8 hrs	2500,2499	2502	Report Analyst or Tableau Developer
2502	1.6.3.9.(	Load 3 Years Production PEIA Medical Claims Data in UAT & PROD Environments	10/30/20	11/2/20	1 day	10 hrs	2501	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. DBA and DBA
2503	1.6.3.9.(	**Incremental Data Source #3 (3 Years Production): PEIA Pharmacy Claims File**	**10/26/20**	**11/2/20**	**5.6 days**	**38.8 hrs**			
2504	1.6.3.9.(	Received PEIA Pharmacy Claims 3 Years Production F	10/26/20	10/26/20	0.1 days	0.8 hrs	2429	2505	ETL Team Lead - Specialists - Operations - Data Modeler
2505	1.6.3.9.(	Load PEIA Pharmacy Claims Incremental File #3 in PROD Environment	10/26/20	10/26/20	0.5 days	4 hrs	*2504*	*2506*	ETL Team Lead - Specialists - Operations - Data Modeler
2506	1.6.3.9.(	Perform PEIA Pharmacy Claims Incremental File #3 Conversion Tool Suite Processing & Balancing	10/26/20	10/27/20	1 day	4 hrs	2505	2507	ETL Team Lead - Specialists - Operations - Data Modeler
2507	1.6.3.9.(	Identify & Document New PEIA Pharmacy Claims File #3 Data Items Requiring Manual Data Conversion	10/27/20	10/28/20	1 day	4 hrs	2506	2508,2509	ETL Team Lead - Specialists - Operations - Data Modeler
2508	1.6.3.9.(	Perform Dev Functional Testing of PEIA Pharmacy Data - Incremental File #3	10/28/20	10/29/20	1 day	4 hrs	2507	2510	ETL Team Lead - Specialists - Operations - Data Modeler
2509	1.6.3.9.(	Perform Quality Checks and Validate Accuracy of Converted PEIA Pharmacy Claims File #3	10/28/20	10/29/20	1 day	4 hrs	2507	2510	ETL Team Lead - Specialists - Operations - Data Modeler
2510	1.6.3.9.(	Generate PEIA Pharmacy Claims File #3 Error Reports and/or Generate Report of Bad Data	10/29/20	10/30/20	1 day	8 hrs	2509,2508	2511	Report Analyst or Tableau Developer
2511	1.6.3.9.(	Load 3 Years Production PEIA Pharmacy Claims Data in UAT & PROD Environments	10/30/20	11/2/20	1 day	10 hrs	2510	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. DBA and DBA
2512	1.6.3.9.(	**Incremental Data Source #3 (3 Years Production): HSC Birth Data File**	**10/26/20**	**11/3/20**	**6.01 days**	**38.08 hrs**			
2513	1.6.3.9.(	Received HSC Birth Data 3 Years Production File	10/26/20	10/26/20	*0.01 days*	*0.08 hrs*	*2429*	*2514*	ETL Team Lead - Specialists - Operations - Data Modeler
2514	1.6.3.9.(	Load HSC Birth Data Incremental File #3 In PROD Env	10/26/20	10/27/20	1 day	4 hrs	2513	2515	ETL Team Lead - Specialists - Operations - Data Modeler
2515	1.6.3.9.(	Perform HSC Birth Data Incremental File #3 Conversion Tool Suite Processing & Balancing	10/27/20	10/28/20	1 day	4 hrs	2514	2516	ETL Team Lead - Specialists - Operations - Data Modeler
2516	1.6.3.9.(	Identify & Document New HSC Birth Data File #3 Data Items Requiring Manual Data Conversion	10/28/20	10/29/20	1 day	4 hrs	2515	2517,2518	ETL Team Lead - Specialists - Operations - Data Modeler
2517	1.6.3.9.(	Perform Dev Functional Testing of HSC Birth Data - Incremental File #3	10/29/20	10/30/20	1 day	4 hrs	2516	2519	ETL Team Lead - Specialists - Operations - Data Modeler
2518	1.6.3.9.(	Perform Quality Checks and Validate Accuracy of Converted HSC Birth Data File #3	10/29/20	10/30/20	1 day	4 hrs	2516	2519	ETL Team Lead - Specialists - Operations - Data Modeler
2519	1.6.3.9.(	Generate HSC Birth Data File #3 Error Reports and/or Generate Report of Bad Data Transferred	10/30/20	11/2/20	1 day	8 hrs	2518,2517	2520	Report Analyst or Tableau Developer
2520	1.6.3.9.(	Load 3 Years HSC Birth Data Into UAT & PROD Envir	11/2/20	11/3/20	1 day	10 hrs	2519	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. D
2521	1.6.3.9.(	**Incremental Data Source #3 (3 Years Production): HSC_Death Data File**	**10/26/20**	11/3/20	**6.01 days**	**38.08 hrs**			
2522	1.6.3.9.(	Received HSC_Death Data 3 Years Production File	10/26/20	10/26/20	*0.01 days*	*0.08 hrs*	*2429*	*2523*	ETL Team Lead - Specialists - Operations - Data Modeler
2523	1.6.3.9.(	Load HSC_Death Data Incremental File #3 In PROD E	10/26/20	10/27/20	1 day	4 hrs	2522	2524	ETL Team Lead - Specialists - Operations - Data Modeler
2524	1.6.3.9.(	Perform HSC_Death Data Incremental File #3 Conversion Tool Suite Processing & Balancing	10/27/20	10/28/20	1 day	4 hrs	2523	2525	ETL Team Lead - Specialists - Operations - Data Modeler

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2525	1.6.3.9.(	Identify & Document New HSC Death Data File #3 Data Items Requiring Manual Data Conversion	10/28/20	10/29/20	1 day	4 hrs	2524	2526,2527	ETL Team Lead - Specialists - Operations - Data Modeler
2526	1.6.3.9.(	Perform Dev Functional Testing of HSC Death Data - Incremental File #3	10/29/20	10/30/20	1 day	4 hrs	2525	2528	ETL Team Lead - Specialists - Operations - Data Modeler
2527	1.6.3.9.(	Perform Quality Checks and Validate Accuracy of Converted HSC Death Data File #3	10/29/20	10/30/20	1 day	4 hrs	2525	2528	ETL Team Lead - Specialists - Operations - Data Modeler
2528	1.6.3.9.(	Generate HSC Death Data File #3 Error Reports and/or Generate Report of Bad Data Transferred	10/30/20	11/2/20	1 day	8 hrs	2527,2526	2529	Report Analyst or Tableau Developer
2529	1.6.3.9.(	Load 3 Years HSC Death Data Into UAT & PROD Envi	11/2/20	11/3/20	1 day	10 hrs	2528	2563,2530	ETL Team Lead - Specialists - Operations - Data Modeler[50%],Sr. D
2530	1.6.3.9.(	***Milestone: Load 3 Years of Data Complete into UAT and PROD Environments***	11/3/20	11/3/20	0 days	0 hrs	2448,2457,246(	2734	Account - Project Manager or Asst PM
2531	1.6.3.9.(	**EDS UAT Preparation**	**10/26/20**	**11/2/20**	**5.5 days**	**164 hrs**			
2532	1.6.3.9.(	Schedule Meeting With DHHR To Discuss UAT Expectations & Test Scenarios	10/26/20	10/26/20	0.5 days	4 hrs	2428	2533,2534,2	DHHR[0%],Test Manager - Testers - QA Specialists[67%],Implementation/Operations Manager[67%],Account
2533	1.6.3.9.(	Confirm End User Roles and Security Permissions Are Setup Correctly	10/26/20	11/2/20	5 days	40 hrs	2532	2563	Business Lead or Analysts
2534	1.6.3.9.(	Security - Establish HIPAA Security Roles & Access Privil	10/26/20	11/2/20	5 days	40 hrs	2532	2563	Business Lead or Analysts
2535	1.6.3.9.(	Prepare Demo Of EDS With DHHR	10/26/20	11/2/20	5 days	80 hrs	2532	2563	Technical Lead,Business Lead or Analysts
2536	1.6.3.9.(	**D053 Deliverable: UAT Test Cases**	**10/26/20**	**12/16/20**	**35 days**	**217.02 hrs**			
2537	1.6.3.9.(	Develop EDS UAT Test Cases	10/26/20	11/2/20	5 days	80 hrs	2532	2538	Report Analyst or Tableau Developer,Test Manager - Testers - QA S
2538	1.6.3.9.(	Develop Security Test Cases	11/2/20	11/9/20	5 days	20 hrs	2537	2539	Report Analyst or Tableau Developer,Information Security Architect /
2539	1.6.3.9.(	Prepare Package of UAT Test Cases	11/9/20	11/12/20	3 days	5 hrs	2538	2540	Report Analyst or Tableau Developer[10%],Test Manager - Testers -
2540	1.6.3.9.(	Schedule & Conduct Walkthrough of EDS UAT Test Case	11/12/20	11/16/20	2 days	32 hrs	2539	2541	DHHR[0%],Test Manager - Testers - QA Specialists,Account - Projec
2541	1.6.3.9.(	Send UAT Test Package to DHHR for Review and Approval (10 Days)	11/16/20	12/2/20	10 days	0.01 hrs	2540	2542	Documentation Management Lead,DHHR[0%]
2542	1.6.3.9.(	Revise Test Cases & Retest (if necessary) (5 days)	12/2/20	12/9/20	5 days	80 hrs	2541	2543	Report Analyst or Tableau Developer,Test Manager - Testers - QA S
2543	1.6.3.9.(	Send EDS UAT Test Cases to DHHR (5 days)	12/9/20	12/16/20	5 days	0.01 hrs	2542	2544	DHHR[0%],Documentation Management Lead[0%]
2544	*1.6.3.9.(	***Milestone Deliverable D053: EDS UAT Test Cases Approved by DHHR***	***12/16/20***	***12/16/20***	***0 days***	***0 hrs***	***2543,2242***	***65,2563***	Account - Project Manager or Asst PM
2545	1.6.3.9.(	**EDS UAT/ORT End User Training Sessions and Training**	**12/21/20**	**3/2/21**	**48.75 days**	**924.02 hrs**			
2546	1.6.3.9.(	**EDS Training Sessions For UAT Users**	**1/21/21**	**1/26/21**	**3 days**	**48 hrs**			
2547	1.6.3.9.(	Conduct Overview Training of EDS	1/21/21	1/22/21	0.5 days	8 hrs	2566	2548	Training Lead[200%],DHHR[0%]
2548	1.6.3.9.(	Conduct HIPAA/PHI Security Rules	1/22/21	1/22/21	0.5 days	8 hrs	2547	2549	Training Lead[200%],DHHR[0%]
2549	1.6.3.9.(	Conduct Training on Care Management	1/22/21	1/25/21	0.5 days	8 hrs	2548	2550	Training Lead[200%],DHHR[0%]
2550	1.6.3.9.(	Conduct Training on Financial Management	1/25/21	1/25/21	0.5 days	8 hrs	2549	2551	Training Lead[200%],DHHR[0%]
2551	1.6.3.9.(	Conduct Training on Program Management	1/25/21	1/26/21	0.5 days	8 hrs	2550	2552	Training Lead[200%],DHHR[0%]
2552	1.6.3.9.(	Conduct Training on Program Integrity	1/26/21	1/26/21	0.5 days	8 hrs	2551	2554	Training Lead[200%],DHHR[0%]
2553	1.6.3.9.(	**D067 Deliverable: EDS Training Report**	**1/26/21**	**3/2/21**	**24.75 days**	**156.02 hrs**			
2554	1.6.3.9.(	Develop Training Report for All Training Sessions	1/26/21	1/29/21	3 days	48 hrs	2552	2555	Training Lead[200%]
2555	1.6.3.9.(	Perform QA on Training Report	1/29/21	2/1/21	0.5 days	8 hrs	2554	2556	Quality Assurance Manager,Training Lead
2556	1.6.3.9.(	Revise Training Report Based on Feedback From QA	2/1/21	2/2/21	1 day	16 hrs	2555	2557	Training Lead[200%]
2557	1.6.3.9.(	Schedule & Conduct Walkthrough of Training Report W	2/2/21	2/2/21	0.25 days	4 hrs	2556	2558	Training Lead,DHHR[0%],Account - Project Manager or Asst PM
2558	1.6.3.9.(	Send EDS Training Report to DHHR for Review and Approval to Optum Liferay (10 Days)	2/2/21	2/16/21	10 days	0.01 hrs	2557	2559	Documentation Management Lead[0%]
2559	1.6.3.9.(	Revise Training Report Based on Feedback from DHH	2/16/21	2/23/21	5 days	80 hrs	2558	2560	Training Lead[200%]
2560	1.6.3.9.(	Send Final Training Report to DHHR for Approval (5 Di	2/23/21	3/2/21	5 days	0.01 hrs	2559	2561	Documentation Management Lead[0%],DHHR[0%]
2561	*1.6.3.9.(	***Milestone Deliverable D067: EDS Training Report Approved by DHHR***	***3/2/21***	***3/2/21***	***0 days***	***0 hrs***	***2560***	***83,2756***	Account - Project Manager or Asst PM
2562	1.6.3.9.(	**D054 Deliverable: UAT Execution & Test Results & L**	**12/21/20**	**2/4/21**	**31 days**	**720 hrs**			
2563	1.6.3.9.(	Execute EDS Test Scripts for EDS	12/21/20	12/29/20	5 days	20 hrs	2529,2520,251	2564	Report Analyst or Tableau Developer,ETL Team Lead - Specialists -
2564	1.6.3.9.(	Prepare Test Results Deliverable Package	12/29/20	1/6/21	5 days	360 hrs	2563	2565	Report Analyst or Tableau Developer,Test Manager - Testers - QA S
2565	1.6.3.9.(	Schedule & Conduct Walkthrough of Test Results With	1/6/21	1/7/21	1 day	32 hrs	2564	2566	Test Manager - Testers - QA Specialists,Technical Lead,Business Le
2566	1.6.3.9.(	Send EDS Final Test Results to DHHR For Review & Approval (10 Days)	1/7/21	1/21/21	10 days	8 hrs	2565	2567,2547	Documentation Management Lead[10%],DHHR[0%]
2567	1.6.3.9.(	Revise EDS Test Results Based on Feedback From DHHR (5 Days)	1/21/21	1/28/21	5 days	260 hrs	2566	2568	Test Manager - Testers - QA Specialists,Technical Lead[50%],Business Lead or Analysts[50%],Report Analyst or
2568	1.6.3.9.(	DHHR Final Review & Approval of EDS UAT Test Resi	1/28/21	2/4/21	5 days	40 hrs	2567	2569,2570	Documentation Management Lead,DHHR[0%]
2569	*1.6.3.9.(	***Milestone Deliverable D054: EDS UAT Test Results & Letter Approved by DHHR***	***2/4/21***	***2/4/21***	***0 days***	***0 hrs***	***2568***	***66,2570***	Account - Project Manager or Asst PM
2570	*1.6.3.9.(	***Milestone: UAT Approved by DHHR***	*2/4/21*	*2/4/21*	*0 days*	*0 hrs*	*2568,2569*	*2720,2574*	Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2571	1.6.3.9.	**(ORT) Operational Readiness Testing EDS Phase 1**	8/3/20	2/24/21	142.5 days	1,394.92 hrs			
2572	1.6.3.9.	**Phase 1 Miscellaneous Tools**	8/3/20	2/24/21	142.5 days	1,394.92 hrs			
2573	1.6.3.9.	**ServiceNow HelpDesk Incident Reporting**	2/4/21	2/18/21	10 days	320 hrs			
2574	1.6.3.9.	Setup & Configure/Change Values for WV EDS Incident Reporting in ServiceNow	2/4/21	2/11/21	5 days	280 hrs	2570	2575	Business Lead or Analysts,Implementation/Operations Manager,Quality Assurance Manager,Report Analyst or Tableau
2575	1.6.3.9.	Test ServiceNow Setup	2/11/21	2/18/21	5 days	40 hrs	2574	2756	Business Lead or Analysts
2576	1.6.3.9.	**D043 Deliverable: Operations Readiness Plan**	8/3/20	12/1/20	83.2 days	216.02 hrs			
2577	1.6.3.9.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria -	8/3/20	8/4/20	1 day	32 hrs	2273	2579	Test Manager - Testers - QA Specialists,DHHR[0%],Implementation/Operations
2578	1.6.3.9.	**Cycle 1: Operations Readiness Plan (DRAFT)**	8/4/20	11/13/20	72.2 days	104.01 hrs			
2579	1.6.3.9.	Develop Draft Operations Readiness	8/4/20	8/18/20	10 days	64 hrs	2577	2580	Quality Assurance Manager,Documentation Management Lead,Test
2580	1.6.3.9.	Schedule & Conduct Internal Meeting With QA on Operations Readiness	8/18/20	8/19/20	1 day	16 hrs	2579	2581	Quality Assurance Manager,Implementation/Operations Manager
2581	1.6.3.9.	Revise Operations Readiness Plan From QA Review	8/19/20	8/20/20	1 day	8 hrs	2580	2582	Business Lead or Analysts
2582	1.6.3.9.	Schedule & Conduct Meeting With DHHR to Review Operations Readiness	8/20/20	8/21/20	1 day	16 hrs	2581	2583	DHHR[0%],Account - Project Manager or Asst PM,Implementation/Operations Manager
2583	1.6.3.9.	Submit Operations Readiness Plan to DHHR For Review (10 Days)	10/30/20	11/13/20	10 days	0.01 hrs	2279,2582	2585	DHHR[0%],Documentation Management Lead[0%]
2584	1.6.3.9.	**Cycle 2: Operations Readiness Plan (FINAL)**	11/13/20	12/1/20	10 days	80.01 hrs			
2585	1.6.3.9.	Revise Operations Readiness From DHHR Comments Log (5 Days)	11/13/20	11/20/20	5 days	80 hrs	2583	2586	Business Lead or Analysts,Implementation/Operations Manager
2586	1.6.3.9.	Submit Operations Readiness to DHHR for Final Review (5 Days)	11/20/20	12/1/20	5 days	0.01 hrs	2585	2587	Documentation Management Lead[0%],DHHR[0%]
2587	*1.6.3.9.*	***Milestone Deliverable D043: Operations Readiness Plan Approved by DHHR***	*12/1/20*	*12/1/20*	*0 days*	*0 hrs*	*2586*	*2589,54*	Account - Project Manager or Asst PM
2588	1.6.3.9.	**ORT Planning and Preparation**	12/1/20	12/8/20	5 days	80 hrs			
2589	1.6.3.9.	Prepare & Conduct Operational Readiness Assessment - Environment & Tools Installed &	12/1/20	12/8/20	5 days	80 hrs	2587	2592	Business Lead or Analysts
2590	1.6.3.9.	**D044 Deliverable: ORT Test Scripts - Phase 1 EDS**	12/8/20	2/24/21	54.3 days	778.9 hrs			
2591	1.6.3.9.	**Deliverable D044: EDS ORT Test Scripts Developm**	12/8/20	1/19/21	28.25 days	176.02 hrs			
2592	1.6.3.9.	Develop EDS ORT Test Scripts	12/8/20	12/15/20	5 days	80 hrs	2589	2593	Business Lead or Analysts,Test Manager - Testers - QA Specialists
2593	1.6.3.9.	Prepare Package of EDS Test Scripts	12/15/20	12/18/20	3 days	48 hrs	2592	2594	Test Manager - Testers - QA Specialists,Business Lead or Analysts
2594	1.6.3.9.	Schedule & Conduct Walkthrough of ORT Test Scripts With DHHR	12/18/20	12/18/20	0.25 days	8 hrs	2593	2595	Business Lead or Analysts[400%],DHHR[0%]
2595	1.6.3.9.	Send ORT Test Scripts to DHHR for Review and Ap	12/18/20	1/5/21	10 days	0.01 hrs	2594	2596,2600	Documentation Management Lead[0%],DHHR[0%]
2596	1.6.3.9.	Update ORT Test Scripts Based on Feedback From DHHR (if needed0	1/5/21	1/12/21	5 days	40 hrs	2595	2597	Business Lead or Analysts
2597	1.6.3.9.	Send Final ORT Test Scripts to DHHR for Final App	1/12/21	1/19/21	5 days	0.01 hrs	2596	2598	Documentation Management Lead[0%],DHHR[0%]
2598	*1.6.3.9.*	***Milestone Deliverable D044: EDS ORT Test Scripts Approved by DHHR***	*1/19/21*	*1/19/21*	*0 days*	*0 hrs*	*2597*	*55,2603*	Account - Project Manager or Asst PM
2599	1.6.3.9.	**ORT Exercise With DHHR**	1/5/21	1/6/21	1 day	16 hrs			
2600	1.6.3.9.	Schedule & Coordinate ORT Walkthrough With DHH	1/5/21	1/6/21	0.5 days	8 hrs	2595	2603,2601	DHHR[0%],Implementation/Operations Manager,Account - Project M
2601	1.6.3.9.	Record, Mitigate and Track ORT IRAAD-C Items	1/6/21	1/6/21	0.5 days	8 hrs	2600	2652,2651	Business Lead or Analysts,Technical Lead
2602	1.6.3.9.	**Deliverable D045: EDS ORT Test Scripts Results**	1/19/21	2/24/21	26.05 days	586.88 hrs			
2603	1.6.3.9.	Execute EDS Test Scripts Results	1/19/21	1/26/21	5 days	160 hrs	2600,2598	2604	Test Manager - Testers - QA Specialists,Technical Lead,Business Le
2604	1.6.3.9.	Prepare Test Results Deliverable Package	1/26/21	1/27/21	1 day	40 hrs	2603	2605	Business Lead or Analysts
2605	1.6.3.9.	Schedule & Conduct Walkthrough of Test Results W	1/27/21	1/27/21	0.05 days	4 hrs	2604	2606	Test Manager - Testers - QA Specialists[200%],Technical Lead[200%
2606	1.6.3.9.	Send EDS Test Results to DHHR For Review (10 D	1/27/21	2/10/21	10 days	80 hrs	2605	2607	Documentation Management Lead,DHHR[0%]
2607	1.6.3.9.	Update ORT Test Results Based on Feedback From DHHR (if needed0	2/10/21	2/17/21	5 days	302.86 hrs	2606	2608	Business Lead or Analysts,Test Manager - Testers - QA Specialists[300%],Technical Lead,Implementation/Operations
2608	1.6.3.9.	Send Final ORT Test Results to DHHR for Final App	2/17/21	2/24/21	5 days	0.02 hrs	2607	2609	Documentation Management Lead[0%],DHHR[60%]
2609	*1.6.3.9.*	***Milestone Deliverable D045: EDS ORT Test Results Approved by DHHR***	*2/24/21*	*2/24/21*	*0 days*	*0 hrs*	*2608*	*56,2756*	Account - Project Manager or Asst PM
2610	1.6.4	**Phase 1: Solution Deployment 3/2/2020 - 2/28/2021 (EDS)**	7/15/20	3/2/21	158.83 days	7,126.38 hrs			
2611	1.6.4.1	Deployment and Completion of New Day Incremental Data Supp	2/2/21	2/26/21	18 days	1,908 hrs	2658	2755	Business Lead or Analysts[250%],Certification Lead[25%],ETL Team L
2612	1.6.4.2	**Deliverables Phase 1 EDS For Solution Deployment Task Gr**	7/15/20	2/16/21	148.24 days	1,903.81 hrs			
2613	1.6.4.2.	**D055 Deliverable Cutover Play Book**	7/15/20	12/18/20	108.96 days	226.02 hrs			
2614	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Cutover	7/15/20	7/16/20	1 day	24 hrs	1531	2616	Documentation Management Lead,Technical Lead,Account - Project Manager or Asst PM
2615	1.6.4.2.	**Cycle 1: Cutover Play Book (DRAFT)**	10/30/20	12/4/20	23.5 days	114.01 hrs			
2616	1.6.4.2.	Develop Draft Cutover Play Book	10/30/20	11/13/20	10 days	80 hrs	2279,2614	2617	Technical Lead,Business Lead or Analysts

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2617	1.6.4.2.	Schedule & Conduct Internal Meeting With QA on Cutove	11/13/20	11/13/20	0.25 days	4 hrs	2616	2618	Quality Assurance Manager,Business Lead or Analysts
2618	1.6.4.2.	Revise Cutover Play Book From QA Review Feedback	11/13/20	11/18/20	3 days	24 hrs	2617	2619	Business Lead or Analysts
2619	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Review Cutover Play Book	11/18/20	11/18/20	0.25 days	6 hrs	2618	2620	Technical Lead,Business Lead or Analysts,Account - Project Manager or Asst PM
2620	1.6.4.2.	Submit Cutover Play Book to DHHR For Review (10 Days	11/18/20	12/4/20	10 days	0.01 hrs	2619	2623,2622	Documentation Management Lead[0%],DHHR[0%]
2621	**1.6.4.2.**	**Cycle 2: Cutover Play Book (FINAL)**	**12/4/20**	**12/18/20**	**10 days**	**88.01 hrs**			
2622	1.6.4.2.	Application Administrator Support	12/4/20	12/18/20	10 days	80 hrs	2620	2625	Application Administrator
2623	1.6.4.2.	Revise Cutover Play Book From DHHR Comments Log (5	12/4/20	12/11/20	5 days	8 hrs	2620	2624	Business Lead or Analysts[20%]
2624	1.6.4.2.	Submit Cutover Play Book to DHHR for Final Review (5 D	12/11/20	12/18/20	5 days	0.01 hrs	2623	2625	Documentation Management Lead[0%],DHHR[0%]
2625	***1.6.4.2.***	***Milestone Deliverable D055: Cutover Play Book Approved by DHHR***	***12/18/20***	***12/18/20***	***0 days***	***0 hrs***	***2624,2622***	***69,3303***	Account - Project Manager or Asst PM
2626	**1.6.4.2.**	**D057 Deliverable: Implementation Plan (Rollout Plan)**	**7/15/20**	**12/15/20**	**105.96 days**	**702.22 hrs**			
2627	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria -	7/15/20	7/16/20	0.24 days	5.76 hrs	1531	2629	Documentation Management Lead,Technical Lead,Account - Project Manager or Asst PM
2628	**1.6.4.2.**	**Cycle 1: Implementation Plan (Rollout Plan) (DRAFT)**	**10/30/20**	**12/1/20**	**20.5 days**	**668.21 hrs**			
2629	1.6.4.2.	Develop Draft Implementation Plan (Rollout Plan)	10/30/20	11/10/20	7 days	372 hrs	2279,2627	2630	Business Lead or Analysts[14%],Application Administrator,Document
2630	1.6.4.2.	Schedule & Conduct Internal Meeting With QA on Implementation Plan (Rollout Plan)	11/10/20	11/10/20	0.25 days	0.2 hrs	2629	2631	Quality Assurance Manager[0%],Business Lead or Analysts[10%]
2631	1.6.4.2.	Revise Implementation Plan (Rollout Plan) From QA Review Feedback	11/10/20	11/13/20	3 days	192 hrs	2630	2632	Technical Lead,Account - Project Manager or Asst PM,Documentation Management Lead,ETL Team Lead - Specialists -
2632	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Review Implementation Plan (Rollout Plan)	11/13/20	11/13/20	0.25 days	4 hrs	2631	2633	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM
2633	1.6.4.2.	Submit Implementation Plan (Rollout Plan) to DHHR For Review (10 Days)	11/13/20	12/1/20	10 days	0.01 hrs	2632	2635	Documentation Management Lead[0%],DHHR[0%]
2634	**1.6.4.2.**	**Cycle 2: Implementation Plan (Rollout Plan) (FINAL)**	**12/1/20**	**12/15/20**	**10 days**	**128.25 hrs**			
2635	1.6.4.2.	Revise Implementation Plan (Rollout Plan) From DHHR Comments Log (5 Days)	12/1/20	12/8/20	5 days	128 hrs	2633	2636	Business Lead or Analysts[20%],Liferay Developer,Technical Lead,Test Manager - Testers - QA Specialists
2636	1.6.4.2.	Submit Implementation Plan (Rollout Plan) to DHHR for Final Review (5 Days)	12/8/20	12/15/20	5 days	0.25 hrs	2635	2637	Documentation Management Lead[1%],DHHR[0%]
2637	***1.6.4.2.***	***Milestone Deliverable D057: Implementation Plan (Rollout Plan) Approved by DHHR***	***12/15/20***	***12/15/20***	***0 days***	***0 hrs***	***2636***	***71,2756***	Account - Project Manager or Asst PM
2638	**1.6.4.2.**	**D059 Deliverable: Operations Change Management Plan Deliverable**	**7/15/20**	**12/11/20**	**103.91 days**	**142.95 hrs**			
2639	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Operations Change Management Plan	7/15/20	7/15/20	0.08 days	1.33 hrs	1531	2641	Documentation Management Lead[50%],Implementation/Operations Manager[50%],Account - Project Manager or Asst PM
2640	**1.6.4.2.**	**Cycle 1: Operations Change Management Plan (DRAFT**	**10/30/20**	**11/25/20**	**18.45 days**	**133.61 hrs**			
2641	1.6.4.2.	Develop Draft Operations Change Management Plan	10/30/20	11/6/20	5 days	120 hrs	2279,2639	2642	Business Lead or Analysts,ETL Team Lead - Specialists - Operations
2642	1.6.4.2.	Schedule & Conduct Internal Meeting With QA on Operations Change Management Plan	11/6/20	11/6/20	0.25 days	4 hrs	2641	2643	Quality Assurance Manager,Business Lead or Analysts
2643	1.6.4.2.	Revise Operations Change Management Plan From QA Review Feedback	11/6/20	11/11/20	3 days	8 hrs	2642	2644	Business Lead or Analysts[33%]
2644	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Review Operations Change Management Plan	11/11/20	11/11/20	0.2 days	1.6 hrs	2643	2645	DHHR[0%],Business Lead or Analysts
2645	1.6.4.2.	Submit Operations Change Management Plan to DHHR For Review (10 Days)	11/11/20	11/25/20	10 days	0.01 hrs	2644	2647	Documentation Management Lead[0%],DHHR[0%]
2646	**1.6.4.2.**	**Cycle 2: Operations Change Management Plan (FINAL)**	**11/25/20**	**12/11/20**	**10 days**	**8.01 hrs**			
2647	1.6.4.2.	Revise Operations Change Management Plan From DHHR Comments Log (5 Days)	11/25/20	12/4/20	5 days	8 hrs	2645	2648	Business Lead or Analysts[20%]
2648	1.6.4.2.	Submit Operations Change Management Plan to DHHR for Final Review (5 Days)	12/4/20	12/11/20	5 days	0.01 hrs	2647	2649	DHHR[0%],Documentation Management Lead[0%]
2649	***1.6.4.2.***	***Milestone Deliverable D059: Operations Change Management Plan Approved by DHHR***	***12/11/20***	***12/11/20***	***0 days***	***0 hrs***	***2648***	***73,2756***	Account - Project Manager or Asst PM
2650	**1.6.4.2.**	**D060 Deliverable: Operational Milestone Review (OMR)**	**1/6/21**	**2/16/21**	**28.53 days**	**262.95 hrs**			
2651	1.6.4.2.	Application Administrator Support	1/6/21	2/10/21	25 days	200 hrs	2601	2662	Application Administrator
2652	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Operations Change Management Plan	1/6/21	1/6/21	0.08 days	1.33 hrs	2601	2654	Documentation Management Lead[50%],Implementation/Operations Manager[50%],Account - Project Manager or Asst PM
2653	**1.6.4.2.**	**Cycle 1: Operational Milestone Review (DRAFT)**	**1/6/21**	**2/2/21**	**18.45 days**	**53.61 hrs**			
2654	1.6.4.2.	Develop Draft Operational Milestone Review	1/6/21	1/13/21	5 days	40 hrs	2279,2652	2655	Business Lead or Analysts
2655	1.6.4.2.	Schedule & Conduct Internal Meeting With QA on Operational Milestone Review	1/13/21	1/13/21	0.25 days	4 hrs	2654	2656	Quality Assurance Manager,Business Lead or Analysts
2656	1.6.4.2.	Revise Operational Milestone Review From QA Review F	1/13/21	1/18/21	3 days	8 hrs	2655	2657	Business Lead or Analysts[33%]

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2657	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Review Operational Milestone Review	1/18/21	1/19/21	0.2 days	1.6 hrs	2656	2658	DHHR[0%],Business Lead or Analysts
2658	1.6.4.2.	Submit Operational Milestone Review to DHHR For Review (10 Days)	1/19/21	2/2/21	10 days	0.01 hrs	2657	2660,2611	Documentation Management Lead[0%],DHHR[0%]
2659	1.6.4.2.	**Cycle 2: Operational Milestone Review (FINAL)**	**2/2/21**	**2/16/21**	**10 days**	**8.01 hrs**			
2660	1.6.4.2.	Revise Operational Milestone Review From DHHR Comments Log (5 Days)	2/2/21	2/9/21	5 days	8 hrs	2658	2661	Business Lead or Analysts[20%]
2661	1.6.4.2.	Submit Operational Milestone Review to DHHR for Final Review (5 Days)	2/9/21	2/16/21	5 days	0.01 hrs	2660	2662	DHHR[0%],Documentation Management Lead[0%]
2662	*1.6.4.2.*	***Milestone Deliverable D060: Operational Milestone Re***	***2/16/21***	***2/16/21***	***0 days***	***0 hrs***	***2661,2651***	***75,2756***	Account - Project Manager or Asst PM
2663	1.6.4.2.	**D062 Deliverable: Report Distribution Schedule**	**7/15/20**	**12/9/20**	**101.96 days**	**102.11 hrs**			
2664	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Report	7/15/20	7/16/20	0.8 days	2 hrs	1531	2666	Account - Project Manager or Asst PM,Tech Writer and Scribe-Tester-QA
2665	1.6.4.2.	**Cycle 1: Reports Distribution Schedule (DRAFT)**	**10/30/20**	**11/23/20**	**16.5 days**	**60.1 hrs**			
2666	1.6.4.2.	Develop Draft Operations Reports Distribution Schedule	10/30/20	11/6/20	5 days	40 hrs	2279,2664	2667	Business Lead or Analysts
2667	1.6.4.2.	Schedule & Conduct Internal Meeting With QA on Reports Distribution Schedule	11/6/20	11/6/20	0.25 days	8 hrs	2666	2668	Quality Assurance Manager[200%],Business Lead or Analysts
2668	1.6.4.2.	Revise Reports Distribution Schedule From QA Review F	11/6/20	11/9/20	1 day	8 hrs	2667	2669	Business Lead or Analysts
2669	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Review Reports Distribution Schedule	11/9/20	11/9/20	0.25 days	4 hrs	2668	2670	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM
2670	1.6.4.2.	Submit Reports Distribution Schedule to DHHR For Review (10 Days)	11/9/20	11/23/20	10 days	0.1 hrs	2669	2672	Documentation Management Lead[0%],DHHR[0%]
2671	1.6.4.2.	**Cycle 2: Reports Distribution Schedule (FINAL)**	**11/23/20**	**12/9/20**	**10 days**	**40.01 hrs**			
2672	1.6.4.2.	Revise Reports Distribution Schedule From DHHR Comments Log (5 Days)	11/23/20	12/2/20	5 days	40 hrs	2670	2673	Business Lead or Analysts
2673	1.6.4.2.	Submit Reports Distribution Schedule to DHHR for Final Review (5 Days)	12/2/20	12/9/20	5 days	0.01 hrs	2672	2674	Documentation Management Lead[0%],DHHR[0%]
2674	*1.6.4.2.*	***Milestone Deliverable D062: Reports Distribution Schedule Approved by DHHR***	***12/9/20***	***12/9/20***	***0 days***	***0 hrs***	***2673***	***77,2756***	Account - Project Manager or Asst PM
2675	1.6.4.2.	**D063 Deliverable: Solution Health Monitoring Plan**	**7/15/20**	**1/5/21**	**118.71 days**	**163.34 hrs**			
2676	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Solution	7/15/20	7/16/20	0.25 days	3.33 hrs	1531	2678	Documentation Management Lead,Technical Lead,Account - Project Manager or Asst PM
2677	1.6.4.2.	**Cycle 1: Solution Health Monitoring Plan (DRAFT)**	**12/21/20**	**1/4/21**	**8 days**	**120 hrs**			
2678	1.6.4.2.	Develop Draft Solution Health Monitoring Plan	12/21/20	12/29/20	5 days	80 hrs	2309,2676	2679	Business Lead or Analysts,Liferay Developer
2679	1.6.4.2.	Schedule & Conduct Internal Meeting With QA on Solution Health Monitoring Plan	12/29/20	12/30/20	1 day	16 hrs	2678	2680	Quality Assurance Manager,Business Lead or Analysts
2680	1.6.4.2.	Revise Solution Health Monitoring Plan From QA Review	12/30/20	12/31/20	1 day	16 hrs	2679	2681	Business Lead or Analysts,Liferay Developer
2681	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Review Solution Health Monitoring Plan	12/31/20	12/31/20	0 days	0 hrs	2680	2682	DHHR[0%],Account - Project Manager or Asst PM
2682	1.6.4.2.	Submit Solution Health Monitoring Plan to DHHR For Review (10 Days)	12/31/20	1/4/21	1 day	8 hrs	2681	2684	Documentation Management Lead,DHHR[0%]
2683	1.6.4.2.	**Cycle 2: Solution Health Monitoring Plan (FINAL)**	**1/4/21**	**1/5/21**	**1 day**	**40.01 hrs**			
2684	1.6.4.2.	Revise Solution Health Monitoring Plan From DHHR Comments Log (5 Days)	1/4/21	1/5/21	1 day	40 hrs	2682	2685	Business Lead or Analysts,Liferay Developer,Quality Assurance Manager,Technical Lead,Test Manager - Testers - QA Specialists
2685	1.6.4.2.	Submit Solution Health Monitoring Plan to DHHR for Final Review (5 Days)	1/5/21	1/5/21	0 days	0.01 hrs	2684	2686	DHHR[0%],Documentation Management Lead
2686	*1.6.4.2.*	***Milestone Deliverable D063: Solution Health Monitoring Plan Approved by DHHR***	***1/5/21***	***1/5/21***	***0 days***	***0 hrs***	***2685***	***78,2756***	Account - Project Manager or Asst PM
2687	1.6.4.2.	**D064 Deliverable: Systems Operations Plan**	**10/9/20**	**11/23/20**	**31.5 days**	**212.21 hrs**			
2688	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - System	10/9/20	10/12/20	1 day	8 hrs	2257	2690	Documentation Management Lead,Technical Lead,Account - Project Manager or Asst PM[33%]
2689	1.6.4.2.	**Cycle 1: Systems Operations Plan (DRAFT)**	**10/12/20**	**11/9/20**	**20.5 days**	**200.01 hrs**			
2690	1.6.4.2.	Develop Draft Systems Operations Plan	10/12/20	10/21/20	7 days	184 hrs	2688	2691	Business Lead or Analysts[14%],Application Administrator,Document
2691	1.6.4.2.	Schedule & Conduct Internal Meeting With QA on Systems Operations Plan	10/21/20	10/21/20	0.25 days	4 hrs	2690	2692	Quality Assurance Manager,Business Lead or Analysts
2692	1.6.4.2.	Revise Systems Operations Plan From QA Review Feed	10/21/20	10/26/20	3 days	8 hrs	2691	2693	Business Lead or Analysts[33%]
2693	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Review Systems Operations Plan	10/26/20	10/26/20	0.25 days	4 hrs	2692	2694	DHHR[0%],Business Lead or Analysts,Account - Project Manager or Asst PM
2694	1.6.4.2.	Submit Systems Operations Plan to DHHR For Review (	10/26/20	11/9/20	10 days	0.01 hrs	2693	2696	Documentation Management Lead[0%],DHHR[0%]
2695	1.6.4.2.	**Cycle 2: Systems Operations Plan (FINAL)**	**11/9/20**	**11/23/20**	**10 days**	**4.2 hrs**			
2696	1.6.4.2.	Revise Systems Operations Plan From DHHR Comments Log (5 Days)	11/9/20	11/16/20	5 days	3 hrs	2694	2697	Business Lead or Analysts[8%]

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2697	1.6.4.2.	Submit Systems Operations Plan to DHHR for Final Review (5 Days)	11/16/20	11/23/20	5 days	1.2 hrs	2696	2698	Documentation Management Lead[3%],DHHR[0%]
2698	*1.6.4.2.*	***Milestone Deliverable D064: Systems Operations Plan Approved by DHHR***	***11/23/20***	***11/23/20***	***0 days***	***0 hrs***	***2697***	***79,2700***	Account - Project Manager or Asst PM
2699	1.6.4.2.	**D089 Deliverable: Turnover and Closeout Management Plan Deliverable**	**11/23/20**	**12/7/20**	**8 days**	**92 hrs**			
2700	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria - Turnover and Closeout Management Plan	11/23/20	11/24/20	1 day	24 hrs	2698	2702	Documentation Management Lead,Technical Lead,Account - Project Manager or Asst PM
2701	1.6.4.2.	**Cycle 1: Turnover and Closeout Management Plan (DR/**	**11/24/20**	**12/3/20**	**5 days**	**52 hrs**			
2702	1.6.4.2.	Develop Draft Turnover and Closeout Management Plan	11/24/20	11/25/20	1 day	8 hrs	2700	2703	Business Lead or Analysts
2703	1.6.4.2.	Schedule & Conduct Internal Meeting With QA on Turnover and Closeout Management Plan	11/25/20	11/30/20	1 day	16 hrs	2702	2704	Quality Assurance Manager,Business Lead or Analysts
2704	1.6.4.2.	Revise Turnover and Closeout Management Plan From QA Review Feedback	11/30/20	12/1/20	1 day	8 hrs	2703	2705	Business Lead or Analysts
2705	1.6.4.2.	Schedule & Conduct Meeting With DHHR to Review Turnover and Closeout Management Plan	12/1/20	12/2/20	1 day	12 hrs	2704	2706	Account - Project Manager or Asst PM[50%],DHHR[0%],Business Lead or Analysts
2706	1.6.4.2.	Submit Turnover and Closeout Management Plan to DHHR For Review (10 Days)	12/2/20	12/3/20	1 day	8 hrs	2705	2708	Documentation Management Lead,DHHR[0%]
2707	1.6.4.2.	**Cycle 2: Turnover and Closeout Management Plan (FIN/**	**12/3/20**	**12/7/20**	**2 days**	**16 hrs**			
2708	1.6.4.2.	Revise Turnover and Closeout Management Plan From DHHR Comments Log (5 Days)	12/3/20	12/4/20	1 day	8 hrs	2706	2709	Business Lead or Analysts
2709	1.6.4.2.	Submit Turnover and Closeout Management Plan to DHHR for Final Review (5 Days)	12/4/20	12/7/20	1 day	8 hrs	2708	2710	Documentation Management Lead,DHHR[0%]
2710	*1.6.4.2.*	***Milestone Deliverable D069: Turnover and Closeout Management Plan Approved by DHHR***	***12/7/20***	***12/7/20***	***0 days***	***0 hrs***	***2709***	***85,2756***	Account - Project Manager or Asst PM
2711	1.6.4.2.	**D027 Deliverable Update: Security, Privacy, and Confidentiality Plan**	**12/18/20**	**1/19/21**	**20 days**	**0 hrs**			
2712	1.6.4.2.	Amend EDS Approved Deliverable For Security, Privacy, and Confidentiality Plan	12/18/20	12/28/20	5 days	0 hrs	2756FS-50 days	2713	
2713	1.6.4.2.	Schedule & Conduct Internal Meeting with QA	12/28/20	12/29/20	1 day	0 hrs	2712	2714	
2714	1.6.4.2.	Revise Security, Privacy, and Confidentiality Plan From QA Review Feedback	12/29/20	1/4/21	3 days	0 hrs	2713	2715	
2715	1.6.4.2.	Submit Security, Privacy, and Confidentiality Plan to DHHR For Review (5 Days)	1/4/21	1/11/21	5 days	0 hrs	2714	2716	
2716	1.6.4.2.	Revise Security, Privacy, and Confidentiality Plan From DHHR Comments Log (3 Days)	1/11/21	1/14/21	3 days	0 hrs	2715	2717	
2717	1.6.4.2.	Submit Security, Privacy, and Confidentiality Plan to DHHR for Final Review (3 Days)	1/14/21	1/19/21	3 days	0 hrs	2716	2718	
2718	1.6.4.2.	***Milestone Deliverable D027: Security, Privacy, and Confidentiality Plan Approved***	1/19/21	1/19/21	0 days	0 hrs	2717	2759,463	Account - Project Manager or Asst PM
2719	1.6.4.3	**Phase 1 EDS - Deployment Planning**	**11/3/20**	**3/2/21**	**81.23 days**	**3,314.57 hrs**			
2720	1.6.4.3.	Author Readiness Checklist of Tasks to Complete By Sequence & Prepare Production Environment	2/4/21	2/5/21	1 day	8 hrs	2570	2721	Technical Lead
2721	1.6.4.3.	Schedule and Conduct Internal Meeting to Review the Checklist and Timelines	2/5/21	2/8/21	1 day	32 hrs	2720	2722	Technical Lead,Report Analyst or Tableau Developer,ETL Team Lead - Specialists - Operations - Data Modeler,Sr. DBA and DBA
2722	1.6.4.3.	Revise Checklist Based on Feedback From Teams	2/8/21	2/9/21	1 day	8 hrs	2721	2725,2724	Technical Lead
2723	1.6.4.3.	**Production End User Security Roles/Responsibility (EDS)**	**2/9/21**	**2/16/21**	**5 days**	**72 hrs**			
2724	1.6.4.3.	Application Adminstrator Support	2/9/21	2/15/21	4 days	32 hrs	2722	2729	Application Administrator
2725	1.6.4.3.	Revise Master End User List & Security Roles/Responsibiliti	2/9/21	2/10/21	1 day	8 hrs	2722	2726	Business Lead or Analysts
2726	1.6.4.3.	Meet With DHHR to Confirm Final End User List & Security	2/10/21	2/11/21	1 day	8 hrs	2725	2727	Business Lead or Analysts
2727	1.6.4.3.	Modify Master End User Security Roles/Responsibilities	2/11/21	2/12/21	1 day	8 hrs	2726	2728	Business Lead or Analysts
2728	1.6.4.3.	Update and Verify Optum End Users and Security Permissions User ID, Production Roles/Responsibilities	2/12/21	2/15/21	1 day	8 hrs	2727	2729	Business Lead or Analysts
2729	1.6.4.3.	Update and Verify DHHR End Users and Security Permissions Are Set Up In Production Environment	2/15/21	2/16/21	1 day	8 hrs	2728,2724	2731	Business Lead or Analysts
2730	1.6.4.3.	**Deployment Execution**	**2/16/21**	**2/19/21**	**3 days**	**48 hrs**			
2731	1.6.4.3.	Validate Tools and Environment Are Active in PROD Environment For Readiness	2/16/21	2/19/21	3 days	48 hrs	2729	2746	Business Lead or Analysts,Application Administrator
2732	1.6.4.3.	**Load "Latest Data Source Refresh "Full Production Data Files in PROD Environment (in preparation of Go-Live)**	**11/3/20**	**2/22/21**	**75.1 days**	**3,130 hrs**			
2733	1.6.4.3.	Request Data Source Refresh From DHHR	11/3/20	11/4/20	1 day	4 hrs	2439	2734FS+14	Report Analyst or Tableau Developer[0%],ETL Team Lead - Specialis
2734	1.6.4.3.	Received Data Source Latest Files	11/24/20	11/24/20	0.5 days	4 hrs	2733FS+14 day	2735,2736,2	ETL Team Lead - Specialists - Operations - Data Modeler
2735	1.6.4.3.	MMIS Member Eligibility Data File in PROD - Incrementals	11/24/20	2/15/21	55 days	2,650 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%],Repo

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2736	1.6.4.3.(	MMIS Provider, Provider Enrollment, Ownership Data File In PROD - Incrementals	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2737	1.6.4.3.(	MMIS Medical Claims - Full Production Data File in PROD - Incrementals	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2738	1.6.4.3.(	MMIS Dental Claims - Full Production Data File in PROD - Incrementals	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2739	1.6.4.3.(	MMIS Pharmacy Claims - Full Production Data File in PROD - Incrementals	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2740	1.6.4.3.(	MMIS Financial Capitation - Full Production Data File in PROD - Incrementals	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2741	1.6.4.3.(	MMIS Prior Authorization - Full Production Data File in PROD - Incrementals	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2742	1.6.4.3.(	PEIA Medical Claims - Full Production Data File in PROD - Incrementals	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2743	1.6.4.3.(	PEIA Pharmacy Claims - Full Production Data File in PROD - Incrementals	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2744	1.6.4.3.(	HSC Birth Data - Full Production Data File in PROD - Incren	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2745	1.6.4.3.(	HSC Death Data - Full Production Data File in PROD - Incre	11/24/20	2/15/21	55 days	40 hrs	2734	2746	ETL Team Lead - Specialists - Operations - Data Modeler[68%]
2746	1.6.4.3.(	Execute Checklist List to Confirm Solution Components & Full PROD Data Loaded	2/19/21	2/22/21	1 day	72 hrs	2745,2731,274	2748,2749S	ETL Team Lead - Specialists - Operations - Data Modeler,Implementation/Operations Manager,Liferay
2747	**1.6.4.3.**	**Complete Final ORT Checklists**	**2/19/21**	**2/24/21**	**3.13 days**	**16.07 hrs**			
2748	1.6.4.3.	Confirm HelpDesk Toll Free & Phone Lines Are Active	2/22/21	2/23/21	1 day	4 hrs	2746	2751	Business Lead or Analysts
2749	1.6.4.3.	Identify and Resolve Issues Pertaining to Data Migration & Deployment Activities	2/19/21	2/22/21	1 day	4 hrs	2746SS	2751	Business Lead or Analysts[50%]
2750	1.6.4.3.	Schedule & Conduct Daily Internal Status Calls and Prepare Demo For "Go/ No Go" Call With DHHR	2/19/21	2/22/21	1 day	4 hrs	2746SS	2751	Technical Lead,Business Lead or Analysts,Implementation/Operations Manager,Account - Project
2751	1.6.4.3.	Schedule & Conduct "Go / No/Go" Meeting With DHHR	2/23/21	2/23/21	0.13 days	4 hrs	2750,2748,2742	2752	DHHR[0%],Technical Lead,Implementation/Operations Manager,Acc
2752	1.6.4.3.	DHHR Notification to CMS of Deployment Readiness	2/23/21	2/24/21	1 day	0.07 hrs	2751	2754	DHHR[1%]
2753	**1.6.4.3.(**	**Deliverable D058: Implementation Certification Letter**	**2/24/21**	**2/26/21**	**1.41 days**	**0.5 hrs**			
2754	1.6.4.3.(	Request Implementation Certification Letter From DHHR	2/24/21	2/25/21	1 day	0.5 hrs	2752	2755,2756F	Account - Project Manager or Asst PM[6%]
2755	*1.6.4.3.*	***Milestone Deliverable D058: Implementation Certification Letter Complete for Phase 1***	***2/26/21***	***2/26/21***	***0 days***	***0 hrs***	***2754,2611***	***2756,72***	Account - Project Manager or Asst PM
2756	*1.6.4.3.:*	***Milestone: Project "GO LIVE" SUCCESSFUL (3/1/2021) and EDS Maintenance and Operations Begins***	***3/2/21***	***3/2/21***	***0 days***	***0 hrs***	***2755,2351,235 days,2575,256***	***2712FS-50 days,462FS***	Account - Project Manager or Asst PM
2757	**1.6.5**	**Phase 1: Post Deployment Deliverable Updates (EDS)**	**3/2/21**	**4/23/21**	**36.7 days**	**261.62 hrs**			
2758	**1.6.5.1**	**Update Deliverable D045: EDS ORT Test Scripts Results (Post Go-Live Updates)**	**3/2/21**	**3/17/21**	**10.8 days**	**11.03 hrs**			
2759	1.6.5.1.:	Amend EDS ORT Test Scripts Results (Post Go-Live Updates	3/2/21	3/9/21	5 days	5 hrs	2756,2718	2760	Implementation/Operations Manager[13%]
2760	1.6.5.1.:	Schedule and Conduct Internal Review of PI/FADS Appendix \	3/9/21	3/11/21	1.92 days	2 hrs	2759	2761	Implementation/Operations Manager[13%]
2761	1.6.5.1.:	Revise EDS ORT Test Scripts Results (Post Go-Live Updates) From QA Review Feedback	3/11/21	3/12/21	0.96 days	1 hr	2760	2762	Implementation/Operations Manager[13%]
2762	1.6.5.1.(	Submit EDS ORT Test Scripts Results (Post Go-Live Updates) to DHHR For Review (5 Days)	3/12/21	3/12/21	0.01 days	0.01 hrs	2761	2763	Implementation/Operations Manager[13%],DHHR[0%]
2763	1.6.5.1.!	Revise EDS ORT Test Scripts Results (Post Go-Live Updates) From DHHR Comments Log (3 Days)	3/12/21	3/17/21	2.88 days	3 hrs	2762	2764	Implementation/Operations Manager[13%]
2764	1.6.5.1.(	Submit EDS ORT Test Scripts Results (Post Go-Live Updates) to DHHR for Final Review (3 Days)	3/17/21	3/17/21	0.01 days	0.01 hrs	2763	2765	Implementation/Operations Manager[13%],DHHR[0%]
2765	1.6.5.1.(	Post to Liferay	3/17/21	3/17/21	0.01 days	0.01 hrs	2764	2766	Implementation/Operations Manager[13%]
2766	1.6.5.1.:	***Milestone Update Deliverable D045: EDS ORT Test Results Approved by DHHR***	3/17/21	3/17/21	0 days	0 hrs	2765	2768	Account - Project Manager or Asst PM
2767	**1.6.5.2**	**Phase 1 EDS - Implementation Lessons Learned**	**3/17/21**	**4/23/21**	**25.9 days**	**280.59 hrs**			
2768	1.6.5.2.	Setup Survey Monkey	3/17/21	3/17/21	0.2 days	1.6 hrs	2756,2766	2769	Account - Project Manager or Asst PM
2769	1.6.5.2.:	Send out Communication to Internal Project Team and DHHR To Complete LL Questions	3/17/21	3/18/21	1 day	8 hrs	2768	2770	Account - Project Manager or Asst PM
2770	1.6.5.2.:	Send & Collect Project Survey's to Internal Teams to Complete	3/18/21	3/26/21	5 days	40 hrs	2769	2771	Account - Project Manager or Asst PM
2771	1.6.5.2.(	Send & Collect Project Lessons Learned Surveys to DHHR to	3/26/21	4/16/21	15 days	160 hrs	2770	2772	DHHR[0%],Account - Project Manager or Asst PM
2772	1.6.5.2.(	Prepare Lessons Learned Synopsis and Prepare Meeting Agenda & LL Materials	4/16/21	4/21/21	3 days	24 hrs	2771	2773	Account - Project Manager or Asst PM
2773	1.6.5.2.(	Schedule & Conduct Meeting with Internal Leadership to Discuss Lessons Learned Results	4/21/21	4/21/21	0.2 days	0.8 hrs	2772	2774	Account - Project Manager or Asst PM[25%],Implementation/Operations Manager[25%]
2774	1.6.5.2.	Schedule & Conduct Meeting Internally with Optum Teams Discuss Lessons Learned Outcome	4/21/21	4/22/21	0.2 days	4.19 hrs	2773	2775	Technical Lead[31%],Business Lead or Analysts[31%],Account - Project Manager or Asst PM,Implementation/Operations Manager
2775	1.6.5.2.(	Schedule & Conduct Meeting with DHHR Stakeholders to Discuss Lessons Learned Results	4/22/21	4/22/21	0.2 days	3.2 hrs	2774	2776	DHHR[0%],Account - Project Manager or Asst PM,Implementation/Operations Manager

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2776	1.6.5.2.1	Revise Results Based on Feedback from Result Sessions	4/22/21	4/23/21	1 day	8 hrs	2775	2777	Account - Project Manager or Asst PM
2777	1.6.5.2.	Prepare Final Lessons Learned Document, Publish and Post to Optum Liferay Document Repositories	4/23/21	4/23/21	0.1 days	0.8 hrs	2776	3311	Account - Project Manager or Asst PM
2778	**1.7**	**Phase 2: Program Integrity (PI) / Fraud Abuse Detection System (PI/FADS) (8/3/2020 - 7/30/2021)**	**5/29/20**	**7/9/21**	**281 days**	**16,307.42 hrs**			
2779	**1.7.1**	**Phase 2 PI/FADS Project Management Planning & Governance Control & Monitoring Task Group**	**8/4/20**	**8/13/20**	**6.75 days**	**58 hrs**			
2780	**1.7.1.1**	**D001 Deliverable: PI/FADS Kickoff With DHHR**	**8/4/20**	**8/13/20**	**6.75 days**	**58 hrs**			
2781	1.7.1.1.	Prepare Presentation For PI/FADS Kickoff Meeting With DHHF	8/4/20	8/7/20	3 days	24 hrs	2086	2782	FADS Delivery Manager[50%],FADS Technical Implementation Manag
2782	1.7.1.1.	Schedule PI/FADS Kickoff Meeting With DHHR	8/7/20	8/12/20	3 days	24 hrs	2781	2783	FADS Delivery Manager[0%],DHHR[0%],FADS Project Manager
2783	1.7.1.1.	Send Invites to Kickoff Meeting Attendees PI/FADS	8/12/20	8/12/20	0.25 days	2 hrs	2782	2784	FADS Project Manager
2784	1.7.1.1.	Conduct PI/FADS Kickoff Presentation and Demo	8/12/20	8/13/20	0.5 days	8 hrs	2783	2785	DHHR[0%],FADS Technical Implementation Manager,FADS Delivery M
2785	1.7.1.1.	***Milestone Deliverable D001: PI/FADS Start Up***	8/13/20	8/13/20	0 days	0 hrs	2784	2870,2846,2	Account - Project Manager or Asst PM
2786	**1.7.2**	**Phase 2 PI/FADS Solution Planning Task Group**	**5/29/20**	**12/11/20**	**136.32 days**	**4,253.35 hrs**			
2787	**1.7.2.1**	**PI/FADS Environment Set Up**	**5/29/20**	**12/11/20**	**136.32 days**	**674 hrs**			
2788	**1.7.2.1.**	**PI/FADS PROD Environment (Production)**	**5/29/20**	**6/9/20**	**6.5 days**	**152 hrs**			
2789	1.7.2.1.	Verify connectivity to Environment including Virtual deskto	5/29/20	6/2/20	2 days	8 hrs	1435	2790	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2790	1.7.2.1.	Verify Firewall ports are opened on servers	6/2/20	6/3/20	0.5 days	12 hrs	2789	2791,2793,2	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2791	1.7.2.1.	Configure Cognos	6/3/20	6/5/20	2 days	16 hrs	2790	2792	FADS Cognos Developer 1
2792	1.7.2.1.	Verify Cognos configuration	6/5/20	6/8/20	1 day	8 hrs	2791	2798	FADS Cognos Developer 1
2793	1.7.2.1.	Verify Oracle DB access via Oracle Client software	6/3/20	6/3/20	0.5 days	8 hrs	2790	2794	FADS Cognos Developer 1,FADS ETL Database Developer 1
2794	1.7.2.1.	Verify Golden access	6/3/20	6/4/20	0.5 days	12 hrs	2793	2798	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS BA/
2795	1.7.2.1.	Configure Tomcat for JAVA	6/3/20	6/5/20	2 days	32 hrs	2790	2796	FADS JAVA Developer 1,FADS JAVA Developer 2
2796	1.7.2.1.	Verify Tomcat for JAVA	6/5/20	6/8/20	1 day	16 hrs	2795	2797	FADS JAVA Developer 1,FADS JAVA Developer 2
2797	1.7.2.1.	Coordinate and Address Gaps in set up and Configuration	6/8/20	6/9/20	1 day	40 hrs	2796	2798	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2798	1.7.2.1.	***Milestone: PI/FADS PROD Environment Set Up Complete***	6/9/20	6/9/20	0 days	0 hrs	2797,2792,279	3270	Account - Project Manager or Asst PM
2799	**1.7.2.1.**	**PI/FADS UAT Environment**	**9/4/20**	**9/21/20**	**9.5 days**	**174 hrs**			
2800	1.7.2.1.	Verify connectivity to Environment including Virtual deskto	9/4/20	9/10/20	2.5 days	36 hrs	1595	2801	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2801	1.7.2.1.	Verify Firewall ports are opened on servers	9/10/20	9/11/20	1 day	4 hrs	2800	2802,2805,2	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2802	1.7.2.1.	Configure Cognos	9/11/20	9/15/20	2 days	32 hrs	2801	2803	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2803	1.7.2.1.	Verify Cognos configuration	9/15/20	9/17/20	2 days	16 hrs	2802	2804	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS JAVA Develc
2804	1.7.2.1.	Verify Cognos Framework Manager	9/17/20	9/18/20	1 day	8 hrs	2803	2810	FADS Cognos Developer 1
2805	1.7.2.1.	Verify Oracle DB access via Oracle Client software	9/11/20	9/11/20	0.5 days	4 hrs	2801	2806	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS BA/QA 1
2806	1.7.2.1.	Verify Golden access	9/11/20	9/14/20	0.5 days	2 hrs	2805	2810	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS BA/
2807	1.7.2.1.	Configure Tomcat for JAVA	9/11/20	9/16/20	3 days	32 hrs	2801	2808	FADS JAVA Developer 1,FADS JAVA Developer 2[67%]
2808	1.7.2.1.	Verify Tomcat for JAVA	9/16/20	9/18/20	2 days	32 hrs	2807	2809	FADS JAVA Developer 1,FADS JAVA Developer 2
2809	1.7.2.1.	Coordinate and Address Gaps in set up and Configuration	9/18/20	9/21/20	1 day	8 hrs	2808	2810	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2810	1.7.2.1.	***Milestone: PI/FADS UAT Environment Complete***	9/21/20	9/21/20	0 days	0 hrs	2809,2804,280	2934,2939	Account - Project Manager or Asst PM
2811	**1.7.2.1.**	**PI/FADS STAGE Environment**	**10/14/20**	**10/27/20**	**9 days**	**210 hrs**			
2812	1.7.2.1.	Application Administrator Support	10/14/20	10/27/20	9 days	72 hrs	1644	2822	Application Administrator
2813	1.7.2.1.	Verify connectivity to Environment including Virtual deskto	10/14/20	10/15/20	1 day	32 hrs	1644	2814	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2814	1.7.2.1.	Verify Firewall ports are opened on servers	10/15/20	10/19/20	2 days	4 hrs	2813	2815,2817,2	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2815	1.7.2.1.	Configure Cognos	10/19/20	10/21/20	2 days	16 hrs	2814	2816	FADS Cognos Developer 1,FADS ETL Database Developer 1
2816	1.7.2.1.	Verify Cognos configuration	10/21/20	10/23/20	2 days	8 hrs	2815	2822	FADS Cognos Developer 1
2817	1.7.2.1.	Verify Oracle DB access via Oracle Client software	10/19/20	10/19/20	0.5 days	4 hrs	2814	2818	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2818	1.7.2.1.	Verify Golden access	10/19/20	10/20/20	0.5 days	2 hrs	2817	2822	FADS Cognos Developer 1[50%],FADS JAVA Developer 1[50%],FADS E
2819	1.7.2.1.	Configure Tomcat for JAVA	10/19/20	10/22/20	3 days	32 hrs	2814	2820	FADS JAVA Developer 1,FADS JAVA Developer 2[67%]
2820	1.7.2.1.	Verify Tomcat for JAVA	10/22/20	10/26/20	2 days	32 hrs	2819	2821	FADS JAVA Developer 1,FADS JAVA Developer 2
2821	1.7.2.1.	Coordinate and Address Gaps in set up and Configuration	10/26/20	10/27/20	1 day	8 hrs	2820	2822	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2822	1.7.2.1.	***Milestone: PI/FADS STAGE Environment Complete***	10/27/20	10/27/20	0 days	0 hrs	2821,2816,281	3307,3279	Account - Project Manager or Asst PM
2823	**1.7.2.1.**	**PI/FADS Disaster Recovery (DR) Environment**	**11/30/20**	**12/11/20**	**9 days**	**138 hrs**			
2824	1.7.2.1.	Verify connectivity to Environment including Virtual deskto	11/30/20	12/1/20	1 day	32 hrs	1695	2825	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2825	1.7.2.1.	Verify Firewall ports are opened on servers	12/1/20	12/3/20	2 days	4 hrs	2824	2826,2828,2	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2826	1.7.2.1.	Configure Cognos	12/3/20	12/7/20	2 days	16 hrs	2825	2827	FADS Cognos Developer 1,FADS ETL Database Developer 1
2827	1.7.2.1.	Verify Cognos configuration	12/7/20	12/9/20	2 days	8 hrs	2826	2833	FADS Cognos Developer 1

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2828	1.7.2.1.	Verify Oracle DB access via Oracle Client software	12/3/20	12/4/20	0.5 days	4 hrs	2825	2829	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2829	1.7.2.1.	Verify Golden access	12/4/20	12/4/20	0.5 days	2 hrs	2828	2833	FADS Cognos Developer 1[50%],FADS JAVA Developer 1[50%],FADS E
2830	1.7.2.1.	Configure Tomcat for JAVA	12/3/20	12/8/20	3 days	32 hrs	2825	2831	FADS JAVA Developer 1,FADS JAVA Developer 2[67%]
2831	1.7.2.1.	Verify Tomcat for JAVA	12/8/20	12/10/20	2 days	32 hrs	2830	2832	FADS JAVA Developer 1,FADS JAVA Developer 2
2832	1.7.2.1.	Coordinate and Address Gaps in set up and Configuration	12/10/20	12/11/20	1 day	8 hrs	2831	2833	FADS Cognos Developer 1,FADS JAVA Developer 1,FADS ETL Databas
2833	1.7.2.1.	*Milestone: PI/FADS Disaster Recovery (DR) Environment Complete*	12/11/20	12/11/20	0 days	0 hrs	2832,2827,282	3307	Account - Project Manager or Asst PM
2834	**1.7.2.2**	**PI/FADS Requirements & Deliverables**	**5/29/20**	**10/6/20**	**90.16 days**	**3,579.35 hrs**			
2835	**1.7.2.2.**	**Preliminary Design For Case Tracking New Components and Random Sampling**	**5/29/20**	**8/10/20**	**50 days**	**1,720 hrs**			
2836	1.7.2.2.	Preliminary Analysis and Design Structure Meeting to Determine Approach to Case Tracking - Automatic and Scheduled Notification of Case Status changes (PI059)	5/29/20	6/19/20	15 days	400 hrs	1435	2837,2839	FADS Lead JAVA Developer,FADS Delivery Manager,FADS Technical Implementation Manager,FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS ETL Database Developer 2,FADS JAVA
2837	1.7.2.2.	Preliminary Analysis and Design Structure Meeting to Determine Approach to Case Tracking - Linking Claims to Case/Flagging Claims (PI040, PI060)	6/19/20	7/13/20	15 days	600 hrs	2836	2838,2840,2	FADS ETL Database Developer 1,FADS Lead JAVA Developer,FADS Delivery Manager,FADS Technical Implementation Manager,FADS BA/QA 1,FADS Cognos Developer 1,FADS BA/QA 3,FADS ETL
2838	1.7.2.2.	Preliminary Analysis and Design Structure Meeting to Build Random Sampling Logic and Reports	7/13/20	7/27/20	10 days	360 hrs	2837	2842,2839,2	FADS ETL Database Developer 1,FADS Technical Implementation Manager,FADS Delivery Manager,FADS Cognos Developer 1,FADS
2839	1.7.2.2.	Incorporate Automatic and Scheduled Notification of Case Status Changes (PI059)	7/27/20	8/3/20	5 days	40 hrs	2838,2836	2840	FADS JAVA Developer 1
2840	1.7.2.2.	Incorporate Linking Claims to Case/Flagging Claims Logic (PI040, PI060)	8/3/20	8/10/20	5 days	80 hrs	2839,2837	2842	FADS JAVA Developer 1,FADS JAVA Developer 2
2841	1.7.2.2.	Incorporate New Random Sampling Logic and Reports	7/27/20	8/10/20	10 days	240 hrs	2838,2837	2842	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS Cog
2842	1.7.2.2.	*Milestone: Preliminary Design for Case Tracking New Components And Random Sampling Activities Complete*	8/10/20	8/10/20	0 days	0 hrs	2838,2840,284	2939	Account - Project Manager or Asst PM
2843	**1.7.2.2.**	**Requirements Validation, GAP Analysis & Design Preparation - PI/FADS**	**8/4/20**	**9/18/20**	**32 days**	**1,664.93 hrs**			
2844	1.7.2.2.	PI/FADS Review of Source Data (Provider, Member, Reference and 3 Months of Claims Data)	8/4/20	8/18/20	10 days	400 hrs	2086	2846,2854,2	FADS Delivery Manager,FADS Product Analyst/SME,FADS Cognos Developer 2,FADS ETL Database Developer 2,FADS JAVA Developer
2845	**1.7.2.2.**	**D021 Deliverable Updates: Requirements Gap Analysis Document - PI/FADS Amendment to EDS Deliverable**	**8/18/20**	**9/18/20**	**22 days**	**344.02 hrs**			
2846	1.7.2.2.	D021 Amend EDS Requirements Gap Analysis Document Adding PI/FADS Appendix	8/18/20	9/1/20	10 days	280 hrs	2785,2844	2847	FADS Delivery Manager,FADS Product Analyst/SME,FADS Technical Implementation Manager,FADS Cognos Developer 2,FADS ETL
2847	1.7.2.2.	Schedule and Conduct Internal Review of PI/FADS Appendix With QA	9/1/20	9/2/20	0.5 days	8 hrs	2846	2848	FADS Product Analyst/SME,FADS BA/QA 1
2848	1.7.2.2.	Revise Requirements Gap Analysis From QA Review Feed	9/2/20	9/2/20	0.5 days	8 hrs	2847	2849	FADS Product Analyst/SME,FADS Delivery Manager
2849	1.7.2.2.	Submit Requirements Gap Analysis to DHHR For Review (	9/2/20	9/10/20	5 days	0.01 hrs	2848	2850	FADS BA/QA 1,DHHR[0%]
2850	1.7.2.2.	Revise Requirements Gap Analysis From DHHR Comments Log (3 Days)	9/10/20	9/15/20	3 days	48 hrs	2849	2851	FADS Product Analyst/SME,FADS Technical Implementation Manager
2851	1.7.2.2.	Submit Requirements Gap Analysis to DHHR for Final Review (3 Days)	9/15/20	9/18/20	3 days	0.01 hrs	2850	2852	DHHR[0%],FADS BA/QA 1[0%]
2852	1.7.2.2.	*Milestone Deliverable D021: PI/FADS Amendment to Requirements Gap Analysis Appendix Approved by*	9/18/20	9/18/20	0 days	0 hrs	2851	2870,91	Account - Project Manager or Asst PM
2853	**1.7.2.2.**	**D023 Deliverable Update: Amend EDS Requirements Specification Document (RSD) - PI/FADS**	**8/18/20**	**9/18/20**	**22 days**	**464.02 hrs**			
2854	1.7.2.2.	D023 Amend EDS Approved Deliverable For PI/FADS Requirements Specification Document Appendix	8/18/20	9/1/20	10 days	400 hrs	2785,2844	2855	FADS Technical Implementation Manager[50%],FADS Product Analyst/SME[50%],FADS BA/QA 1,FADS BA/QA 3[50%],FADS Cognos
2855	1.7.2.2.	Schedule & Conduct Internal Meeting with QA	9/1/20	9/2/20	0.5 days	8 hrs	2854	2856	FADS BA/QA 1,FADS Product Analyst/SME
2856	1.7.2.2.	Revise PI/FADS Requirements Specification Document From QA Review Feedback	9/2/20	9/2/20	0.5 days	8 hrs	2855	2857	FADS Product Analyst/SME,FADS Delivery Manager
2857	1.7.2.2.	Submit PI/FADS Requirements Specification Document to DHHR For Review (5 Days)	9/2/20	9/10/20	5 days	0.01 hrs	2856	2858	DHHR[0%],FADS BA/QA 1
2858	1.7.2.2.	Revise PI/FADS Requirements Specification Document From DHHR Comments Log (3 Days)	9/10/20	9/15/20	3 days	48 hrs	2857	2859	FADS BA/QA 1,FADS Product Analyst/SME
2859	1.7.2.2.	Submit PI/FADS Requirements Specification Document to DHHR for Final Review (3 Days)	9/15/20	9/18/20	3 days	0.01 hrs	2858	2860	DHHR[0%],FADS BA/QA 1[0%]
2860	1.7.2.2.	*Milestone Deliverable D023: PI/FADS Requirements Specification Document Appendix Approved by DHHR*	9/18/20	9/18/20	0 days	0 hrs	2859	2870,93	Account - Project Manager or Asst PM
2861	**1.7.2.2.**	**D024 Deliverable Update: PI/FADS RTM Amended**	**8/18/20**	**9/18/20**	**22 days**	**456.89 hrs**			
2862	1.7.2.2.	D24 Amend EDS Approved Deliverable For PI/FADS RTM	8/18/20	9/1/20	10 days	400 hrs	2785,2844	2863	FADS BA/QA 1,FADS Technical Implementation Manager[50%],FADS

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2863	1.7.2.2.	Schedule & Conduct Internal Meeting with QA	9/1/20	9/2/20	0.5 days	0.87 hrs	2862	2864	FADS Product Analyst/SME,FADS BA/QA 1
2864	1.7.2.2.	Revise PI/FADS RTM From QA Review Feedback	9/2/20	9/2/20	0.5 days	8 hrs	2863	2865	FADS Product Analyst/SME,FADS Delivery Manager
2865	1.7.2.2.	Submit PI/FADS RTM to DHHR For Review (5 Days)	9/2/20	9/10/20	5 days	0.01 hrs	2864	2866	DHHR[0%],FADS BA/QA 1
2866	1.7.2.2.	Revise PI/FADS RTM From DHHR Comments Log (3 Days)	9/10/20	9/15/20	3 days	48 hrs	2865	2867	FADS BA/QA 1,FADS Product Analyst/SME
2867	1.7.2.2.	Submit PI/FADS RTM to DHHR for Final Review (3 Days)	9/15/20	9/18/20	3 days	0.01 hrs	2866	2868	DHHR[0%],FADS BA/QA 1[0%]
2868	1.7.2.2.	***Milestone Deliverable D024: PI/FADS RTM Approved by***	9/18/20	9/18/20	0 days	0 hrs	2867	2870,94	Account - Project Manager or Asst PM
2869	**1.7.2.2.**	**JAD/GAP Session Planning - PI/FADS**	**9/18/20**	**10/6/20**	**12.1 days**	**194.42 hrs**			
2870	1.7.2.2.	Create a Schedule For PI/FADS Requirements JAD/ GAP Ses	9/18/20	9/21/20	0.5 days	4 hrs	2852,2860,286	2871	FADS Delivery Manager
2871	1.7.2.2.	Schedule & Meet With DHHR Regarding PI/FADS JAD/GAP Session Schedule & A List of DHHR Attendees	9/21/20	9/21/20	0.25 days	1 hr	2870	2872	FADS Delivery Manager,DHHR[0%]
2872	1.7.2.2.	Revise PI/FADS JAD/GAP Schedule Based on Feedback From	9/21/20	9/21/20	0.5 days	6 hrs	2871	2873	FADS Delivery Manager,FADS Project Manager
2873	1.7.2.2.	Reserve Meeting Room & Send Meeting Invites For PI/FADS JAD/GAP Sessions	9/21/20	9/22/20	0.25 days	2 hrs	2872	2874	FADS Project Manager
2874	1.7.2.2.	Prepare PI/FADS JAD/GAP Sessions Materials & Product Del	9/22/20	9/29/20	5 days	40 hrs	2873	2877,2878,2	FADS Technical Implementation Manager[50%],FADS Delivery Mana
2875	**1.7.2.2.**	**JAD/GAP/Design Prep Sessions Requirement Validation - P**	**9/29/20**	**10/6/20**	**5.6 days**	**141.42 hrs**			
2876	**1.7.2.2.**	**JAD/GAP/Design Prep Session 1: PI/FADS**	**9/29/20**	**9/30/20**	**1.25 days**	**29.1 hrs**			
2877	1.7.2.2.	Conduct PI/FADS Session	9/29/20	9/30/20	1 day	24 hrs	2874	2880	FADS Delivery Manager,FADS Technical Implementation Manager,FA
2878	1.7.2.2.	Record PI/FADS JAD Meeting Notes	9/29/20	9/30/20	1 day	2 hrs	2874	2880	Tech Writer and Scribe-Tester-QA[25%]
2879	1.7.2.2.	Record and Track IRAAD-C Items	9/29/20	9/30/20	1 day	1 hr	2874	2880	Tech Writer and Scribe-Tester-QA[13%]
2880	1.7.2.2.	Send Meeting Notes For PI/FADS Session In Liferay	9/30/20	9/30/20	0.1 days	0.1 hrs	2879,2878,287	2881SS,290	Tech Writer and Scribe-Tester-QA[13%]
2881	1.7.2.2.	Initiate Change Requests PI/FADS (if required)	9/30/20	9/30/20	0.25 days	2 hrs	2880SS	2883	FADS Project Manager
2882	**1.7.2.2.**	**JAD/GAP/Design Prep Session 2: PI/FADS**	**9/30/20**	**10/1/20**	**1.25 days**	**17.1 hrs**			
2883	1.7.2.2.	Conduct PI/FADS Session	9/30/20	10/1/20	0.75 days	12 hrs	2874FS+1 day,2	2886	FADS Delivery Manager,FADS Technical Implementation Manager
2884	1.7.2.2.	Record PI/FADS JAD Meeting Notes	9/30/20	10/1/20	1 day	2 hrs	2874FS+1 day	2886	Tech Writer and Scribe-Tester-QA[25%]
2885	1.7.2.2.	Record and Track IRAAD-C Items	9/30/20	10/1/20	1 day	1 hr	2874FS+1 day	2886	Tech Writer and Scribe-Tester-QA[13%]
2886	1.7.2.2.	Send Meeting Notes For PI/FADS Session In Liferay	10/1/20	10/1/20	0.1 days	0.1 hrs	2885,2883,288	2887SS,290	Tech Writer and Scribe-Tester-QA[13%]
2887	1.7.2.2.	Initiate Change Requests PI/FADS (if required)	10/1/20	10/1/20	0.25 days	2 hrs	2886SS	2889	FADS Project Manager
2888	**1.7.2.2.**	**JAD/GAP/Design Prep Session 3: PI/FADS**	**10/1/20**	**10/2/20**	**1.5 days**	**29.1 hrs**			
2889	1.7.2.2.	Conduct PI/FADS Session	10/1/20	10/2/20	1 day	24 hrs	2874FS+2 days,	2892	FADS Delivery Manager,FADS Technical Implementation Manager,FA
2890	1.7.2.2.	Record PI/FADS JAD Meeting Notes	10/1/20	10/2/20	1 day	2 hrs	2874FS+2 days	2892	Tech Writer and Scribe-Tester-QA[25%]
2891	1.7.2.2.	Record and Track IRAAD-C Items	10/1/20	10/2/20	1 day	1 hr	2874FS+2 days	2892	Tech Writer and Scribe-Tester-QA[13%]
2892	1.7.2.2.	Send Meeting Notes For PI/FADS Session In Liferay	10/2/20	10/2/20	0.1 days	0.1 hrs	2891,2889,289	2893SS,290	Tech Writer and Scribe-Tester-QA[13%]
2893	1.7.2.2.	Initiate Change Requests PI/FADS (if required)	10/2/20	10/2/20	0.25 days	2 hrs	2892SS	2895	FADS Project Manager
2894	**1.7.2.2.**	**JAD/GAP/Design Prep Session 4: PI/FADS**	**10/2/20**	**10/5/20**	**1.75 days**	**42.1 hrs**			
2895	1.7.2.2.	Conduct PI/FADS Session	10/2/20	10/5/20	1 day	24 hrs	2874FS+3 days,	2898	FADS Delivery Manager,FADS Technical Implementation Manager,FA
2896	1.7.2.2.	Record PI/FADS JAD Meeting Notes	10/2/20	10/5/20	1 day	8 hrs	2874FS+3 days	2898	Tech Writer and Scribe-Tester-QA
2897	1.7.2.2.	Record and Track IRAAD-C Items	10/2/20	10/5/20	1 day	8 hrs	2874FS+3 days	2898	Tech Writer and Scribe-Tester-QA
2898	1.7.2.2.	Send Meeting Notes For PI/FADS Session In Liferay	10/5/20	10/5/20	0.1 days	0.1 hrs	2897,2895,289	2899SS,290	Tech Writer and Scribe-Tester-QA[13%]
2899	1.7.2.2.	Initiate Change Requests PI/FADS (if required)	10/5/20	10/5/20	0.25 days	2 hrs	2898SS	2901,2909,2	FADS Project Manager
2900	**1.7.2.2.**	**JAD/GAP/Design Prep Session 5: PI/FADS**	**10/5/20**	**10/6/20**	**1.6 days**	**24.02 hrs**			
2901	1.7.2.2.	Conduct PI/FADS Session	10/5/20	10/6/20	0.75 days	18 hrs	2874FS+4 days,	2904	FADS Delivery Manager,FADS Technical Implementation Manager,FA
2902	1.7.2.2.	Record PI/FADS JAD Meeting Notes	10/5/20	10/5/20	0.5 days	4 hrs	2874FS+4 days	2904	Tech Writer and Scribe-Tester-QA
2903	1.7.2.2.	Record and Track IRAAD-C Items	10/5/20	10/5/20	0.1 days	0.41 hrs	2874FS+4 days	2904	Tech Writer and Scribe-Tester-QA[51%]
2904	1.7.2.2.	Send Meeting Notes For PI/FADS Session In Liferay	10/6/20	10/6/20	0.1 days	0.81 hrs	2903,2901,290	2905SS,290	Tech Writer and Scribe-Tester-QA
2905	1.7.2.2.	Initiate Change Requests PI/FADS (if required)	10/6/20	10/6/20	0.1 days	0.8 hrs	2904SS	2909,2917	FADS Project Manager
2906	**1.7.3**	**Phase 2 PI/FADS Solution Design, Testing and Operations Task Gro**	**8/13/20**	**7/5/21**	**223.86 days**	**11,045.04 ...**			
2907	**1.7.3.1**	**PI/FADS Deliverable Updates: Solution Design, Testing and Operations**	**10/6/20**	**11/5/20**	**22.13 days**	**644.04 hrs**			
2908	**1.7.3.1.**	**D030 Deliverable Update: Business Process Models (BPMs) - PI/FADS Amendment**	**10/6/20**	**11/5/20**	**22 days**	**354.02 hrs**			
2909	1.7.3.1.	D030 Amend Approved EDS Deliverable & Create PI/FADS BPMs Appendix	10/6/20	10/20/20	10 days	320 hrs	2905,2880,288	2910	FADS BA/QA 2,FADS BA/QA 1,FADS Technical Implementation Manager,FADS BA/QA 3[67%],FADS ETL Database Developer 2[75%]
2910	1.7.3.1.	Schedule & Conduct Internal Meeting With QA To Review PI/FADS BPM	10/20/20	10/21/20	0.5 days	2 hrs	2909	2911	FADS BA/QA 2
2911	1.7.3.1.	Revise PI/FADS BPM From QA Review Feedback	10/21/20	10/21/20	0.5 days	8 hrs	2910	2912	FADS BA/QA 2,FADS Technical Implementation Manager

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2912	1.7.3.1.	Submit PI/FADS BPMs to DHHR For Review (5 Days)	10/21/20	10/28/20	5 days	0.01 hrs	2911	2913	DHHR[0%],FADS BA/QA 2
2913	1.7.3.1.	Revise PI/FADS BPM From DHHR Comments Log (3 Days)	10/28/20	11/2/20	3 days	24 hrs	2912	2914	FADS BA/QA 2,FADS Technical Implementation Manager,FADS Delive
2914	1.7.3.1.	Submit PI/FADS BPM to DHHR for Final Review (3 Days)	11/2/20	11/5/20	3 days	0.01 hrs	2913	2915	DHHR[0%],FADS BA/QA 2
2915	1.7.3.1.	*Milestone Deliverable D030: PI/FADS Business Process Models (BPM) Amendment Approved by DHHR*	11/5/20	11/5/20	0 days	0 hrs	2914	3062,2972,2	Account - Project Manager or Asst PM
2916	**1.7.3.1.**	**D037 Deliverable Update: Detailed System Design (DSD) Document - PI/FADS**	**10/6/20**	**11/5/20**	**22.13 days**	**290.02 hrs**			
2917	1.7.3.1.	D037 Amend Approved EDS Deliverable For PI/FADS Detailed System Design (DSD) Document From Approved	10/6/20	10/20/20	10 days	240 hrs	2905,2880,288	2918	FADS BA/QA 2,FADS BA/QA 1,FADS Technical Implementation Manager
2918	1.7.3.1.	Schedule & Conduct Internal Meeting With QA on PI/FADS Detailed System Design (DSD) Document	10/20/20	10/21/20	0.63 days	2 hrs	2917	2919	FADS BA/QA 2
2919	1.7.3.1.	Revise PI/FADS Detailed System Design (DSD) Document From QA Review Feedback	10/21/20	10/21/20	0.5 days	12 hrs	2918	2920	FADS BA/QA 2,FADS Technical Implementation Manager,FADS BA/QA 4
2920	1.7.3.1.	Submit PI/FADS Detailed System Design (DSD) Document to DHHR For Review (5 Days)	10/21/20	10/28/20	5 days	0.01 hrs	2919	2921	DHHR[0%],FADS BA/QA 2
2921	1.7.3.1.	Revise PI/FADS Detailed System Design (DSD) Document From DHHR Comments Log (3 Days)	10/28/20	11/2/20	3 days	36 hrs	2920	2922	FADS BA/QA 2,FADS Technical Implementation Manager,FADS Delivery Manager,FADS BA/QA 4[33%]
2922	1.7.3.1.	Submit PI/FADS Detailed System Design (DSD) Document to DHHR for Final Review (3 Days)	11/2/20	11/5/20	3 days	0.01 hrs	2921	2923	DHHR[0%],FADS BA/QA 2
2923	1.7.3.1.	*Milestone Deliverable D037: PI/FADS Detailed System Design (DSD) Document Amendment Approved by DHHR*	11/5/20	11/5/20	0 days	0 hrs	2922	3062,2972,2	Account - Project Manager or Asst PM
2924	**1.7.3.2**	**PI/FADS -Coding and Unit Testing (CUT)**	**8/13/20**	**2/9/21**	**123.66 days**	**3,032.26 hrs**			
2925	**1.7.3.2.**	**Construct Oracle PI/FADS Data Mart Source to Target**	**8/13/20**	**9/23/20**	**28.65 days**	**336 hrs**			
2926	1.7.3.2.	Create Initial Source-to-Target PI/FADS Mappings For Provider WV EDS Data	8/13/20	8/17/20	2 days	48 hrs	2785,2086	2927	FADS ETL Database Developer 1[50%],FADS BA/QA 1[50%],FADS ETL Database Developer 2,FADS Cognos Developer 2
2927	1.7.3.2.	Create Initial Source-to-Target PI/FADS Mappings for Member WV EDS Data	8/17/20	8/19/20	2 days	48 hrs	2926	2928	FADS ETL Database Developer 1[50%],FADS BA/QA 1[50%],FADS ETL Database Developer 2,FADS Cognos Developer 2
2928	1.7.3.2.	Create Initial Source-to-Target PI/FADS Mappings for Paid and Adjusted Claims WV EDS Data	8/19/20	8/24/20	3 days	88 hrs	2927	2929	FADS BA/QA 2[50%],FADS ETL Database Developer 1[50%],FADS ETL Database Developer 2,FADS Cognos Developer 2
2929	1.7.3.2.	Create Initial Source-to-Target PI/FADS Mappings for Denied Claims WV EDS Data	8/24/20	8/25/20	1 day	36 hrs	2928	2930	FADS BA/QA 2[50%],FADS ETL Database Developer 1[50%],FADS ETL Database Developer 2,FADS Cognos Developer 2
2930	1.7.3.2.	Create Initial Source-to-Target PI/FADS Mappings for Procedure WV EDS Data	8/25/20	8/26/20	1 day	24 hrs	2929	2931	FADS BA/QA 2[50%],FADS ETL Database Developer 1[50%],FADS ETL Database Developer 2,FADS Cognos Developer 2
2931	1.7.3.2.	Create Initial Source-to-Target PI/FADS Mappings for Diagnosis WV EDS Data	8/26/20	8/27/20	1 day	24 hrs	2930	2932	FADS BA/QA 2[50%],FADS ETL Database Developer 1[50%],FADS ETL Database Developer 2,FADS Cognos Developer 2
2932	1.7.3.2.	Create Initial Source-to-Target PI/FADS Mappings for Drug WV EDS Data	8/27/20	8/28/20	1 day	24 hrs	2931	2933	FADS BA/QA 2[50%],FADS ETL Database Developer 1[50%],FADS ETL Database Developer 2,FADS Cognos Developer 2
2933	1.7.3.2.	Create Initial Source-to-Target PI/FADS Mappings for Reference Codes WV EDS Data	8/28/20	8/31/20	1 day	24 hrs	2932	2934,2939	FADS BA/QA 2[50%],FADS ETL Database Developer 1[50%],FADS ETL Database Developer 2,FADS Cognos Developer 2
2934	1.7.3.2.	Define PI/FADS Staging Area Schema, Tables, and Table Spa	9/21/20	9/22/20	1 day	8 hrs	2933,2810	2935	FADS ETL Database Developer 1[33%]
2935	1.7.3.2.	Define PI/FADS DataMart Schema, Tables, and Table Spaces	9/22/20	9/22/20	0.5 days	4 hrs	2934	2936	FADS ETL Database Developer 1[33%]
2936	1.7.3.2.	Install DBMS_LOCK.SLEEP on Database	9/22/20	9/23/20	1 day	8 hrs	2935	2937	FADS ETL Database Developer 1
2937	1.7.3.2.	*Milestone: PI/FADS Data Mart Construction complete (can start before DSD approval)*	9/23/20	9/23/20	0 days	0 hrs	2936	2962	Account - Project Manager or Asst PM
2938	**1.7.3.2.**	**D036 Deliverable Update: Database Design Document and Data Models - PI/FADS Amendment**	**9/21/20**	**10/9/20**	**14.5 days**	**218.02 hrs**			
2939	1.7.3.2.	D036 Amend Approved EDS Deliverable & Create PI/FADS Database Design Document and Data Model Appendix	9/21/20	9/28/20	5 days	160 hrs	2842,2933,281	2940	FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS ETL Database Developer 2
2940	1.7.3.2.	Schedule & Conduct Internal Meeting With QA To Review PI/FADS Database Design Document and Data Model	9/28/20	9/28/20	0.5 days	2 hrs	2939	2941	FADS BA/QA 1,FADS Technical Implementation Manager
2941	1.7.3.2.	Revise PI/FADS Database Design Document and Data Model From QA Review Feedback	9/28/20	9/29/20	1 day	8 hrs	2940	2942	FADS BA/QA 1,FADS Technical Implementation Manager
2942	1.7.3.2.	Submit PI/FADS Database Design Document and Data Model to DHHR For Review (5 Days)	9/29/20	10/6/20	5 days	0.01 hrs	2941	2943	DHHR[0%],FADS BA/QA 1[0%]
2943	1.7.3.2.	Revise PI/FADS Database Design Document and Data Model From DHHR Comments Log (3 Days)	10/6/20	10/9/20	3 days	48 hrs	2942	2944	FADS ETL Database Developer 1,FADS ETL Database Developer 2
2944	1.7.3.2.	Submit PI/FADS Database Design Document and Data Model to DHHR for Final Review (3 Days)	10/9/20	10/9/20	0 days	0.01 hrs	2943	2945	DHHR[0%],FADS BA/QA 1[0%]
2945	1.7.3.2.	*Milestone Deliverable D036: PI/FADS Database Design Document Amendment Approved by DHHR*	10/9/20	10/9/20	0 days	0 hrs	2944	2947,98	Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2946	1.7.3.2.	**Perform PI/FADS Extract Transformation and Load (ETL) Activ**	**9/23/20**	**11/20/20**	**41.5 days**	**394.24 hrs**			
2947	1.7.3.2.	Modify DDL for Staging by Subject Area following PI/FADS Detailed Systems Design Approval	10/9/20	10/21/20	8 days	80 hrs	2945	2948	FADS ETL Database Developer 1[33%],FADS ETL Database Developer 2[25%]
2948	1.7.3.2.	Update PI/FADS Data Models - Logical	10/21/20	10/22/20	1 day	8 hrs	2947	2949	FADS ETL Database Developer 1[33%]
2949	1.7.3.2.	Update PI/FADS Data Models - Physical	10/22/20	10/23/20	1 day	8 hrs	2948	2951	FADS ETL Database Developer 1[33%]
2950	1.7.3.2.	**WV EDS Extracts Data Loads in DEV 12 months of Claims D**	**10/23/20**	**11/19/20**	**19 days**	**82.24 hrs**			
2951	1.7.3.2.	Perform ETL and Unit Test Data for Provider WV EDS Dat	10/23/20	10/27/20	2 days	5.28 hrs	2949	2952,2963	FADS ETL Database Developer 1[33%]
2952	1.7.3.2.	Perform ETL and Unit Test Data for Member WV EDS Dat	10/27/20	10/29/20	2 days	5.28 hrs	2951	2953,2964	FADS ETL Database Developer 1[33%]
2953	1.7.3.2.	Perform ETL and Unit Test Data for Paid and Adjusted Claims WV EDS Data	10/29/20	11/2/20	2 days	5.28 hrs	2952	2954,2965	FADS ETL Database Developer 1[33%]
2954	1.7.3.2.	Perform ETL and Unit Test Data for Denied Claims WV EDS Data	11/2/20	11/4/20	2 days	5.28 hrs	2953	2955	FADS ETL Database Developer 1[33%]
2955	1.7.3.2.	Perform ETL and Unit Test Data for PI/FADS Claim wrap	11/4/20	11/9/20	3 days	40 hrs	2954	2956	FADS ETL Database Developer 1[67%],FADS ETL Database Developer
2956	1.7.3.2.	Perform ETL and Unit Test Data for Procedure WV EDS D	11/9/20	11/11/20	2 days	5.28 hrs	2955	2957,2966	FADS ETL Database Developer 1[33%]
2957	1.7.3.2.	Perform ETL and Unit Test Data for Diagnosis WV EDS Da	11/11/20	11/13/20	2 days	5.28 hrs	2956	2958,2967	FADS ETL Database Developer 1[33%]
2958	1.7.3.2.	Perform ETL and Unit Test Data for Drug WV EDS Data	11/13/20	11/17/20	2 days	5.28 hrs	2957	2959,2968	FADS ETL Database Developer 1[33%]
2959	1.7.3.2.	Perform ETL and Unit Test Data for Reference Codes WV EDS Data	11/17/20	11/19/20	2 days	5.28 hrs	2958	2960,2969	FADS ETL Database Developer 1[33%]
2960	1.7.3.2.	***Milestone: Unit Test DataMart Built and Ready for Unit Testing***	11/19/20	11/19/20	0 days	0 hrs	2959	2972,2973	Account - Project Manager or Asst PM
2961	1.7.3.2.	**Verify Source to Target For Each of The Files**	**9/23/20**	**11/20/20**	**41.5 days**	**216 hrs**			
2962	1.7.3.2.	Modify Core PI/FADS Automation Regression Testing Scripts for ETL	9/23/20	9/30/20	5 days	120 hrs	2937	2963	FADS Automation Analyst[83%],FADS BA/QA 2[83%],FADS BA/QA 1
2963	1.7.3.2.	Verify Source to Target Mapping For WV EDS Provider Da	10/27/20	10/29/20	2 days	16 hrs	2962,2951	2964	FADS BA/QA 1[33%]
2964	1.7.3.2.	Verify Source to Target Mapping for WV EDS Member Da	10/29/20	11/2/20	2 days	16 hrs	2963,2952	2965	FADS BA/QA 1
2965	1.7.3.2.	Verify Source to Target Mapping For Paid and Adjusted Claims WV EDS Data	11/2/20	11/5/20	3 days	48 hrs	2964,2953	2966	FADS BA/QA 2[33%],FADS BA/QA 1
2966	1.7.3.2.	Verify Source to Target Mapping for Procedure WV EDS D	11/11/20	11/12/20	0.5 days	4 hrs	2965,2956	2967	FADS BA/QA 2
2967	1.7.3.2.	Verify Source to Target Mapping For Diagnosis WV EDS D	11/13/20	11/16/20	0.5 days	4 hrs	2966,2957	2968	FADS BA/QA 1
2968	1.7.3.2.	Verify Source to Target Mapping For Pharmacy (Drug) WV EDS Data	11/17/20	11/18/20	0.5 days	4 hrs	2967,2958	2969	FADS BA/QA 1
2969	1.7.3.2.	Verify Source to Target Mapping For Reference Codes WV EDS Data	11/19/20	11/20/20	0.5 days	4 hrs	2968,2959	2970	FADS BA/QA 2
2970	1.7.3.2.	***Milestone: ETL and Unit Testing Data Extract Files From EDS Complete***	11/20/20	11/20/20	0 days	0 hrs	2969	3020,3029,3	Account - Project Manager or Asst PM
2971	1.7.3.2.	**Construct Cognos Framework and Unit Test Report PI/FADS and Case Tracking Configurations by Component**	**11/19/20**	**2/9/21**	**54 days**	**2,084 hrs**			
2972	1.7.3.2.	Update Cognos Analytics Framework Manager meta data m	11/19/20	11/20/20	1 day	8 hrs	2915,2923,296	2977,2996,3	FADS Cognos Developer 1
2973	1.7.3.2.	Deploy Java .war file Code	11/19/20	11/23/20	2 days	16 hrs	2915,2923,296	2974,2978,2	FADS Lead JAVA Developer
2974	1.7.3.2.	Modify PI/FADS Home Page for West Virginia	11/23/20	11/25/20	2 days	16 hrs	2973	2975,3124	FADS BA/QA 1
2975	1.7.3.2.	Modify User Roles for West Virginia	11/25/20	12/1/20	2 days	16 hrs	2974	2977,2978,2	FADS BA/QA 2
2976	1.7.3.2.	**Peer Group Profiling**	**12/1/20**	**12/11/20**	**8 days**	**80 hrs**			
2977	1.7.3.2.	Modify Peer Group Profiling Cognos Reports	12/1/20	12/3/20	2 days	16 hrs	2972,2975	2982	FADS Cognos Developer 1,FADS BA/QA 1
2978	1.7.3.2.	Modify Metabase and Look up values	12/1/20	12/2/20	1 day	8 hrs	2973,2975	2979	FADS BA/QA 2
2979	1.7.3.2.	Unit Test Metabase	12/2/20	12/9/20	5 days	40 hrs	2978	2980	FADS BA/QA 2
2980	1.7.3.2.	Unit Test Peer Group Profiling Screens and Reports	12/9/20	12/10/20	1 day	8 hrs	2979	2981	FADS Cognos Developer 1,FADS BA/QA 1,FADS Automation Analyst
2981	1.7.3.2.	Update and Unit Test Metadata Model Revisions to Peer Group Profiling	12/10/20	12/11/20	1 day	8 hrs	2980	2982	FADS Cognos Developer 1,FADS BA/QA 1
2982	1.7.3.2.	***Milestone: Peer Group Profiling Construction and Unit Testing Complete***	12/11/20	12/11/20	0 days	0 hrs	2977,2981	3059,2992,3	Account - Project Manager or Asst PM
2983	1.7.3.2.	**Case Tracking**	**12/1/20**	**1/26/21**	**38 days**	**488 hrs**			
2984	1.7.3.2.	Modify Case Tracking User Interface Layouts and Module	12/1/20	12/15/20	10 days	16 hrs	2973,2975	2985	FADS JAVA Developer 1,FADS JAVA Developer 2
2985	1.7.3.2.	Modify Case Tracking Drop Down Values for WV	12/15/20	12/17/20	2 days	16 hrs	2984	2986	FADS BA/QA 1
2986	1.7.3.2.	Modify Case Tracking Logic and Report Structures including CT Browse and Search	12/17/20	1/4/21	10 days	160 hrs	2985	2987	FADS Cognos Developer 1,FADS Cognos Developer 2
2987	1.7.3.2.	Unit Test Case Tracking User Interface Pages	1/4/21	1/11/21	5 days	120 hrs	2986	2988	FADS JAVA Developer 1,FADS Automation Analyst,FADS JAVA Develo
2988	1.7.3.2.	Unit Test Case Tracking Reports	1/11/21	1/25/21	10 days	160 hrs	2987	2989	FADS Cognos Developer 1,FADS Cognos Developer 2

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
2989	1.7.3.2.(	Update and Unit Test Metadata Model Revisions to Case Tracking	1/25/21	1/26/21	1 day	16 hrs	2988	2990	FADS Cognos Developer 1,FADS Cognos Developer 2
2990	1.7.3.2.(	*Milestone: Case Tracking Unit Testing Complete*	1/26/21	1/26/21	0 days	0 hrs	2989	3059,2992,3	Account - Project Manager or Asst PM
2991	1.7.3.2.	**Run PI/FADS Baseline Automation Regression Testing**	**1/26/21**	**2/9/21**	**10 days**	**200 hrs**			
2992	1.7.3.2.(	Modify Core PI/FADS Automation Regression Testing Scripts for User Interface	1/26/21	2/2/21	5 days	80 hrs	2982,2990	2993	FADS Automation Analyst[50%],FADS BA/QA 2[50%],FADS BA/QA 4[50%]
2993	1.7.3.2.(	Generate Baseline PI/FADS Automation Regression Test Results for Case Tracking/PGP UI	2/2/21	2/9/21	5 days	120 hrs	2992	2994	FADS Automation Analyst,FADS BA/QA 2,FADS BA/QA 4
2994	1.7.3.2.(	*Milestone: PI/FADS Baseline Automation Regression Test Complete*	2/9/21	2/9/21	0 days	0 hrs	2993	3059	Account - Project Manager or Asst PM
2995	1.7.3.2.	**Results Management Reports**	**11/20/20**	**11/30/20**	**3.5 days**	**24 hrs**			
2996	1.7.3.2.(	Modify Results Management Reports for Focused Analyti	11/20/20	11/24/20	2 days	8 hrs	2972	2997	FADS Cognos Developer 1[10%]
2997	1.7.3.2.(	Unit Test Results Management Reports	11/24/20	11/25/20	1 day	8 hrs	2996	2998	FADS Delivery Manager
2998	1.7.3.2.(	Update and unit test metadata model revisions to Results Management Reports	11/25/20	11/30/20	0.5 days	8 hrs	2997	2999	FADS Cognos Developer 1,FADS Cognos Developer 2
2999	1.7.3.2.(	*Milestone: Results Management Reports Construction and Unit Testing Complete*	11/30/20	11/30/20	0 days	0 hrs	2998	3059,3001	Account - Project Manager or Asst PM
3000	1.7.3.2.	**Focused Analytic #1 (PI103, PI106, PI164)**	**11/30/20**	**12/9/20**	**7 days**	**84 hrs**			
3001	1.7.3.2.(	Modify Focused Analytic #1 Code and Logic	11/30/20	12/1/20	1 day	8 hrs	2999	3002	FADS ETL Database Developer 1
3002	1.7.3.2.(	Unit Test Focused Analytic #1	12/1/20	12/3/20	2 days	16 hrs	3001	3003	FADS ETL Database Developer 1
3003	1.7.3.2.(	Update and Unit Test Metadata Model Revisions to Focused Analytic #1 Creating Report	12/3/20	12/3/20	0.5 days	8 hrs	3002	3004	FADS Cognos Developer 1,FADS Cognos Developer 2
3004	1.7.3.2.(	Create Report(s) For Focused Analytic #1	12/3/20	12/8/20	3 days	48 hrs	3003	3005	FADS Cognos Developer 1,FADS Cognos Developer 2
3005	1.7.3.2.(	Add Focused Analytic #1 to PI/FADS Schedule	12/8/20	12/9/20	0.5 days	4 hrs	3004	3006	FADS ETL Database Developer 1
3006	1.7.3.2.(	*Milestone: Focused Analytic #1 Construction and Unit Testing Complete*	12/9/20	12/9/20	0 days	0 hrs	3005	3059,3008,3	Account - Project Manager or Asst PM
3007	1.7.3.2.	**Provider Activity Spike Detection**	**12/9/20**	**12/15/20**	**4.5 days**	**68 hrs**			
3008	1.7.3.2.(	Modify Provider Activity Spike Detection Logic and Repor	12/9/20	12/11/20	2 days	32 hrs	3006	3009	FADS ETL Database Developer 1,FADS Cognos Developer 1,FADS ETL
3009	1.7.3.2.(	Unit Test Provider Activity Spike Detection	12/11/20	12/15/20	2 days	32 hrs	3008	3010	FADS ETL Database Developer 1,FADS Cognos Developer 1,FADS ETL
3010	1.7.3.2.(	Update and Unit Test Metadata Model Revisions to Provider Spike Detection	12/15/20	12/15/20	0.5 days	4 hrs	3009	3011,3013	FADS Cognos Developer 1
3011	1.7.3.2.(	*Milestone: Provider Activity Spike Detection Unit Testing Complete*	12/15/20	12/15/20	0 days	0 hrs	3010	3059,3106	Account - Project Manager or Asst PM
3012	1.7.3.2.	**Browse and Search Reports**	**12/15/20**	**1/8/21**	**16 days**	**488 hrs**			
3013	1.7.3.2.(	Modify Claim Detail Browse and Search Report	12/15/20	12/17/20	2 days	48 hrs	3010	3020,3014	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3014	1.7.3.2.(	Modify Institutional Claim Browse and Search Report	12/17/20	12/21/20	2 days	48 hrs	3013	3015,3020	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3015	1.7.3.2.(	Modify Pharmacy Claim Browse and Search Report	12/21/20	12/22/20	1 day	24 hrs	3014	3016,3020	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3016	1.7.3.2.(	Modify Professional Claim Browse and Search Report	12/22/20	12/24/20	2 days	48 hrs	3015	3017,3020	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3017	1.7.3.2.(	Modify Providers Browse and Search Report	12/24/20	12/29/20	2 days	64 hrs	3016	3018,3020	FADS Cognos Developer 1,FADS Cognos Developer 2,FADS ETL Datab
3018	1.7.3.2.(	Modify Member Browse and Search Report	12/29/20	12/30/20	1 day	32 hrs	3017	3019,3020	FADS Cognos Developer 1,FADS Cognos Developer 2,FADS ETL Datab
3019	1.7.3.2.(	Modify Member Cross Reference Browse and Search Rep	12/30/20	1/4/21	2 days	64 hrs	3018	3020	FADS Cognos Developer 1,FADS Cognos Developer 2,FADS ETL Datab
3020	1.7.3.2.(	Unit Test Browse and Search Reports	1/4/21	1/8/21	4 days	128 hrs	2970,3013,301	3022,3021S	FADS Cognos Developer 1,FADS Cognos Developer 2,FADS ETL Datab
3021	1.7.3.2.(	Update and Unit Test Metadata Model Revisions to Browse and Search Reports	1/4/21	1/5/21	1 day	32 hrs	3020SS	3022	FADS Cognos Developer 1,FADS Cognos Developer 2,FADS ETL Database Developer 1,FADS ETL Database Developer 2
3022	1.7.3.2.(	*Milestone: Browse and Search Unit Testing Complete*	1/8/21	1/8/21	0 days	0 hrs	3020,3021	3059,3109	Account - Project Manager or Asst PM
3023	1.7.3.2.	**Analytical Report Library**	**12/1/20**	**12/11/20**	**8 days**	**196 hrs**			
3024	1.7.3.2.(	Modify Pay To Provider Reports	12/1/20	12/2/20	1 day	24 hrs	2972,2975	3025,3029	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3025	1.7.3.2.(	Modify Rendering Provider Reports	12/2/20	12/3/20	1 day	24 hrs	3024	3026,3029	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3026	1.7.3.2.(	Modify Member Reports	12/3/20	12/4/20	1 day	24 hrs	3025	3027,3029	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3027	1.7.3.2.(	Modify Top N Reports	12/4/20	12/7/20	1 day	24 hrs	3026	3028,3029	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3028	1.7.3.2.(	Modify Miscellaneous Reports	12/7/20	12/8/20	1 day	24 hrs	3027	3029	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3029	1.7.3.2.(	Unit Test Analytical Library Reports	12/8/20	12/11/20	3 days	72 hrs	2970,3024,302	3031,3030S	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3030	1.7.3.2.(	Update and Unit Test Metadata Model Revisions to Analytical Report Library	12/8/20	12/9/20	0.5 days	4 hrs	3029SS	3031,3033	FADS Technical Implementation Manager,FADS Cognos Developer 1
3031	1.7.3.2.(	*Milestone: Analytical Report Library Unit Testing Compl*	12/11/20	12/11/20	0 days	0 hrs	3029,3030	3059,3112	Account - Project Manager or Asst PM
3032	1.7.3.2.	**Long Term Care (LTC) Review**	**12/9/20**	**12/15/20**	**4.5 days**	**96 hrs**			
3033	1.7.3.2.(	Modify Long Term Care (LTC) Review Logic and Reports	12/9/20	12/10/20	1 day	24 hrs	3030	3034,3056	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
3034	1.7.3.2.	Unit Test Long Term Care (LTC) Review	12/10/20	12/14/20	2 days	48 hrs	3033	3036,3035,3	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3035	1.7.3.2.	Update and Unit Test Metadata Model Revisions to Long Term Care (LTC)	12/14/20	12/15/20	1.5 days	24 hrs	3034	3036,3058	FADS Cognos Developer 1,FADS Cognos Developer 2
3036	1.7.3.2.	*Milestone: Long Term Care (LTC) Review Unit Testing Complete*	12/15/20	12/15/20	0 days	0 hrs	3034,3035	3059,3115	Account - Project Manager or Asst PM
3037	**1.7.3.2.**	**Reference Reports (Typical Implementation of Reference Report (need to confirm with State)**	**12/14/20**	**12/28/20**	**9 days**	**176 hrs**			
3038	1.7.3.2.	Modify Category of Service Logic and Report	12/14/20	12/14/20	0.5 days	8 hrs	3034	3039,3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3039	1.7.3.2.	Modify Claim Types Logic and Report	12/14/20	12/15/20	0.5 days	8 hrs	3038	3040,3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3040	1.7.3.2.	Modify County Codes Logic and Report	12/15/20	12/15/20	0.5 days	8 hrs	3039	3041,3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3041	1.7.3.2.	Modify Diagnosis Logic and Report	12/15/20	12/16/20	0.5 days	8 hrs	3040	3052,3042	FADS Cognos Developer 1,FADS Cognos Developer 2
3042	1.7.3.2.	Modify Member Aid Codes Report	12/16/20	12/16/20	0.5 days	8 hrs	3041	3052,3043	FADS Cognos Developer 1,FADS Cognos Developer 2
3043	1.7.3.2.	Modify Service Type Logic and Report	12/16/20	12/17/20	0.5 days	8 hrs	3042	3044,3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3044	1.7.3.2.	Modify National Drug Code Logic and Report (includes HI	12/17/20	12/18/20	1 day	16 hrs	3043	3045,3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3045	1.7.3.2.	Modify Places of Service Logic and Report	12/18/20	12/18/20	0.5 days	8 hrs	3044	3046,3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3046	1.7.3.2.	Modify Procedure Codes Logic and Report	12/18/20	12/21/20	0.5 days	8 hrs	3045	3047,3052,3	FADS Cognos Developer 1,FADS Cognos Developer 2
3047	1.7.3.2.	Modify Procedure Modifiers Logic and Report	12/21/20	12/21/20	0.5 days	8 hrs	3046	3048,3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3048	1.7.3.2.	Modify Provider Specialties Logic and Report	12/21/20	12/22/20	0.5 days	8 hrs	3047	3049,3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3049	1.7.3.2.	Modify Provider Types Logic and Report	12/22/20	12/22/20	0.5 days	8 hrs	3048	3050,3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3050	1.7.3.2.	Modify Revenue Codes Logic and Report	12/22/20	12/23/20	0.5 days	8 hrs	3049	3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3051	1.7.3.2.	Modify Surgical Procedure Codes Logic and Report	12/21/20	12/21/20	0.5 days	8 hrs	3046	3052	FADS Cognos Developer 1,FADS Cognos Developer 2
3052	1.7.3.2.	Unit Test Reference Reports	12/23/20	12/28/20	2 days	32 hrs	2970,3038,303	3054,3053S	FADS Cognos Developer 1,FADS Cognos Developer 2
3053	1.7.3.2.	Update and Unit Test Metadata Model Revisions to Reference Reports	12/23/20	12/24/20	1.5 days	24 hrs	3052SS	3054	FADS Cognos Developer 1,FADS Cognos Developer 2
3054	1.7.3.2.	*Milestone: Reference Reports Unit Testing Complete*	12/28/20	12/28/20	0 days	0 hrs	3052,3053	3059,3118	Account - Project Manager or Asst PM
3055	**1.7.3.2.**	**Random Sampling**	**12/10/20**	**12/17/20**	**5.5 days**	**128 hrs**			
3056	1.7.3.2.	Unit Test Random Sampling Review	12/10/20	12/17/20	5 days	120 hrs	2970,3033	3057	FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS ETL
3057	1.7.3.2.	Update and Unit Test Metadata Model Revisions to Random Sampling	12/17/20	12/17/20	0.5 days	8 hrs	3034SS,3056	3058	FADS Cognos Developer 1,FADS Cognos Developer 2
3058	1.7.3.2.	*Milestone: Random Sampling Review Unit Testing Com*	12/17/20	12/17/20	0 days	0 hrs	3034,3035,305	3059,3121	Account - Project Manager or Asst PM
3059	1.7.3.2.	*Milestone: PI/FADS - Coding and Unit Testing (CUT) Comp*	2/9/21	2/9/21	0 days	0 hrs	2982,2999,300	3090	Account - Project Manager or Asst PM
3060	**1.7.3.3**	**PI/FADS System Integration Testing (SIT)**	**11/5/20**	**4/9/21**	**106.18 days**	**4,587.96 hrs**			
3061	**1.7.3.3.**	**Update PI/FADS SIT Test Cases**	**11/5/20**	**11/19/20**	**10 days**	**240 hrs**			
3062	1.7.3.3.	Update SIT Home Page Test Cases	11/5/20	11/6/20	1 day	32 hrs	2923,2915	3063	FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS ETL Da
3063	1.7.3.3.	Update SIT Peer Group Profiling Test Cases	11/6/20	11/9/20	1 day	16 hrs	3062	3064	FADS BA/QA 2,FADS BA/QA 4
3064	1.7.3.3.	Update SIT Fraud Algorithm Test Cases	11/9/20	11/10/20	1 day	32 hrs	3063	3065	FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS ETL Da
3065	1.7.3.3.	Update SIT Provider Spike Detection Test Cases	11/10/20	11/11/20	1 day	16 hrs	3064	3066	FADS BA/QA 2,FADS BA/QA 4
3066	1.7.3.3.	Update SIT Browse and Search Report Test Cases	11/11/20	11/12/20	1 day	32 hrs	3065	3067	FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS ETL Da
3067	1.7.3.3.	Update SIT Analytical Report Test Cases	11/12/20	11/13/20	1 day	16 hrs	3066	3068	FADS BA/QA 2,FADS BA/QA 4
3068	1.7.3.3.	Update SIT Long Term Care (LTC) Test Cases	11/13/20	11/16/20	1 day	32 hrs	3067	3069	FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS ETL Da
3069	1.7.3.3.	Update SIT Random Sampling Test Cases	11/16/20	11/17/20	1 day	16 hrs	3068	3070	FADS BA/QA 1,FADS BA/QA 4
3070	1.7.3.3.	Update SIT Case Tracking Test Cases	11/17/20	11/18/20	1 day	32 hrs	3069	3071	FADS BA/QA 3,FADS BA/QA 1,FADS Cognos Developer 2,FADS ETL Da
3071	1.7.3.3.	Update SIT Reference Report Test Cases	11/18/20	11/19/20	1 day	16 hrs	3070	3072	FADS BA/QA 1,FADS BA/QA 4
3072	1.7.3.3.	*Milestone Deliverable FADS Test Cases Updated*	11/19/20	11/19/20	0 days	0 hrs	3071	3074,3082	Account - Project Manager or Asst PM
3073	**1.7.3.3.**	**D050 Deliverable: SIT Test Cases and Scripts - PI/FADS**	**11/19/20**	**12/4/20**	**9.01 days**	**168.2 hrs**			
3074	1.7.3.3.	D050 Amend - Create Final PI/FADS SIT Test Cases and Scripts and Send to DHHR For Review and Approval	11/19/20	11/30/20	5 days	80 hrs	3072	3075	FADS BA/QA 2,FADS Technical Implementation Manager,FADS BA/QA 4[67%]
3075	1.7.3.3.	Schedule & Conduct Internal Meeting With QA on PI/FADS SIT Test Cases and Scripts	11/30/20	12/1/20	0.5 days	8 hrs	3074	3076	FADS Project Manager,FADS Delivery Manager,FADS Technical Implementation Manager
3076	1.7.3.3.	Revise PI/FADS SIT Test Cases and Scripts Document From QA Review Feedback	12/1/20	12/1/20	0.5 days	8 hrs	3075	3077	FADS BA/QA 2,FADS Technical Implementation Manager
3077	1.7.3.3.	Submit PI/FADS SIT Test Cases and Scripts Document to DHHR For Review (5 Days)	12/1/20	12/1/20	0 days	0.1 hrs	3076	3078	DHHR[600%],FADS Project Manager[0%]
3078	1.7.3.3.	Revise PI/FADS SIT Test Cases and Scripts Document From DHHR Comments Log (3 Days)	12/1/20	12/4/20	3 days	72 hrs	3077	3079	FADS BA/QA 2,FADS Technical Implementation Manager,FADS BA/QA 4
3079	1.7.3.3.	Submit PI/FADS SIT Test Cases and Scripts Document to DHHR for Final Review (3 Days)	12/4/20	12/4/20	0.01 days	0.1 hrs	3078	3080	DHHR[600%],FADS Project Manager[0%]

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
3080	1.7.3.3.	*Milestone Deliverable D050: DHHR Approved PI/FADS SIT Test Cases and Scripts*	12/4/20	12/4/20	0 days	0 hrs	3079	3090,3103,3	Account - Project Manager or Asst PM
3081	1.7.3.3.	**D046 Deliverable: Regression Test Cases - PI/FADS**	**11/19/20**	**12/4/20**	**9.01 days**	**184.2 hrs**			
3082	1.7.3.3.1	D046 Amend - Create Regression Test Cases - PI/FADS	11/19/20	11/30/20	5 days	120 hrs	3072	3083	FADS Technical Implementation Manager,FADS Automation Analyst,
3083	1.7.3.3.2	Schedule & Conduct Internal Meeting With QA on Regression Test Cases	11/30/20	12/1/20	0.5 days	8 hrs	3082	3084	FADS Project Manager,FADS Technical Implementation Manager,FADS Delivery Manager
3084	1.7.3.3.3	Revise PI/FADS Regression Test Cases From QA Review Feec	12/1/20	12/1/20	0.5 days	8 hrs	3083	3085	FADS Technical Implementation Manager,FADS Automation Analyst
3085	1.7.3.3.4	Submit PI/FADS Regression Test Cases to DHHR For Review (5 Days)	12/1/20	12/1/20	0 days	0.1 hrs	3084	3086	DHHR[600%],FADS Project Manager[0%]
3086	1.7.3.3.5	Revise PI/FADS Regression Test Cases From DHHR Comments Log (3 Days)	12/1/20	12/4/20	3 days	48 hrs	3085	3087	FADS Automation Analyst,FADS Technical Implementation Manager
3087	1.7.3.3.6	Submit PI/FADS Regression Test Cases to DHHR for Final Review (3 Days)	12/4/20	12/4/20	0.01 days	0.1 hrs	3086	3088	DHHR[600%],FADS Project Manager[0%]
3088	1.7.3.3.7	*Milestone Deliverable D046: DHHR Approved PI/FADS SIT Regression Test Cases and Scripts*	12/4/20	12/4/20	0 days	0 hrs	3087	3090,101	Account - Project Manager or Asst PM
3089	1.7.3.3.	**Conduct Detailed PI/FADS SIT PI/FADS and Case Tracking Report and Data Validation (SIT Execution)**	**12/4/20**	**3/11/21**	**66.67 days**	**3,308 hrs**			
3090	1.7.3.3.8	Run ETL Refresh for SIT with EDS data (Converted and New Day Claim data)	2/9/21	2/10/21	0.5 days	4 hrs	3088,3080,3059	3096,3092	FADS ETL Database Developer 1
3091	1.7.3.3.	**Peer Group Profiling SIT (Manual and Automated)**	**2/10/21**	**3/11/21**	**21 days**	**648 hrs**			
3092	1.7.3.3.9	System Test Peer Group Profiling	2/10/21	2/24/21	10 days	400 hrs	2982,3090	3093	FADS BA/QA 1,FADS Automation Analyst,FADS BA/QA 3[50%],FADS (
3093	1.7.3.3.10	System Test Detail Reports - Drill Through Report Validati	2/24/21	3/10/21	10 days	240 hrs	3092	3094	FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS ETL Da
3094	1.7.3.3.11	Document SIT Results for Peer Group Profiling	3/10/21	3/11/21	1 day	8 hrs	3093	3126	FADS BA/QA 1,FADS Automation Analyst
3095	1.7.3.3.	**Case Tracking SIT (Manual and Automated)**	**2/10/21**	**3/4/21**	**16 days**	**256 hrs**			
3096	1.7.3.3.12	System Test Case Tracking User Interface pages	2/10/21	2/17/21	5 days	120 hrs	3090,2990	3097	FADS BA/QA 2,FADS Automation Analyst,FADS BA/QA 4
3097	1.7.3.3.13	System Test Case Tracking Reports	2/17/21	3/3/21	10 days	120 hrs	3096	3098	FADS BA/QA 2,FADS BA/QA 4
3098	1.7.3.3.14	Document SIT Results for Case Tracking	3/3/21	3/4/21	1 day	16 hrs	3097	3126	FADS JAVA Developer 1,FADS JAVA Developer 2
3099	1.7.3.3.	**Results Management SIT**	**12/4/20**	**12/10/20**	**4 days**	**104 hrs**			
3100	1.7.3.3.15	System Test Results Management	12/4/20	12/9/20	3 days	96 hrs	3080	3101	FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS ETL Da
3101	1.7.3.3.16	Document SIT Results for Results Management	12/9/20	12/10/20	1 day	8 hrs	3100	3126	FADS BA/QA 1
3102	1.7.3.3.	**Focused Analytics SIT**	**12/9/20**	**12/16/20**	**5 days**	**112 hrs**			
3103	1.7.3.3.17	System Test Focused Analytic #1	12/9/20	12/14/20	3 days	96 hrs	3006,3080	3104	FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS JAVA D
3104	1.7.3.3.18	Document SIT Results for Focused Analytic #1	12/14/20	12/16/20	2 days	16 hrs	3103	3126	FADS BA/QA 1
3105	1.7.3.3.	**Spike Detection SIT**	**12/15/20**	**12/18/20**	**3 days**	**72 hrs**			
3106	1.7.3.3.19	System Test Spike Detection	12/15/20	12/17/20	2 days	64 hrs	3011,3080	3107	FADS BA/QA 1,FADS BA/QA 3,FADS Cognos Developer 2,FADS ETL Da
3107	1.7.3.3.20	Document SIT Results for Spike Detection	12/17/20	12/18/20	1 day	8 hrs	3106	3126	FADS BA/QA 1
3108	1.7.3.3.	**Browse and Search SIT**	**1/8/21**	**1/29/21**	**15 days**	**480 hrs**			
3109	1.7.3.3.21	System Test Browse and Search Reports	1/8/21	1/22/21	10 days	320 hrs	3022,3080	3110	FADS BA/QA 1,FADS BA/QA 2,FADS BA/QA 3,FADS BA/QA 4
3110	1.7.3.3.22	Document SIT Results for Browse and Search Reports	1/22/21	1/29/21	5 days	160 hrs	3109	3126	FADS BA/QA 1,FADS BA/QA 2,FADS BA/QA 3,FADS BA/QA 4
3111	1.7.3.3.	**Analytical Report Library SIT**	**12/11/20**	**1/5/21**	**15 days**	**800 hrs**			
3112	1.7.3.3.23	System Test Analytical Report Library Reports	12/11/20	12/28/20	10 days	640 hrs	3031,3080	3113	FADS BA/QA 1,FADS BA/QA 2,FADS BA/QA 3,FADS BA/QA 4,FADS Co
3113	1.7.3.3.24	Document SIT Results for Analytical Report Library Repor	12/28/20	1/5/21	5 days	160 hrs	3112	3126	FADS BA/QA 1,FADS BA/QA 2,FADS BA/QA 3,FADS BA/QA 4
3114	1.7.3.3.	**Long Term Care SIT**	**12/15/20**	**12/23/20**	**6 days**	**112 hrs**			
3115	1.7.3.3.25	System Test Long Term Care Review (LTC)	12/15/20	12/21/20	4 days	96 hrs	3036,3080	3116	FADS BA/QA 1,FADS BA/QA 3,FADS ETL Database Developer 1
3116	1.7.3.3.26	Document SIT Results for Long Term Care Review (LTC)	12/21/20	12/23/20	2 days	16 hrs	3115	3126	FADS BA/QA 1
3117	1.7.3.3.	**Reference Reports SIT**	**12/28/20**	**1/7/21**	**7 days**	**304 hrs**			
3118	1.7.3.3.27	System Test Reference Reports	12/28/20	1/5/21	5 days	240 hrs	3080,3054	3119	FADS BA/QA 1,FADS BA/QA 2,FADS BA/QA 3,FADS BA/QA 4,FADS ET
3119	1.7.3.3.28	Document SIT Results for Reference Reports	1/5/21	1/7/21	2 days	64 hrs	3118	3126	FADS BA/QA 1,FADS BA/QA 2,FADS BA/QA 3,FADS BA/QA 4
3120	1.7.3.3.	**Random Sampling SIT**	**12/17/20**	**1/6/21**	**12 days**	**400 hrs**			
3121	1.7.3.3.29	System Test Random Sampling	12/17/20	12/29/20	7 days	280 hrs	3080,3058	3122	FADS Cognos Developer 1,FADS BA/QA 1,FADS BA/QA 3,FADS ETL Da
3122	1.7.3.3.30	Document SIT Results for Random Sampling	12/29/20	1/6/21	5 days	120 hrs	3121	3126	FADS Cognos Developer 1,FADS BA/QA 1,FADS BA/QA 3
3123	1.7.3.3.	**PI/FADS Home Page SIT**	**12/4/20**	**12/8/20**	**2 days**	**16 hrs**			
3124	1.7.3.3.31	System Test FADS Home Page	12/4/20	12/7/20	1 day	8 hrs	2974,3080	3125	FADS Technical Implementation Manager
3125	1.7.3.3.32	Document SIT Results for FADS Home Page	12/7/20	12/8/20	1 day	8 hrs	3124	3126	FADS Technical Implementation Manager
3126	1.7.3.3.33	*Milestone: Detailed PI/FADS SIT Data, User Interface and Report Validation Complete*	3/11/21	3/11/21	0 days	0 hrs	3094,3098,310	3128,3136,3	Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
3127	1.7.3.3.	**D051 Deliverable: System Integration Test Results PI/FADS**	**3/11/21**	**4/9/21**	**20.5 days**	**391.54 hrs**			
3128	1.7.3.3.1	D051 Amend - Create PI/FADS System Integration Test Results Document	3/11/21	3/26/21	10 days	279.34 hrs	3126	3129	FADS Technical Implementation Manager,FADS BA/QA 1,FADS BA/QA 2,FADS ETL Database Developer 1[75%]
3129	1.7.3.3.2	Schedule & Conduct Walkthrough of PI/FADS System Integration Test Results With DHHR	3/26/21	3/26/21	0.5 days	8 hrs	3128	3130	FADS Project Manager,FADS Technical Implementation Manager,FADS Delivery Manager
3130	1.7.3.3.3	Modify/Add PI/FADS System Integration Test Scripts as Requested By DHHR	3/26/21	3/29/21	1 day	8 hrs	3129	3131	FADS Technical Implementation Manager
3131	1.7.3.3.4	Send PI/FADS System Integration Test Scripts to DHHR For Review (5 Days)	3/29/21	4/1/21	3 days	0.1 hrs	3130	3132	DHHR[600%],FADS Project Manager[0%]
3132	1.7.3.3.5	Revise PI/FADS System Integration Test Scripts Based on Feedback From DHHR (if applicable) (3 Days)	4/1/21	4/6/21	3 days	96 hrs	3131	3133	FADS BA/QA 2,FADS Technical Implementation Manager,FADS Cognos Developer 1,FADS Cognos Developer 2
3133	1.7.3.3.6	Package Final PI/FADS System Integration Test Scripts and Send to DHHR for Review and Approval (3 Days)	4/6/21	4/9/21	3 days	0.1 hrs	3132	3134	DHHR[600%],FADS Project Manager[0%]
3134	1.7.3.3.7	***Milestone Deliverable D051: DHHR Approved PI/FADS SIT Test Results***	4/9/21	4/9/21	0 days	0 hrs	3133	3178,104	Account - Project Manager or Asst PM
3135	**1.7.3.3.**	**D047 Deliverable: Run PI/FADS SIT Automation Regression Test Results**	**3/11/21**	**4/9/21**	**19.8 days**	**296.02 hrs**			
3136	1.7.3.3.1	D047 Amend - Generate SIT PI/FADS Automation Regression Test Results	3/11/21	3/26/21	10 days	160 hrs	3126	3137	FADS Automation Analyst,FADS ETL Database Developer 1
3137	1.7.3.3.2	Schedule & Conduct Walkthrough of PI/FADS SIT Regression Test Results With DHHR	3/26/21	3/26/21	0.5 days	8 hrs	3136	3138	FADS Project Manager,FADS Delivery Manager,FADS Technical Implementation Manager
3138	1.7.3.3.3	Modify/Add PI/FADS SIT Regression Test Results as Requested By DHHR	3/26/21	3/29/21	1 day	8 hrs	3137	3139	FADS Automation Analyst
3139	1.7.3.3.4	Send PI/FADS SIT Regression Test Results to DHHR For Review (5 Days)	3/29/21	4/5/21	5 days	0.01 hrs	3138	3140	FADS Project Manager[0%],DHHR[0%]
3140	1.7.3.3.5	Revise PI/FADS SIT Regression Test Results Based on Feedback From DHHR (if applicable) (3 Days)	4/5/21	4/8/21	3 days	120 hrs	3139	3141	FADS Automation Analyst,FADS Cognos Developer 1,FADS ETL Database Developer 1,FADS JAVA Developer 1
3141	1.7.3.3.6	Package Final PI/FADS Regression Tests (if needed) and Send Final Test Results to DHHR for Approval (3 Days)	4/8/21	4/9/21	0.3 days	0.01 hrs	3140	3142	FADS Automation Analyst[0%],DHHR[0%]
3142	1.7.3.3.7	***Milestone Deliverable D0047: PI/FADS SIT Automation Regression Test Results Complete and Approved by***	4/9/21	4/9/21	0 days	0 hrs	3141	3178,102	Account - Project Manager or Asst PM
3143	**1.7.3.4**	**PI/FADS Training Preparation**	**11/5/20**	**4/21/21**	**113.68 days**	**576.08 hrs**			
3144	**1.7.3.4.**	**D052 Deliverable Update: Training Management Plan - PI/FADS Amendment**	**11/5/20**	**11/23/20**	**11.28 days**	**48.02 hrs**			
3145	1.7.3.4.1	D052 Amend Approved EDS Deliverable For PI/FADS Training Management Plan - PI/FADS	11/5/20	11/10/20	3 days	20 hrs	2923	3146	FADS Delivery Manager[12%],FADS Project Manager[71%]
3146	1.7.3.4.2	Schedule & Conduct Internal Meeting With QA Training Management Plan - PI/FADS	11/10/20	11/11/20	0.25 days	4 hrs	3145	3147	FADS Project Manager,FADS Delivery Manager
3147	1.7.3.4.3	Revise PI/FADS Training Management Plan - PI/FADS From QA Review Feedback	11/11/20	11/12/20	1 day	8 hrs	3146	3148	FADS Project Manager
3148	1.7.3.4.4	Submit PI/FADS Training Management Plan - PI/FADS to DHHR For Review (5 Days)	11/12/20	11/19/20	5 days	0.01 hrs	3147	3149	DHHR[0%],FADS Project Manager[0%]
3149	1.7.3.4.5	Revise PI/FADS Training Management Plan - PI/FADS From DHHR Comments Log (3 Days)	11/19/20	11/23/20	2 days	16 hrs	3148	3150	FADS Project Manager
3150	1.7.3.4.6	Submit PI/FADS Training Management Plan - PI/FADS to DHHR for Final Review (3 Days)	11/23/20	11/23/20	0.03 days	0.01 hrs	3149	3151	Documentation Management Lead[4%]
3151	1.7.3.4.7	***Milestone Deliverable D052: PI/FADS Training Management Plan - PI/FADS Amendment Approved by***	11/23/20	11/23/20	0 days	0 hrs	3150	3205,105	Account - Project Manager or Asst PM
3152	**1.7.3.4.**	**D068 Deliverable: PI/FADS Training Schedule**	**11/5/20**	**12/2/20**	**16.5 days**	**72.02 hrs**			
3153	1.7.3.4.1	D068 Amend Approved Training Schedule	11/5/20	11/12/20	5 days	40 hrs	2923	3154	FADS Project Manager
3154	1.7.3.4.2	Schedule & Conduct Internal Meeting With QA To Review PI/FADS Training Schedule	11/12/20	11/13/20	0.5 days	8 hrs	3153	3155	FADS Project Manager[3%],DHHR[0%]
3155	1.7.3.4.3	Revise PI/FADS Training Schedule From QA Review Feedba	11/13/20	11/16/20	1 day	8 hrs	3154	3156	FADS Project Manager[13%]
3156	1.7.3.4.4	Submit PI/FADS Training Schedule to DHHR For Review (5	11/16/20	11/23/20	5 days	0.01 hrs	3155	3157	FADS Project Manager
3157	1.7.3.4.5	Revise PI/FADS Training Schedule From DHHR Comments Log (3 Days)	11/23/20	11/25/20	2 days	16 hrs	3156	3158	FADS Project Manager
3158	1.7.3.4.6	Submit PI/FADS Training Schedule to DHHR for Final Review (3 Days)	11/25/20	12/2/20	3 days	0.01 hrs	3157	3159	FADS Project Manager[1%],DHHR[0%]
3159	1.7.3.4.7	***Milestone Deliverable D068: PI/FADS Training Schedule Approved***	12/2/20	12/2/20	0 days	0 hrs	3158	3205,116	Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
3160	1.7.3.4.	**D065 Deliverable: PI/FADS System and User Documentation Manual**	3/11/21	3/30/21	12 days	312.02 hrs			
3161	1.7.3.4.1	D065 Create & Customize PI/FADS System and User Documentation Manual for DHHR	3/11/21	3/18/21	5 days	240 hrs	3126	3162	FADS BA/QA 2,FADS Product Analyst/SME,FADS BA/QA 4
3162	1.7.3.4.2	Schedule & Conduct Walkthrough of PI/FADS System and User Documentation Manual with Internal FADS team	3/18/21	3/18/21	0.5 days	8 hrs	3161	3163	FADS Project Manager[0%],FADS Product Analyst/SME,FADS Delivery Manager
3163	1.7.3.4.3	Modify/Add PI/FADS System and User Documentation Manual as Requested By DHHR	3/18/21	3/23/21	2 days	16 hrs	3162	3164	FADS Project Manager,FADS Product Analyst/SME
3164	1.7.3.4.4	Send PI/FADS System and User Documentation Manual to DHHR For Review (5 Days)	3/23/21	3/23/21	0 days	0.01 hrs	3163	3165	DHHR[0%],FADS Project Manager
3165	1.7.3.4.5	Revise PI/FADS System and User Documentation Manual Based on Feedback From DHHR (if applicable) (3 Days)	3/23/21	3/26/21	3 days	48 hrs	3164	3166	FADS Project Manager[83%],FADS Product Analyst/SME[83%]
3166	1.7.3.4.6	Package Final PI/FADS System & User Documentation Manual and Send to DHHR for Review and Approval (3	3/26/21	3/30/21	1.5 days	0.01 hrs	3165	3167	FADS Project Manager[0%],DHHR[60%]
3167	1.7.3.4.7	***Milestone Deliverable D065: PI/FADS System and User Documentation Manual Approved by DHHR***	3/30/21	3/30/21	0 days	0 hrs	3166	3169,113	Account - Project Manager or Asst PM
3168	1.7.3.4.	**D066 Deliverable: PI/FADS Training Materials**	3/30/21	4/21/21	16 days	144.02 hrs			
3169	1.7.3.4.8	D066 Amend prepared PI/FADS Training Materials	3/30/21	4/6/21	5 days	80 hrs	3167	3170,3191	FADS Product Analyst/SME[40%]
3170	1.7.3.4.9	Schedule & Conduct Internal Meeting	4/6/21	4/6/21	0.5 days	8 hrs	3169	3171	FADS Project Manager,FADS Product Analyst/SME,FADS Delivery Ma
3171	1.7.3.4.10	Revise PI/FADS Training Materials From QA Review Feedb	4/6/21	4/7/21	1 day	8 hrs	3170	3172	FADS Product Analyst/SME
3172	1.7.3.4.11	Send PI/FADS Training Materials to DHHR (5 Days)	4/7/21	4/14/21	5 days	0.01 hrs	3171	3173	FADS Project Manager[60%],DHHR[60%]
3173	1.7.3.4.12	Revised Based on Feedback From DHHR (3 Days)	4/14/21	4/19/21	3 days	48 hrs	3172	3174	FADS Product Analyst/SME
3174	1.7.3.4.13	Send Final Training Materials to DHHR for Approval (3 Days)	4/19/21	4/21/21	1.5 days	0.01 hrs	3173	3175	DHHR[60%],FADS Project Manager[0%]
3175	1.7.3.4.14	***Milestone Deliverable D066: PI/FADS Training Materials Completed and Approved by DHHR***	4/21/21	4/21/21	0 days	0 hrs	3174	3187,114	Account - Project Manager or Asst PM
3176	1.7.3.5	**PI/FADS User Acceptance Test (UAT)**	4/9/21	7/5/21	58.2 days	2,204.71 hrs			
3177	1.7.3.5.	**PI/FADS UAT Preparation**	4/9/21	4/12/21	1 day	8 hrs			
3178	1.7.3.5.1	Request 36 Months of Refreshed Claims and Associated Non Claims Data From DHHR For PI/FADS	4/9/21	4/12/21	0.5 days	4 hrs	3126,3134,314	3179	FADS Technical Implementation Manager
3179	1.7.3.5.2	Received 36 Months of Refreshed PI/FADS Claims and Associated Non Claims Production Data to Optum	4/12/21	4/12/21	0.5 days	4 hrs	3178	3180	FADS Technical Implementation Manager,FADS ETL Database Developer 1
3180	1.7.3.5.3	***Milestone: 36 Months of PI/FADS Claims and Association Non Claims Production Data Received***	4/12/21	4/12/21	0 days	0 hrs	3179	3182	Account - Project Manager or Asst PM
3181	1.7.3.5.	**UAT Environment Data Load**	4/12/21	4/26/21	10 days	400 hrs			
3182	1.7.3.5.4	Load and Balance 36 Months of Data for UAT	4/12/21	4/19/21	5 days	80 hrs	3180	3183,3184,3	FADS ETL Database Developer 1,FADS ETL Database Developer 2
3183	1.7.3.5.5	Execute UAT PI/FADS Automation Regression Testing Scripts for ETL	4/19/21	4/26/21	5 days	160 hrs	3182	3185	FADS BA/QA 1,FADS BA/QA 3,FADS ETL Database Developer 1,FADS Cognos Developer 1
3184	1.7.3.5.6	Execute UAT PI/FADS Automation Regression Testing Scripts for User Interface	4/19/21	4/26/21	5 days	160 hrs	3182	3185	FADS Automation Analyst,FADS BA/QA 4,FADS ETL Database Developer 2,FADS Cognos Developer 2
3185	1.7.3.5.7	***Milestone: UAT Environment data load complete***	4/26/21	4/26/21	0 days	0 hrs	3183,3184	3188	Account - Project Manager or Asst PM
3186	1.7.3.5.	**Case Studies and Exercises**	4/29/21	5/6/21	5.5 days	248 hrs			
3187	1.7.3.5.8	Schedule & Conduct Meeting With DHHR To Confirm PI/FADS UAT Expectations and Request Outcomes	4/29/21	4/29/21	0.5 days	8 hrs	3175,3202	3188,3189	FADS Delivery Manager[20%],DHHR[0%],FADS Technical Implementation Manager,FADS Product Analyst/SME
3188	1.7.3.5.9	Update PI/FADS UAT Case Studies	4/29/21	5/6/21	5 days	160 hrs	3187,3185	3205,3191	FADS Product Analyst/SME[33%],FADS Delivery Manager,FADS BA/Q
3189	1.7.3.5.10	Update PI/FADS UAT Class Exercises	4/29/21	5/6/21	5 days	80 hrs	3187	3205,3191	FADS Product Analyst/SME,FADS BA/QA 2,FADS BA/QA 4
3190	1.7.3.5.	**D053 Deliverable: PI/FADS UAT Test Cases**	5/6/21	5/28/21	14.73 days	404.01 hrs			
3191	1.7.3.5.11	Create Test Cases and Scripts for PI/FADS	5/6/21	5/7/21	1 day	24 hrs	3169,3188,318	3192	FADS Product Analyst/SME,FADS BA/QA 1,FADS BA/QA 3
3192	1.7.3.5.12	Schedule & Conduct Walkthrough of PI/FADS UAT Test Cases and Scripts With DHHR	5/7/21	5/10/21	0.5 days	8 hrs	3191	3193	FADS Delivery Manager[0%],FADS Technical Implementation Manager[0%],FADS Project Manager,FADS Product Analyst/SME
3193	1.7.3.5.13	Modify/Add PI/FADS UAT Test Cases and Scripts as Requested By DHHR	5/10/21	5/11/21	1 day	32 hrs	3192	3194	FADS Product Analyst/SME,FADS BA/QA 1,FADS BA/QA 3,FADS Technical Implementation Manager
3194	1.7.3.5.14	Send PI/FADS UAT Test Cases and Scripts to DHHR For Review (5 Days)	5/11/21	5/18/21	5 days	0.01 hrs	3193	3195	FADS Project Manager[0%],DHHR[0%]
3195	1.7.3.5.15	Revise PI/FADS UAT Test Cases and Scripts Based on Feedback From DHHR (if applicable) (3 Days)	5/18/21	5/28/21	7.23 days	340 hrs	3194	3196	FADS Product Analyst/SME[83%],FADS BA/QA 1[83%],FADS BA/QA 3[83%],FADS Technical Implementation Manager[28%],FADS
3196	1.7.3.5.16	Package Final PI/FADS UAT Test Cases and Scripts and Send to DHHR for Review and Approval (3 Days)	5/28/21	5/28/21	0 days	0 hrs	3195	3197	FADS Project Manager[144,000%],DHHR[144,000%]
3197	1.7.3.5.17	***Milestone Deliverable D053: DHHR Approved PI/FADS UAT Test Cases and Scripts***	5/28/21	5/28/21	0 days	0 hrs	3196	3205,106	Account - Project Manager or Asst PM

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
3198	1.7.3.5.	**PI/FADS All Hands Meetings to Prepare For UAT**	4/19/21	4/29/21	7.2 days	57.6 hrs			
3199	1.7.3.5.(	All Hands Meeting 1	4/19/21	4/20/21	0.3 days	14.4 hrs	3182	3200FS+2 da	FADS Project Manager,FADS ETL Database Developer 1,FADS JAVA D
3200	1.7.3.5.(	All Hands Meeting 2	4/22/21	4/22/21	0.3 days	14.4 hrs	3199FS+2 days	3201FS+2 da	FADS Project Manager,FADS ETL Database Developer 1,FADS JAVA D
3201	1.7.3.5.(	All Hands Meeting 3	4/26/21	4/26/21	0.3 days	14.4 hrs	3200FS+2 days	3202FS+2 da	FADS Project Manager,FADS ETL Database Developer 1,FADS JAVA D
3202	1.7.3.5.(	All Hands Meeting 4	4/28/21	4/29/21	0.3 days	14.4 hrs	3201FS+2 days	3187	FADS Project Manager,FADS ETL Database Developer 1,FADS JAVA D
3203	1.7.3.5.	**PI/FADS UAT & Training Sessions**	5/28/21	6/8/21	7.35 days	135.04 hrs			
3204	1.7.3.5.	**UAT & Training Session 1: PI/FADS**	5/28/21	6/2/21	3.35 days	26.03 hrs			
3205	1.7.3.5.	Conduct PI/FADS UAT Session Day 1	5/28/21	5/31/21	1 day	24 hrs	3188,3189,319	3206,3234	FADS Technical Implementation Manager,FADS Delivery Manager,FA
3206	1.7.3.5.	Record PI/FADS UAT Meeting Notes	5/31/21	6/1/21	1 day	0.01 hrs	3205	3207	Tech Writer and Scribe-Tester-QA
3207	1.7.3.5.	Record and Track UAT IRAAD Items	6/1/21	6/2/21	1 day	0.01 hrs	3206	3208	Tech Writer and Scribe-Tester-QA
3208	1.7.3.5.	Send Meeting Notes For PI/FADS UAT Session In Liferay	6/2/21	6/2/21	0.1 days	0.01 hrs	3207	3209	Tech Writer and Scribe-Tester-QA
3209	1.7.3.5.	Initiate Change Requests PI/FADS UAT (if required)	6/2/21	6/2/21	0.25 days	2 hrs	3208	3211	FADS Project Manager
3210	1.7.3.5.	**UAT & Training Session 2: PI/FADS**	6/2/21	6/3/21	1 day	26.83 hrs			
3211	1.7.3.5.	Conduct PI/FADS UAT Session Day 1	6/2/21	6/3/21	1 day	24 hrs	3209	3212SS,3234	FADS Technical Implementation Manager,FADS Delivery Manager,FA
3212	1.7.3.5.	Record PI/FADS UAT Meeting Notes	6/2/21	6/2/21	0 days	0.02 hrs	3211SS	3213SS,3235	Tech Writer and Scribe-Tester-QA
3213	1.7.3.5.	Record and Track UAT IRAAD Items	6/2/21	6/2/21	0 days	0.02 hrs	3212SS	3214SS,3235	Tech Writer and Scribe-Tester-QA
3214	1.7.3.5.	Send Meeting Notes For PI/FADS UAT Session In Liferay	6/2/21	6/2/21	0.1 days	0.8 hrs	3213SS	3215SS,3235	Tech Writer and Scribe-Tester-QA
3215	1.7.3.5.	Initiate Change Requests PI/FADS UAT (if required)	6/2/21	6/3/21	0.25 days	2 hrs	3214SS	3217	FADS Project Manager
3216	1.7.3.5.	**UAT & Training Session 3: PI/FADS**	6/3/21	6/7/21	2 days	26.82 hrs			
3217	1.7.3.5.	Conduct PI/FADS UAT Session Day 3	6/3/21	6/4/21	1 day	24 hrs	3215	3218,3234	FADS Technical Implementation Manager,FADS Delivery Manager,FA
3218	1.7.3.5.	Record PI/FADS UAT Meeting Notes	6/4/21	6/7/21	1 day	0.01 hrs	3217	3219SS,3235	Tech Writer and Scribe-Tester-QA
3219	1.7.3.5.	Record and Track UAT IRAAD Items	6/4/21	6/7/21	1 day	0.01 hrs	3218SS	3220SS,3235	Tech Writer and Scribe-Tester-QA
3220	1.7.3.5.	Send Meeting Notes For PI/FADS UAT Session In Liferay	6/4/21	6/4/21	0.1 days	0.8 hrs	3219SS	3221SS,3235	Tech Writer and Scribe-Tester-QA
3221	1.7.3.5.	Initiate Change Requests PI/FADS UAT (if required)	6/4/21	6/4/21	0.25 days	2 hrs	3220SS	3223	FADS Project Manager
3222	1.7.3.5.	**UAT & Training Session 4: PI/FADS**	6/4/21	6/7/21	1.25 days	26.96 hrs			
3223	1.7.3.5.	Conduct PI/FADS UAT Session Day 4	6/4/21	6/7/21	1 day	24 hrs	3221	3224,3234	FADS Technical Implementation Manager,FADS Delivery Manager,FA
3224	1.7.3.5.	Record PI/FADS UAT Meeting Notes	6/7/21	6/7/21	0.01 days	0.08 hrs	3223	3225SS,3235	Tech Writer and Scribe-Tester-QA
3225	1.7.3.5.	Record and Track UAT IRAAD Items	6/7/21	6/7/21	0.01 days	0.08 hrs	3224SS	3226SS,3235	Tech Writer and Scribe-Tester-QA
3226	1.7.3.5.	Send Meeting Notes For PI/FADS UAT Session In Liferay	6/7/21	6/7/21	0.1 days	0.8 hrs	3225SS	3227SS,3235	Tech Writer and Scribe-Tester-QA
3227	1.7.3.5.	Initiate Change Requests PI/FADS UAT (if required)	6/7/21	6/7/21	0.25 days	2 hrs	3226SS	3229	FADS Project Manager
3228	1.7.3.5.	**UAT & Training Session 5: PI/FADS**	6/7/21	6/8/21	1.25 days	28.4 hrs			
3229	1.7.3.5.	Conduct PI/FADS UAT Session Day 5	6/7/21	6/8/21	1 day	24 hrs	3227	3230,3234	FADS Technical Implementation Manager,FADS Delivery Manager,FA
3230	1.7.3.5.	Record PI/FADS UAT Meeting Notes	6/8/21	6/8/21	0.1 days	0.8 hrs	3229	3231SS	Tech Writer and Scribe-Tester-QA
3231	1.7.3.5.	Record and Track UAT IRAAD Items	6/8/21	6/8/21	0.1 days	0.8 hrs	3230SS	3232SS,3235	Tech Writer and Scribe-Tester-QA
3232	1.7.3.5.	Send Meeting Notes For PI/FADS UAT Session In Liferay	6/8/21	6/8/21	0.1 days	0.8 hrs	3231SS	3233SS,3235	Tech Writer and Scribe-Tester-QA
3233	1.7.3.5.	Initiate Change Requests PI/FADS UAT (if required)	6/8/21	6/8/21	0.25 days	2 hrs	3232SS	3235	FADS Project Manager
3234	1.7.3.5.(	Provide Technical Support During DHHR UAT Activities	6/8/21	6/15/21	5 days	240 hrs	3205,3211,321	3235,3255,3	FADS Technical Implementation Manager[37%],FADS Product Analys
3235	1.7.3.5.(	***Milestone Completed UAT & Training Sessions***	6/15/21	6/15/21	0 days	0.01 hrs	3234,3214,322	3237,3245	Account - Project Manager or Asst PM[60%]
3236	1.7.3.5.	**D054 Deliverable: PI/FADS UAT Test Results**	6/15/21	7/1/21	12.01 days	596.02 hrs			
3237	1.7.3.5.	D054 Amend & Package PI/FADS UAT Test Results	6/15/21	6/22/21	5 days	340 hrs	3232,3235,323	3238	FADS BA/QA 1,FADS Product Analyst/SME,FADS BA/QA 3[75%],FADS
3238	1.7.3.5.	Schedule & Conduct Walkthrough of PI/FADS UAT Test Results With DHHR	6/22/21	6/23/21	0.5 days	8 hrs	3237	3239	FADS Delivery Manager,FADS Technical Implementation Manager,FADS Product Analyst/SME
3239	1.7.3.5.	Modify/Add/Mitigate & Retest PI/FADS UAT Test Results as Requested By DHHR	6/23/21	6/24/21	1 day	8 hrs	3238	3240	FADS Product Analyst/SME
3240	1.7.3.5.	Send PI/FADS UAT Test Results to DHHR For Review (5 Days	6/24/21	6/28/21	2.5 days	0.01 hrs	3239	3241	DHHR[60%],FADS Project Manager[0%]
3241	1.7.3.5.	Revise PI/FADS UAT Test Results Based on Feedback From DHHR (If applicable) (3 Days)	6/28/21	7/1/21	3 days	240 hrs	3240	3242	FADS Product Analyst/SME[42%],FADS BA/QA 2,FADS BA/QA 4,FADS Cognos Developer 2,FADS ETL Database Developer 2,FADS
3242	1.7.3.5.	Package Final PI/FADS UAT Test Results and Send to DHHR for Review and Approval (3 Days)	7/1/21	7/1/21	0.01 days	0.01 hrs	3241	3243	FADS Project Manager[0%],DHHR[60%]
3243	1.7.3.5.	***Milestone D054 Deliverable: DHHR Approved PI/FADS UAT Test Results***	7/1/21	7/1/21	0 days	0 hrs	3242	3310,107	Account - Project Manager or Asst PM[60%]
3244	1.7.3.5.	**D067 Deliverable: PI/FADS Amended Training Report**	6/15/21	7/5/21	12.67 days	116.02 hrs			
3245	1.7.3.5.	D067 Amend & Develop PI/FADS Training Report for All Training Sessions	6/15/21	6/16/21	1 day	24 hrs	3232,3235	3246	FADS Project Manager,FADS BA/QA 2,FADS BA/QA 4
3246	1.7.3.5.	Revise PI/FADS Training Report From QA Review Feedback	6/16/21	6/17/21	0.67 days	20 hrs	3245	3247	FADS Project Manager[50%],FADS Product Analyst/SME,FADS BA/QA

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
3247	1.7.3.5.	Send PI/FADS Amended Training Report to DHHR For Review (5 Days)	6/17/21	6/24/21	5 days	0.01 hrs	3246	3248	DHHR[0%],FADS Project Manager
3248	1.7.3.5.	Revise PI/FADS Amended Training Report Based on Feedback From DHHR (if applicable) (3 Days)	6/24/21	6/29/21	3 days	72 hrs	3247	3249	FADS Project Manager,FADS BA/QA 2,FADS BA/QA 4
3249	1.7.3.5.	Package Final PI/FADS Amended Training Report and Send to DHHR for Review and Approval (3 Days)	6/29/21	7/5/21	3 days	0.01 hrs	3248	3250	DHHR[0%],FADS Project Manager
3250	1.7.3.5.	*Milestone Deliverable D067: PI/FADS Training Report Approved by DHHR*	7/5/21	7/5/21	0 days	0.01 hrs	3249	3310,115	Account - Project Manager or Asst PM[60%]
3251	1.7.4	**Phase 2 PI/FADS Solution Deployment**	6/15/21	7/9/21	17 days	951.03 hrs			
3252	1.7.4.1	**PI/FADS "Go-Live" PROD Deployment**	6/15/21	7/9/21	17 days	951.03 hrs			
3253	1.7.4.1.	**PI/FADS Deployment Deliverables**	6/15/21	7/9/21	17 days	412.02 hrs			
3254	1.7.4.1.	**D055 Deliverable: Cutover Play Book PI/FADS**	6/15/21	7/9/21	17 days	412.02 hrs			
3255	1.7.4.1.	D055 Amend & Prepare PI/FADS Cutover Play Book Results Deliverable Package	6/15/21	6/22/21	5 days	180 hrs	3234	3256	FADS Technical Implementation Manager,FADS BA/QA 2[50%],FADS BA/QA 4[50%],FADS Cognos Developer 2[50%],FADS ETL Database
3256	1.7.4.1.	Schedule & Conduct Walkthrough of PI/FADS Cutover Play Book With DHHR	6/22/21	6/23/21	0.5 days	8 hrs	3255	3257	FADS Project Manager,FADS Technical Implementation Manager,FADS Delivery Manager
3257	1.7.4.1.	Document & Mitigate PI/FADS Cutover Play Book Defects	6/23/21	6/24/21	1 day	48 hrs	3256	3258	FADS Technical Implementation Manager,FADS BA/QA 2,FADS BA/Q
3258	1.7.4.1.	Retest and Update PI/FADS Cutover Play Book (if applicat	6/24/21	6/25/21	1 day	8 hrs	3257	3259	FADS Technical Implementation Manager
3259	1.7.4.1.	Send PI/FADS Cutover Play Book to DHHR (5 Days)	6/25/21	7/5/21	5 days	0.01 hrs	3258	3260	DHHR[60%],FADS Project Manager[60%]
3260	1.7.4.1.	Revised Based on Feedback From DHHR (3 Days)	7/5/21	7/8/21	3 days	168 hrs	3259	3261	FADS Technical Implementation Manager[33%],FADS Project Manag
3261	1.7.4.1.	Send Final Cutover Play Book to DHHR for Approval (3 Da	7/8/21	7/9/21	1.5 days	0.01 hrs	3260	3262	DHHR[60%],FADS Project Manager[0%]
3262	1.7.4.1.	*Milestone Deliverable D055: Cutover Play Book Approved by DHHR*	7/9/21	7/9/21	0 days	0 hrs	3261	110	Account - Project Manager or Asst PM
3263	1.7.4.1.	**PI/FADS Deployment Planning, Execution and Solution Delive**	6/15/21	7/1/21	11.85 days	539.01 hrs			
3264	1.7.4.1.	**PI/FADS Deployment Planning**	6/15/21	6/23/21	6.13 days	136.2 hrs			
3265	1.7.4.1.	Author Readiness Checklist of Tasks to Complete By Sequence & Prepare Production Environment	6/15/21	6/17/21	2 days	39.2 hrs	3234	3266	FADS Delivery Manager[5%],FADS Technical Implementation Manager[40%],FADS BA/QA 2,FADS BA/QA 4
3266	1.7.4.1.	Schedule and Conduct Internal Meeting to Review the Checklist and Timelines	6/17/21	6/17/21	0.13 days	1 hr	3265	3267	FADS Delivery Manager[25%],FADS Technical Implementation Manager[25%],FADS Product Analyst/SME[25%],FADS Project
3267	1.7.4.1.	Revise Checklist Based on Feedback From Teams	6/17/21	6/22/21	3 days	88 hrs	3266	3268	FADS Technical Implementation Manager[167%],FADS BA/QA 2,FADS
3268	1.7.4.1.	Confirm All IRAAD-C Items are Up To Date and/or Closed	6/22/21	6/23/21	1 day	8 hrs	3267	3303	FADS Product Analyst/SME
3269	1.7.4.1.	**Migration to Production**	6/15/21	6/24/21	7 days	80 hrs			
3270	1.7.4.1.	Deploy Cognos reports XML Code	6/15/21	6/16/21	1 day	16 hrs	2798,3234	3271	FADS Cognos Developer 1,FADS Cognos Developer 2
3271	1.7.4.1.	Deploy Java .war file Code	6/16/21	6/17/21	1 day	16 hrs	3270	3272	FADS JAVA Developer 1,FADS JAVA Developer 2
3272	1.7.4.1.	Deploy Data Script (Procedures)	6/17/21	6/18/21	1 day	16 hrs	3271	3273	FADS ETL Database Developer 1,FADS BA/QA 1
3273	1.7.4.1.	Rebuild Summary Tables	6/18/21	6/21/21	1 day	8 hrs	3272	3274	FADS ETL Database Developer 1
3274	1.7.4.1.	Establish Schedule for Production ETL Load and Balancing	6/21/21	6/22/21	1 day	8 hrs	3273	3275	FADS ETL Database Developer 1
3275	1.7.4.1.	Run ETL Refresh for Go Live Including Weekly Adjustment Process	6/22/21	6/23/21	1 day	8 hrs	3274	3276,3283	FADS ETL Database Developer 1
3276	1.7.4.1.	Execute Production Load and Balancing	6/23/21	6/24/21	1 day	8 hrs	3275	3277,3289	FADS ETL Database Developer 1
3277	1.7.4.1.	*Milestone: PI/FADS Migration to Production Completed*	6/24/21	6/24/21	0 days	0 hrs	3276	3303,3297,3	Account - Project Manager or Asst PM
3278	1.7.4.1.	**Migrate to STAGE**	6/15/21	6/25/21	8 days	144 hrs			
3279	1.7.4.1.	Deploy Cognos reports XML Code	6/15/21	6/16/21	1 day	16 hrs	3234,2822	3280	FADS Cognos Developer 1,FADS Cognos Developer 2
3280	1.7.4.1.	Deploy Java .war file Code	6/16/21	6/18/21	2 days	48 hrs	3279	3281	FADS JAVA Developer 1,FADS BA/QA 1,FADS JAVA Developer 2
3281	1.7.4.1.	Deploy Data Script (Procedures)	6/18/21	6/22/21	2 days	32 hrs	3280	3282	FADS ETL Database Developer 1,FADS BA/QA 1
3282	1.7.4.1.	Rebuild Summary Tables	6/22/21	6/23/21	1 day	16 hrs	3281	3283	FADS ETL Database Developer 1,FADS ETL Database Developer 2
3283	1.7.4.1.	Move data from production	6/23/21	6/24/21	1 day	16 hrs	3282,3275	3284	FADS ETL Database Developer 1,FADS ETL Database Developer 2
3284	1.7.4.1.	Execute Staging Balancing	6/24/21	6/25/21	1 day	16 hrs	3283	3307	FADS ETL Database Developer 1,FADS ETL Database Developer 2
3285	1.7.4.1.	**PI/FADS End User Roles/Responsibility - 5 DHHR end users. Combine some tasks**	6/15/21	6/28/21	9 days	56 hrs			
3286	1.7.4.1.	Revise Master End User List & User Roles/Responsibilities	6/15/21	6/16/21	1 day	8 hrs	3234	3287	FADS Project Manager
3287	1.7.4.1.	Meet With DHHR to Confirm Final End User List & User Ri	6/16/21	6/17/21	0.5 days	8 hrs	3286	3288	FADS Delivery Manager,DHHR[63%]
3288	1.7.4.1.	Modify Master End User Roles/Responsibilities	6/17/21	6/18/21	1 day	16 hrs	3287	3289	FADS BA/QA 2,FADS Cognos Developer 1,FADS Cognos Developer 2[
3289	1.7.4.1.	Update and Verify Optum End Users Permissions User ID, Production Roles/Responsibilities (EDS, Cognos &	6/24/21	6/25/21	1 day	16 hrs	3288,3276	3290,3300	FADS BA/QA 2,FADS Cognos Developer 1,FADS Cognos Developer 2[50%]
3290	1.7.4.1.	Update and Verify DHHR End Users Permissions Are Setup In Production Environment	6/25/21	6/28/21	1 day	8 hrs	3289	3303	FADS Technical Implementation Manager,FADS Cognos Developer 1,FADS BA/QA 2

ID	WBS	Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
3291	1.7.4.1.	**Run PI/FADS Production Automation Regression Testing**	**6/24/21**	**6/29/21**	**3.1 days**	**72.8 hrs**			
3292	1.7.4.1.:	Execute Production PI/FADS Automation Regression Testing Scripts for ETL	6/24/21	6/25/21	1 day	24 hrs	3277	3293	FADS Cognos Developer 1,FADS Product Analyst/SME,FADS Cognos Developer 2
3293	1.7.4.1.:	Execute Production PI/FADS Automation Regression Testing Scripts for User Interface	6/25/21	6/28/21	1 day	24 hrs	3292	3294	FADS Product Analyst/SME,FADS Cognos Developer 1,FADS Cognos Developer 2
3294	1.7.4.1.:	Execute Production PI/FADS Automation Regression Testing Scripts for Reports	6/28/21	6/29/21	1 day	24 hrs	3293	3295	FADS Product Analyst/SME,FADS Cognos Developer 1,FADS Cognos Developer 2
3295	1.7.4.1.:	Deliver PI/FADS Regression Test Pre Production Test Cases and Results	6/29/21	6/29/21	0.1 days	0.8 hrs	3294	3298	FADS Project Manager,DHHR[0%]
3296	1.7.4.1.	**Smoke Testing**	**6/24/21**	**6/29/21**	**2.5 days**	**16 hrs**			
3297	1.7.4.1.:	Smoke Test PI/FADS Production User Interface, Reports, Application	6/24/21	6/29/21	2.5 days	16 hrs	3277	3298	FADS Automation Analyst,FADS BA/QA 1
3298	1.7.4.1.:	***Milestone: PI/FADS Production Automation Regression Test complete***	6/29/21	6/29/21	0 days	0 hrs	3295,3297	3303,3309	Account - Project Manager or Asst PM
3299	1.7.4.1.	**Verify Connectivity for Production**	**6/25/21**	**6/29/21**	**2 days**	**24 hrs**			
3300	1.7.4.1.:	Verify WV Production Environment Setup is Complete	6/25/21	6/28/21	1 day	8 hrs	3289	3301	FADS Technical Implementation Manager
3301	1.7.4.1.:	Coordinate with WV Regarding Connectivity Pre-requisit	6/28/21	6/29/21	1 day	16 hrs	3300	3303	FADS Technical Implementation Manager,FADS Product Analyst/SME
3302	1.7.4.1.	**PI/FADS "Go-Live" Approval From DHHR**	**6/29/21**	**6/30/21**	**0.5 days**	**8 hrs**			
3303	1.7.4.1.:	Go No/Go Schedule & Conduct Meeting With DHHR - PI/FADS "Go or No/Go Decision	6/29/21	6/30/21	0.5 days	8 hrs	2625,3268,329	3305	FADS Delivery Manager[31%],FADS Technical Implementation Manager[31%],DHHR[0%]
3304	1.7.4.1.	**D057 Deliverable: Implementation Certification Letter**	**6/30/21**	**7/1/21**	**1.25 days**	**1.21 hrs**			
3305	1.7.4.1.:	D057 Seek Approval (written) From DHHR For PI/FADS "GO LIVE 8/31/2022	6/30/21	7/1/21	1 day	0.01 hrs	3303	3306	FADS Delivery Manager[0%],DHHR[0%]
3306	1.7.4.1.:	Received Official Letter From DHHR For Implementation	7/1/21	7/1/21	0.25 days	1.2 hrs	3305	3307	FADS Delivery Manager[0%]
3307	1.7.4.1.:	***Milestone Deliverable D057: DHHR Go-Live Letter Rece***	7/1/21	7/1/21	0 days	0 hrs	3306,2822,283	3310,111	Account - Project Manager or Asst PM
3308	1.7.4.1.	**PI/FADS Project Turnover & Documentation to Operations**	**6/29/21**	**6/29/21**	**0.1 days**	**0.8 hrs**			
3309	1.7.4.1.:	Update & Deliver Updated PI/FADS Operational Procedures to Support Team	6/29/21	6/29/21	0.1 days	0.8 hrs	3298	3310	FADS Delivery Manager
3310	1.8	***MILESTONE: Received DHHR Approval to "Go-Live" 07/05/2021 Implementation Successful and FADS Maintenance and Operations Begins***	7/5/21	7/5/21	0 days	0 hrs	3309,3307,325	3311,3314F days	Account - Project Manager or Asst PM
3311	2	***Milestone: End of DDI***	7/6/21	7/6/21	0 days	0 hrs	3310,190,290,2		Account - Project Manager or Asst PM
3312	3	**(SOC) System and Organization Controls Audit**	**10/27/21**	**12/13/21**	**31 days**	**120.01 hrs**			
3313	3.1	**SOC Pre-Assessment**	**10/27/21**	**11/17/21**	**15 days**	**60 hrs**			
3314	3.1.1	Initiate & Conduct SOC Pre-Assessment	10/27/21	11/17/21	15 days	60 hrs	3310FS+81 day	3316	Business Lead or Analysts[31%],Account - Project Manager or Asst P
3315	3.2	**SOC**	**11/17/21**	**12/13/21**	**16 days**	**60.01 hrs**			
3316	3.2.1	Conduct SOC Assessment	11/17/21	12/10/21	15 days	60 hrs	3314	3317	Business Lead or Analysts,Account - Project Manager or Asst PM
3317	3.2.2	Send Final Audit Report to DHHR & Optum Liferay Document Repositories	12/10/21	12/13/21	1 day	0.01 hrs	3316	3318	Account - Project Manager or Asst PM
3318	3.2.3	***Milestone: SOC Audit Complete and Approved by DHHR***	***12/13/21***	***12/13/21***	***0 days***	***0 hrs***	***3317***		Account - Project Manager or Asst PM,Business Lead or Analysts

ATTACHMENT F: MANDATORY REQUIREMENTS

Instructions: The mandatory requirements must be met by the Vendor as a part of the submitted proposal. Failure on the part of the Vendor to meet any of the mandatory requirements may result in their disqualification of the proposal, at the sole discretion of the State. The term "must," stipulates and identifies a mandatory requirement. The Vendor is to demonstrate compliance with mandatory requirements in their proposal. If the Vendor's proposal meets the mandatory requirements, the Vendor's Proposal may be included in the next part of the technical evaluation of this RFP. For mandatory requirements that necessitate a future action, the Vendor will respond in *Attachment K: Terms and Conditions* with an attestation that it will meet all mandates. For mandatory requirements that involve documentation, Vendors should include that documentation with their technical proposal. Any documentation for mandatory requirements not supplied with their technical proposal must be submitted prior to contract execution. When appropriate Vendor's must provide narrative responses in the area below.

See the attached Microsoft Excel® file titled, "***Attachment F – Mandatory Requirements***".

Optum Response:

Attachment F – Mandatory Requirements

Optum will meet the mandatory requirements as stated below. The Attachment F Excel file can be found at the end of this section.

MR001	The Vendor must provide facilities for the recovery of Design, Development, and Implementation (DDI) or operations activities in the event of a disaster that disrupts DDI or operations as described in the Vendor's Disaster Recovery and Business Continuity Management Plan which will be developed by the Vendor and approved by the Department. The Vendor must provide resources necessary to: - Recover critical services in accordance with the Recovery Time Objective (RTO) and Recovery Point Objectives (RPO) to be approved by the Department and documented in the Disaster Recovery and Business Continuity Management Plan - Meet the approved Service Level Agreements listed in Appendix 5: Service Level Agreements & Performance Standards

Optum will provide a combination of in-state and remote staff and the required facilities and other resources necessary to meet the SLA-006 (Business Continuity) requirements and the associated Service Level Agreement requirements listed in Appendix 5.

Our solution is designed in a manner that will allow us to recover all critical services in accordance with RTO and RPO Objectives as developed by Optum and as approved by the State and documented in the Disaster Recovery and Business Continuity Management Plan. Optum assumes that the State will approve those RTO and RPO Objectives that are contingent upon those available from the public cloud provider that has been chosen and described in this Proposal as providing the hosted environment for the OPAHHS Solution.

MR002	The Vendor must participate in the oral presentations to be scheduled during the proposal scoring period. The following proposed key staff must be present for orals in lieu of corporate or sales personnel being the primary participants. - Account Manager - Project Manager - Business Lead - Technical Lead - Implementation Manager - Operations Manager - Certification Lead - Quality Assurance Manager

Optum agrees to participate in oral presentations that will be during the proposal scoring period. We also agree that key staff will be present for orals and will be the primary presenters in lieu of corporate and sales personnel being the primary participants. Key staff that will be in attendance include:

- Account Manager
- Project Manager
- Business Lead
- Technical Lead
- Implementation Manager
- Operations Manager
- Certification Lead
- Quality Assurance Manager

MR003	The Vendor must comply with all current and future security and privacy policies and procedures of the Department and the West Virginia Office of Technology (WVOT), which can be found at the following link: http://www.wvdhhr.org/mis/policies.asp https://technology.wv.gov/security/Pages/policies-issued-by-the-cto.aspx

Optum's proposed cloud-based infrastructure, the Microsoft Azure cloud, meets the applicable federal security and privacy control standards under NIST 800-53 r4 and conforms to FedRAMP moderate controls.

Optum will comply with all current and future Federal and Department and the West Virginia Office of Technology (WVOT)security and privacy standards as they are adopted by West Virginia Office of Technology that are relevant to the EDS project. Optum will examine the future federal or State standard and if there is a material cost impact, Optum will comply with such future federal or State standard by using the EDS project change management process.

MR004	The Vendor Technical Support Call Center, as described in Appendix 1: Detailed Specifications, must be located within the continental United States, as established in requirements related to handling of federal tax information (FTI) contained in Internal Revenue Service (IRS) Publication 1075, Section 5.3 Access to FTI via State Tax Files or through other agencies under the authority granted by United States Code §6013(p)(4)(C).

Our call center is located in the continental United States. All technical support work related to the DHHR EDS will be managed and provided by experienced expert staff located in the continental United States in alignment with IRS publication 1075, Section 5.3 Access to FTI via State Tax Files or through other agencies under the authority granted by United States Code §6013(p)(4)(C).

MR005	The Vendor, all business partners, subcontractors, independent contractors, and other entities supporting the Vendor in delivery of the services defined in this contract must perform all work associated with this contract within the continental United States or U.S. Territories, as established in requirements related to handling of federal tax information (FTI) contained in Internal Revenue Service (IRS) Publication 1075, Section 5.3 Access to FTI via State Tax Files or Through Other Agencies under the authority granted by United States Code §6013(p)(4)(C). At no time shall information governed by privacy laws and regulations be used, maintained, transmitted, or caused to be transmitted outside of the United States.

Our staffing approach includes both on-site and remote personnel that will provide DHHR a best-value solution. Some project roles can provide quality client support while working remotely. All of our project staff will be located in the continental United States. All work completed in delivery of EDS services will be completed within the continental United States.

All data, including backups and archives, will be maintained at all times within the continental United States. Additionally, OPAHHS is designed to restrict geographical access to data. We will implement the EDS solution to confine all data access to the continental United States.

No information governed by privacy laws and regulations will be transmitted outside of the United States.

MR006	The Vendor must host the Enterprise Data Solution (EDS) and maintain a secure site(s) and secure secondary site(s) within the continental United States. Off-site is defined as a physically separate location based on current industry best practices. These facilities must be located in the continental United States, as established in requirements related to handling of federal tax information (FTI) contained in Internal Revenue Service (IRS) Publication 1075, Section 5.3 Access to FTI via State Tax Files or Through Other Agencies under the authority granted by United States Code §6013(p)(4)(C).

The EDS will be hosted in the Microsoft Azure cloud. The primary, secondary and any other sites will be located within the United States, as established in requirements related to handling of federal tax information (FTI) contained in Internal Revenue Service (IRS) Publication 1075, Section 5.3 Access to FTI via State Tax Files or Through Other Agencies under the authority granted by United States Code §6013(p)(4)(C).

MR007	The Vendor must be responsible for any lost Federal Medical Assistance Percentages (FMAP) due to system deficiencies or deficiencies noted during federal reviews. The Vendor will be responsible for only the portion of FMAP lost that is determined by the Department to be the fault of the Vendor. The Enterprise Data Solution (EDS) Vendor will not be responsible for certification requirements that are not included in the scope of this RFP.

Optum agrees to be responsible for the portion of lost FMAP if such lost FMAP is proximately caused by any system deficiencies or deficiencies noted during Federal reviews that are solely the fault of Optum, as defined in this RFP for components included in Optum's scope of work, as defined in this RFP.

MR008	Prior to contract execution, the Department will conduct a review of all hardware, software, and communication components. The Vendor must ensure compatibility with the most current West Virginia Office of Technology (WVOT) supported versions and standards.

We implement OPAHHS' native and third-party technology and security controls for your EDS solution based on applicable regulations, standards, and your RFP requirements. We will validate compatibility of all infrastructure and hardware components of the solution with the most current West Virginia Office of Technology (WVOT) supported versions and standards.

MR009	The Vendor must agree to incorporate all applicable current and future coding standards and legislated or program necessary data requirements to ensure that the Enterprise Data Solution (EDS) is current in its ability to accept and appropriately employ new standards and requirements as they occur including, but not limited to: ICD-10, Health Insurance Portability and Accountability Act (HIPAA) v5010, the Patient Protection and Affordable Care Act (PPACA) and the Health Information Technology for Economic and Clinical Health Act (HITECH).

Our solution and structures support current coding standards. We understand the importance of staying consistent with applicable standards and we will work with you to define common data access mechanisms and data consistency during discovery and requirements validation activities and in our ongoing data governance processes. We will use these methods in our project work.

We embrace and will support future industry data standards and the exchange of information and health care reference data sets such as HIPAA, PPACA, HITECH, NDC, and ICD-10. Optum will examine the future industry data standard and if there is a material cost impact, Optum will comply with such future data standard by using the EDS project change management process.

MR010	The solution must maintain full Health Insurance Portability and Accountability Act (HIPAA) compliance throughout the life of the contract at no additional cost to the Department.

OPAHHS complies with federal security and privacy regulations, including HIPAA and CMS security standards which will be addressed in the required Privacy Impact Analysis, System Security Plan and the Security, Privacy and Confidentiality Plan deliverables. The EDS solution will be compliant with HIPAA at Go-Live, and will remain compliant throughout the term of the contract at no additional cost to the department.

MR011	The Vendor must comply with the baseline security controls for moderate impact information systems as recommended by the National Institute of Standards and Technology (NIST), Code of Federal Regulations, and CMS.

We selected Microsoft Azure as the cloud service provider for OPAHHS because it is designed, managed, and aligned with U.S. regulations, standards, and best practices programs. OPPAHHS complies with the baseline security controls for moderate impact information systems as recommended by the National Institute of Standards and Technology (NIST), Code of Federal Regulations, and CMS .The hosting and support services associated with Optum's OPAHHS solution is located within Azure's FedRAMP Moderate cloud environment. As such, its standards are overarching for both CMS and SSA cloud computing standards have been implemented for our OPAHHS services.

MR012	The Vendor must adhere to and support all security, risks, standards, policies, and procedures of the Department, State, and the WVOT, which can be found at the following link: http://www.wvdhhr.org/mis/policies.asp https://technology.wv.gov/security/Pages/policies-issued-by-the-cto.aspx

Optum will adhere to and support all applicable security, risk standards, policies and procedures as identified by the Department, State and the WVOT.

MR013	The Vendor must agree to incorporate all requirements mandated through federal and State regulations and legislation, including new reporting requirements. The Vendor must ensure that the Enterprise Data Solution (EDS) is current in its ability to accept and employ new standards and requirements as they occur. Formalized change control will be used for all such changes, during all phases of the project as defined in the Change Management Plan.

Optum monitors federal and State regulations and legislation to keep current with requirements and changes to security and privacy laws and regulations, including reporting changes. When changes arise through new legislation, Optum will work with DHHR through the change management process to implement new requirements mandated as a result of legislative directive.

MR014	The Vendor must provide right of access to systems, source code, and facilities to the Department or its designee and federal personnel to conduct audits and inspections. The Vendor must provide access to data, systems, and documentation required by auditors and inspectors.

To maximize the use of industry standards, we will provide right of access to systems, source code owned by DHHR, if any, and facilities. Consistent with the composition of the commercial off the shelf (COTS) based nature of the OPAHHS Solution where COTS manufacturers do not provide access to the source code of such products, no access to source code would or could be provided by Optum or any vendor. Access to the source code owned by DHHR would be provided under the terms of the escrow agreement required under MR029.

Optum's access to DHHR described above will include delivery of selected audit samples, hard copy documents, and gathering of other required data. We will permit the WVOT, State, and federal auditors, or their duly authorized representatives to access our EDS project facilities and provide access to data warehouse audit logs during audits and inspections. To manage costs and security risk, many cloud service providers (CSPs) including Microsoft Azure have chosen to not provide clients with physical access into their data centers. As necessary, we will assist

with additional testing, verification, attestations, or interviews related to an audit or investigation as directed by WVOT.

MR015	The Vendor will operate the Enterprise Data Solution (EDS), perform all functions described in the RFP, and continue all operations from the date of acceptance of each release until each function is turned over to a successor at the end of the contract, including any optional additional periods or extensions.

Optum will operate the EDS and provide all functions described in the RFP. We will continue operations from the date of acceptance until each function (but not the underlying system) is turned over to a successor contractor at the end of the contract, including any optional additional periods or extensions.

Optum currently operates several state enterprise data warehouses with similar operations from their date of acceptance, through each release, and contract renewal or extension period, including optional periods. Optum has successfully turned over enterprise data warehouse operations to either a successor vendor or to state operations.

MR016	The Vendor must perform according to approved Service Level Agreements (SLAs) and identified Key Performance Indicators (KPIs) with associated metrics in the areas listed in Appendix 5: Service Level Agreements & Performance Standards.

Optum agrees with and will perform according to the SLAs and KPIs listed in Appendix 5 of the EDS RFP as further clarified in Attachment K.

MR017	The Vendor must deduct any amount due from future payments if the agreed upon SLAs are not met. The Department reserves the right to seek any other remedies under the Contract.

Optum will follow the financial process and hold-back provisions defined in the RFP for agreed-upon SLAs not met. Optum agrees that the Department can seek those remedies set forth in the Contract.

MR018	The Vendor must use industry-standard professional project management standards, methodologies, and processes to ensure the project is delivered on time, within scope, within budget, and in accordance with the Department's quality expectations. The Department utilizes the Project Management Institute (PMI) PMBOK methodology.

Optum has maintained a 100 percent success rate in completing the design, development and implementation of our data management and analytics solutions on time, within budget and in accordance with defined quality expectations. We accomplished this unique industry record by our management and commitment to collaborative, transparent, and fully engaged relationships. We will use the same project management approach to provide an environment that offers the following advantages to DHHR.

We know that a well-planned project will help reduce risks and uncertainty. We will use a proven project management framework that provides the processes, procedures, and tools that we will use to manage the project. To help us achieve project success we follow an implementation methodology governed by the Optum Delivery Model (ODM), which integrates the principles of the Project Management Institute (PMI) PMBOK methodology and the Scaled Agile Framework (SAFe). Our project management framework and implementation methodology will allow us to deliver your solution on time, within budget, and in accordance with defined quality expectations.

MR019	The Vendor must provide project status information to the Department and the Enterprise Data Solution (EDS) Project Management Office (PMO) within the required timeframes and in the agreed-upon format, as defined in the approved Project Management Plan.

As with all of our EDS-like projects, Optum provides project status information within required timeframes to our clients either directly or through a Project Management Office. Optum works with our clients to determine an agreed-upon and approved format and has mutually adjusted the format (content) based on the phase of the project underway (i.e., Planning Phase versus

Testing Phase) through the approved Project Management Plan. We will follow this same proven approach for the EDS Project.

MR020	The Vendor must update deliverables at the request of the Department to align with changes in approach or methodology, or to include new or updated information that was not available at the time the deliverable was initially submitted and approved.

Optum will update deliverables as a result of changes in approach or methodology, including new information available since original approval of the deliverable.

MR021	The Vendor must submit updated deliverables for Department approval based on the Project Schedule approved by the Department.

Optum's Project Schedule outlines the life cycle of all project deliverables. We will submit updated deliverables for Department approval based on the Project Schedule approved by the Department.

MR022	The Vendor must submit substantive changes to deliverables identified in Appendix 2: Deliverables and Milestones Dictionary to the Department for review and approval within thirty (30) calendar days of the proposed change.

Optum's documentation management lead will submit substantive changes to deliverables identified in Appendix 2 to the Department for review and approval within 30 calendar days of the proposed change. Optum's documentation management lead will coordinate with the Department to allow for appropriate review time, updates if necessary, final submission and client approval within the 30 calendar days of the proposed change. Optum understands that deliverable review periods may vary between deliverables.

MR023	The Vendor must provide compliance support services to include providing up-to-date, accurate, and thorough documentation and reporting for regulatory and State compliance auditing.

Optum will provide compliance support services that are required due to applicable regulatory and State compliance audit standards. Security and compliance deliverables will be accurate, up-to-date, thorough, and available at all times for regulatory and compliance auditing.

MR024	The Vendor must provide a report outlining applicable NIST SP 800-53 security control responsibilities noting which security controls are inherited by the Vendor, implemented by the Department, or shared by both parties. This report must be maintained by the Vendor and outline the following: - Non-compliant and required security controls - Applied mitigations - Plan to correct deficiencies - Cyber security procedures and management plans

Optum will provide a NIST SP 800-53-based System Security Plan which will include the 18 security control and 8 privacy control families. Each control will identify the responsible party including those that are inherited by Optum from DHHR or where there is shared control responsibility.

Any security controls that are not applicable will be documented in the System Security Plan. Where controls are not currently met, mitigation plans will be included with plans to correct deficiencies.

Under assessment guidance provided by NIST and CMS, the control implementation will describe the processes and procedures used to implement the control standard, including any required management plans to maintain control adherence.

MR025	The Vendor must coordinate with the Department to develop Centers for Medicare & Medicaid Services (CMS) Certification Checklist documentation for each Medicaid Enterprise Certification (MECT) Checklist the Department identifies as required for CMS certification of the EDS. Refer to the following link for more information: https://www.medicaid.gov/medicaid/data-and-systems/mect/index.html

Throughout the CMS Certification lifecycle, the Optum certification lead will work closely with DHHR and state PMO to plan, coordinate, and prepare required evidence packets. The packets will include the associated documentation to demonstrate that the EDS solution complies with the MECT checklist system review criteria (SRC). Consistent with DHHR's answer to question 026, Optum's role will be one of assistance to the State in connection with the CMS Certification process in so far as the State is responsible for obtaining certification from CMS.

MR026	The Vendor must coordinate with the Department to develop Centers for Medicare & Medicaid Services (CMS) Certification checklists documentation evidence for all Medicaid Enterprise Certification Toolkit (MECT) criteria related to the Enterprise Data Solution (EDS) and be prepared to work from current and future releases of the MECT to ensure compliance to CMS Certification guidance and processes including, but not limited to, artifacts and deliverables described in Appendix B – Required Artifacts List of the MECT. Refer to: https://www.medicaid.gov/medicaid/data-and-systems/mect/index.html

Optum is committed to supporting the Department in achieving certification back to day one of Operations by preparing the required MECT checklist system review criteria (SRC), artifacts, deliverables and other necessary documentation for the CMS Milestone Reviews 2 and 3. This documentation will demonstrate that the EDS meets State program requirements and federal regulations.

MR027	The Vendor must design the Enterprise Data Solution (EDS) to support the Medicaid Information Technology Architecture (MITA) goals for the State as defined in the State's MITA State Self-Assessment (SS-A) and other West Virginia MITA Artifacts provided in the Procurement Library.

Optum's EDS is aligned to the MITA Business Processes and other required artifacts to support the Department's goal of advancing the State Self-Assessment (SSA) maturity level.

MR028	The Vendor must agree that the Department retains ownership of all data, procedures, applications, licenses, and all materials developed during design, development, and implementation (DDI), and Operations, as well as the licensing for installed Commercial-off- the-shelf (COTS) software in alignment with 45 CFR §95.615 and 45 CFR §95.617. Manufacturers' support and maintenance for the COTS software licensing subsequent to the initial install must be provided only for the life of the contract. The Department will not issue change orders related to software cost increases.

Optum agrees that to the extent developed, during either the DDI or Operations period, any procedures, applications or materials whose development costs are paid for by the Department, consistent with 45 CFR §95.615 and 45 CFR §95.617, the Department retains ownership and that CMS shall be granted a fully paid up, non-exclusive license to use such materials. Similarly, Optum's OPAHHS solution includes COTS software. Consistent with 45 CFR §95.617(c), the Department shall enjoy a license to use those COTS software components that need to be used by the Department for the term of the contract based on the manufacturer's standard license terms. Optum has included the manufacturer's support and maintenance for such COTS software as part of its fixed price to the Department, such that change orders related to software cost increases will not be required by the Department.

MR029	The Vendor must place the source code in a third-party escrow arrangement with a designated escrow agent who is acceptable to the Department, and who shall be directed to release the deposited source code in accordance with a standard escrow agreement approved by the Department. That agreement must, at minimum, provide for release of the source code to the Department when: a) The Vendor notifies the Department that support or maintenance of the Product will no longer be available b) If the Vendor fails to provide services pursuant to this contract for a continuous period c) Individual(s) from the Department have directed the escrow agent to release the deposited source code in accordance with the terms of escrow Source code, as well as any corrections or enhancements to such source code, shall be updated for each new release of the product within sixty calendar days of being made available in the production environment. The Escrow agent and the Vendor shall notify the Department in writing when new production versions have been escrowed. The Vendor shall identify the escrow agent upon

	commencement of the contract term and shall certify annually that the escrow remains in effect and in compliance with the contract. The Vendor shall be responsible for all costs associated with the third-party escrow arrangement. The Vendor shall document the escrow management approach in the Configuration Management Plan. The Vendor also must place in escrow one (1) paper copy and one (1) electronic copy of all maintenance manuals and additional documentation that are required for the proper maintenance of the software used to develop, test, and implement the Enterprise Data Solution (EDS). Revised copies of manuals and documentation must be placed in the escrow account within sixty calendar days of approval by the State. Such documentation must be the same documentation as that which the Vendor supplies to its maintenance personnel to maintain its software. When source code is provided, it must be provided in the language in which it was written and will include commentary that will allow a competent programmer proficient in the source language to readily interpret the source code and understand the purpose of the source code. In the event that this contract expires and is not renewed or extended, the Department maintains ownership of the source code and has the option to continue the escrow agreement until such time that the Department is no longer using the software or documentation covered by this escrow agreement. In the case of a COTS product, the medium necessary to reinstall that version as part of the Enterprise Data Solution (EDS) platform must be kept in escrow. Any future versions of COTS products must also be kept and provided upon demand. The department will not issue change orders related to software cost increases.

Optum will place the source code for any software developed by Optum under this contract for the OPAHHS platform and paid for by the Department, as well as the configuration files/settings that are part of the OPAHHS platform (the "Deposited Materials"), with a designated escrow agent acceptable to the Department. The escrow agent will release Deposited Materials in accordance with the escrow agreement. The escrow agreement will specify (as required by subsection (c) of Requirement MR029) that the Deposited Materials must be released if the escrow agent has been notified solely if either condition in subsections (a) or (b) have been met.

MR030	The Vendor must ensure that all applications inclusive of Internet, intranet and extranet applications associated with this contract are compliant with Section 508 of the Rehabilitation Act of 1973, as amended by 29 U.S.C. §794d, and 36 Code of Federal Regulation (CFR) 1194.21 and 36 CFR 1194.22.

OPAHHS is configured to comply with Section 508 of the Rehabilitation Act of 1973, as amended by 29 U.S.C. §794d, and 36 Code of Federal Regulation (CFR) 1194.21 and 36 CFR 1194.22 to promote usability. We have tested the pre-defined reporting extensively through our User Interface Labs process for usability and Section 508 compliance. We currently use Section 508 requirements as part of our user acceptance testing process.

MR031	The Vendor must ensure that data entered, maintained, or generated to meet the requirements of this Request for Proposal (RFP) is retained and/or accessible according to the federal requirements in 45 CFR Part 75 and/or applicable State and/or federal requirements.

Optum will maintain records as indicated in 45 CFR Part 75 for a minimum of three years or as required by State law. Records maintained include financial records, supporting documents, statistical records, and all other non-federal entity records pertinent to a federal award as required by CMS.

MR032	The Vendor must obtain approval from the Department for all key staff hired under the contract and all personnel assigned to the West Virginia Medicaid Enterprise Data Solution (EDS) Project. In all circumstances, key staff shall be replaced only with persons of equal or greater experience and qualifications.

Optum understand the importance of key staffing qualifications and agrees all key staff hired or replaced under this contract and assigned to the EDS project will be approved by the Department and any replacements will be with persons of equal or greater experience and qualifications.

MR033	Key Staff assigned to the project must be employed on full-time basis and required to be onsite. Onsite is defined as being in the Charleston, West Virginia-based facility between Monday and Friday from 8:00 a.m. Eastern Time to 5:00 p.m. Eastern Time. On-site time excludes the time required to travel to/from the Charleston, West Virginia facility. Each Key Staff role is a full-time position, to be filled by one staff member only. Key Staff roles may not be combined or filled by multiple staff members. All Key Staff members will enter the project within 30 calendar days of the contract award. The Vendor should propose the onsite key staff and ensure how the offsite staff will fulfill project requirements as defined within this RFP.

The key staff we assign to this project will be employees of Optum or our subcontractor. We will have key staff working onsite in our Charleston project office during your normal business hours of 8 a.m. to 5 p.m. ET, Monday through Friday. We understand onsite time excludes time traveling to and from the Charleston facility. We will not combine key staff roles or fill a role with multiple staff members. Our key staff will enter the project within 30 days of contract award.

MR034	The Vendor must provide the Department a minimum of 10 business days' notice for staffing changes.

Optum agrees to provide a minimum of 10 business days' notice for staffing changes

MR035	The Vendor must replace key staff within 30 business days after the position is vacant, unless a longer period is approved by the Department.

Unless a longer period is approved by the Department, Optum will replace key staff within 30 business days after the position is vacant.

MR036	The Department has an interest in ensuring that its operations are carried out in an efficient, professional, legal, and secure manner. The Vendor must remove any staff involved in the project, if the Department determines that any such staff has or may interfere with the Department's interests identified above.

Optum agrees to remove any staff involved in the project, if the Department determines that any such staff has or may interfere with the Department's interests as defined in Requirement MR036.

MR037	The Vendor must accept financial, legal, ethical, and all other forms of responsibility for the conduct of all business partners, independent contractors, subcontractors, and other entities supporting the Vendor or working with Vendor on the project.

Optum accepts responsibility for the conduct of all staff provided on the project, where such staff are either Optum employees or employees of business partners, independent contractors, subcontractors identified by Optum and approved by the State or other entities supporting or working with Optum on the EDS project, in all cases based on a written agreement with Optum and under Optum's direction.

MR038	As a corrective action, the Vendor must provide increased staffing levels if requirements, timelines, quality, or other standards are not being met, based solely on the discretion of, and without additional cost to, the Department. In making this determination, the Department will evaluate whether the Vendor is meeting deliverable dates, producing quality materials, consistently maintaining high quality, and meeting request for proposal (RFP) and contract standards without significant rework or revision.

Optum agrees that, as a corrective action, we will provide increased staffing levels if requirements, timelines, quality, or other standards and requirements as defined in the RFP, and under our control, are not being met without significant rework or revision.

MR039	The Vendor staff must not have the capability to access, edit, and share personal information data, including but not limited to Protected Health Information (PHI), Personally Identifiable Information (PII), Financial Transaction Information (FTI), and Social Security Administration (SSA) data (including but not limited to family, friends, and acquaintance information) with unauthorized users.

The access, edit and sharing of data rights accorded to Optum staff, and any partners and subcontractors, will be limited to a need to know principle consistent with the roles and behaviors as defined by DHHR so that unauthorized users will be prevented. Optum has

extensive internal policies regarding need-to-know access, and the retention, release and loss prevention of protected information.

All Optum team access must be approved by DHHR and Optum management. Optum access undergoes entitlement bi-annually as required under internal policy. Access and actions conducted by Optum staff is continually monitored and reviewed.

MR040	The Vendor must ensure that all project staff have completed a Department Office of Management Information Services (OMIS) Vendor Employee Confidentiality Statement (VECS) before beginning work on the project.

Optum will verify that all project staff have a completed Department Office of Management Information Services (OMIS) Vendor Employee Confidentiality Statement (VECS) before beginning work on the project.

MR041	The Vendor must comply with Federal Executive Order 11246 related to Equal Employment Opportunity, the Clean Air Act, and the Clean Water Act.

Optum will comply with Federal Executive Order 11246 related to Equal Employment Opportunity, the Clean Air Act, and the Clean Water Act.

MR042	The Vendor must provide a drug free workplace, and individuals shall not engage in the unlawful manufacture, distribution, dispensation, possession, abuse, or use of a controlled substance in the performance of the contract.

Optum has a company-wide policy consistent with this requirement and based on both that policy and MR042 will provide a drug free workplace, and individuals shall not engage in the unlawful manufacture, distribution, dispensation, possession, abuse, or use of a controlled substance in the performance of the contract.

MR043	The Vendor must designate one named individual in their proposal as the Vendor organization's Health Insurance Portability and Accountability Act of 1996 (HIPAA) compliance officer.

Optum designates our Information Security Architect/Privacy Data Protection Officer Freda Painter as our HIPAA compliance officer. Ms. Painter is a Certified Information Systems Security Professional (CISSP) with over 28 years of experience in IT security, including infrastructure and networks and multi-platform environments similar in scope to this project. She is knowledgeable in technical and risk assessment techniques, tools, and practices. Ms. Painter is also experienced working with federal security and privacy requirements.

MR044	The Vendor may not publish or copyright any data using the Department's name without prior written approval by the Department for every instance. In this context, "data" shall mean all results, technical information and materials developed and/or obtained in the performance of the services hereunder, including but not limited to: all reports, surveys, plans, charts, recordings (video and/or sound), pictures, drawings, analyses, graphic representations, computer programs and printouts, notes and memoranda, and documents whether finished or unfinished, which result from or are prepared in connection with the services performed hereunder. Except with respect to any commercial software, the Department will be and remain the owner of all data provided to the Department by the Vendor or its agents, subcontractors, or representatives pursuant to the contract other than the Vendor's internal administrative procedure records.

Optum will not publish or copyright any data using the Department's name without prior written approval by the Department. Optum agrees to the definition of data provided in this requirement as it pertains to data produced in support of the contract. Consistent with Appendix 8, Sections 2 and 3 of the RFP, except for preexisting intellectual property or other intellectual property developed with funding other than from the contract, which shall include commercial software, the Department will be the owner of the all data provided by Optum and subcontractors and other representatives or agents of Optum.

MR045	The Vendor must assume software and hardware licensing costs related to the legacy and modern solutions beginning upon execution of this contract and extending through completion of the contract. As each existing software and hardware license expires, the Vendor will renew the necessary licensing as agreed upon with the Department. It is the Department's intent to transfer allowable licenses. However, on a license-by-license basis, the Vendor should obtain the licenses necessary to operate the solution as existing licenses expire. Current Department license costs shall be used for reference only. The Vendor must not assume that the current Department cost is the lowest cost. The Vendor must assume the license cost for which the Vendor can acquire the license.

Optum has accounted for the software and infrastructure licensing costs for our proposed solution within our Cost Proposal. In addition, we are prepared to leverage and assume the costs of applicable application licenses that we mutually determine to be applied to our solution and which can be exchanged for licenses and costs in our proposal at no incremental cost from those identified in our Cost Proposal. As stated in the answer to Question 207 in RFP Addendum 4, we will follow your standard contract administration practices and the State Change Order Process to account for any costs that exceed those assumed in our proposed solution and pricing since they would be unforeseen costs.

Legacy solution licenses have not been defined or detailed in the RFP and supporting documents. We understand that as the legacy solution licenses expire, we are responsible for obtaining those licenses necessary to operate the solution and will do so in the following manner:

1. If the legacy solution licenses expire at a point in time where the Optum solution has replaced the need for continuing any legacy solution, Optum shall only be obligated to secure licenses needed for the Optum solution.
2. If the legacy solution licenses expires at a point in time where the Optum solution has not yet replaced the applicable part of the legacy solution, then the need for acquiring new legacy solution licenses by Optum shall be handled in the following manner:
   a. If the legacy solution license is transferable at no cost to Optum, Optum shall assume the license;
   b. If the legacy solution license is not transferable at no cost to Optum, then in so far as DHHR will not be providing Optum with the description of the license or the expiration date until receiving the Turnover Plan, such cost is unforeseeable and based on how unforeseeable costs are to be treated as outlined in the answer to question Q207, we will follow the State's Change Order Process to price such acquisition costs.

This approach is necessary given the fixed-price nature of this contract and the fact that the licenses and associated costs for legacy components have not been provided during the RFP process.

MR046	The Vendor must procure the necessary licenses required to support its modernized solution. The Vendor is responsible for all licenses required at project initiation and can procure licenses as needed throughout the project, with no additional cost to the Department.

We have negotiated terms with our vendor partners for the software and infrastructure licensing required to support our proposed solution throughout the term of the contract. We have assumed 10 percent growth year-over-year in data and users to project the number and types of licenses required to meet your program growth and the increasing usage of OPAHHS. As stated in the response to Question 207 in RFP Addendum 4, we will follow your standard contract administration practices and the State Change Order Process to account for any costs that exceed those assumed in our proposed solution since they would be unforeseen costs.

MR047	The Vendor must assume that only 50 concurrent Department licenses are required for the User Acceptance Testing (UAT) Environment, and that only 50 concurrent Department licenses are required for the Training Environment.

We have accounted for the assumed 50 concurrent users for the UAT and Training environments.

MR048	The Vendor must be responsible for all costs associated with solution updates or enhancements that are within the scope of the RFP.

Our approach to Operations includes standard procedures for managing solution updates through Release Management. We have accounted for the costs of new releases that meet the scope of the RFP. For updates and enhancements that exceed the scope of the RFP, we will follow your standard contract administration practices and the EDS project change management process.

MR049	Vendors proposing commercial off-the-shelf (COTS) components must develop all documentation necessary to support the receipt of federal match related to the implementation of the component, upon request by the Department.

Optum will work with the Department to determine and mutually agree upon the documentation that is needed to support the receipt of federal match related to the implementation of the COTS components of OPAHHS. Optum will develop the mutually agreed upon documentation required to support the receipt of the federal match.

MR050	The Vendor must comply with 45 CFR 95.617 Software and ownership rights.

Optum will comply with the license and ownership rights under 45 CFR §95.617 as they relate to OPAHHS and the software and documentation provided under the contract resulting from the RFP. Specifically:

1. The State shall own any software or modifications thereof and associated documentation that is developed under the Contract resulting from the RFP to the extent paid for with Federal Financial Participation funds.
2. Optum acknowledges the rights of the State to grant a non-exclusive, royalty free and irrevocable license to reproduce, publish or otherwise use and to authorize others to use for Federal government purposes the items referenced in (a) above.
3. Optum requests a non-exclusive license from the State to use, reproduce, copy, modify, prepare derivative works, market, license and support the items in (a) above in connection with Optum's business where no State data would be included in such license.
4. Optum or its third party licensors would retain ownership in any pre-existing Optum or third party proprietary software as well as in any Optum or third party proprietary software developed outside of the contract resulting from the RFP in so far as such software would be provided at established catalog or market prices and sole or licensed to the general public.

MR051	The Vendor must provide a software and hardware solution that is upgradeable and expandable to meet the Department's current and future needs.

Our solution's system architecture leverages the extensible resources of the Microsoft Azure cloud platform. We combine enterprise-class COTS tools with native cloud services to provide scalability in depth (compute power and workload management) and breadth (features, functions, and usage growth). Our use of COTS tools and the commercial cloud enables our solution to incorporate the latest technologies and security features to meet your current and future needs.

MR052	The Vendor must adhere to the approved Change Management Plan and definitions of modifications and enhancements provided in Request for Proposal (RFP).

We will closely follow the approved Change Management Plan and we view adherence to the plan as a critical success factor for the contract.

MR053	The Vendor must be responsible for all expenses required to obtain and maintain access to the Department systems. Such expenses include, but are not limited to, hardware, software, network infrastructure, and any licensing costs.

Our proposed EDS includes cloud-based services that fulfill the function of accessing Department systems through standard interfaces. We will remain responsible for the expenses to provision and maintain these services as well as the staff required to configure and manage them. For services outside our solution boundary and therefore potentiating unknown expenses, we will work with the State to assess requirements and expenses following the EDS project change management process.

MR054	The Vendor must be responsible for all costs required for Department staff to access the solution. Such expenses include, but are not limited to, hardware and software necessary to support the solution.

As specified in Detailed Specifications (DD168 thru DD170) and RFP section 4.4.2 (To-Be EDS Environment), Optum has assumed for licensing purposes the following initial user counts along with 10 percent annual growth throughout the term of the contract:

- EDS named users: 75 total (60 Analysts/Standard, 10 Power User/Advanced, 5 Data Scientists)
- Program Integrity / SURS: 15

MR055	The Vendor must be fully responsible for all ongoing security monitoring of the solution for the life of the contract (or until such time that the Department and the Vendor come to an agreement to take a different approach to security monitoring), as described in the Security Requirements contained in the Business and Technical Requirements Appendix 1: Detailed Specifications of the RFP, independent of any other audits and inspections that take place.

Optum agrees to be responsible for all ongoing security monitoring of the solution for the term of the contract or until such time a different agreement is made with DHHR.

We will operate in material compliance with relevant West Virginia and federal security laws and regulations related to the services we provide to. We will track and analyze new and existing privacy legislation and update existing security processes as appropriate to support compliance. Our Security Operations and Management team will assist with vulnerability scans and threat remediation. The team will also review new application deployments to minimize introduction of new threats into production environments. Security processes will be transparent and supported by open communication and accessible and timely information reporting. We will leverage Microsoft Azure's security and network monitoring capabilities to help fulfill our security monitoring requirements.

MR056	The Vendor must make available to the Department, the results of any third-party audit conducted, including, but not limited to the Service Organization Control (SOC) 2, on the Vendor's organization services within the scope of this contract.

Optum agrees to make results of any third-party audit conducted that is within the scope of this contract. Based on the OP062 and OP063 requirements, a SOC 1 Type 2 audit by an independent third party under the SSAE 18 audit standard for the relevant aspects of the solution is within scope and has been priced. A SOC 2 audit requirement was not identified within this RFP. This can be addressed using the EDS project change management process.

Based on the above stated requirements, Optum will have an independent third party conduct a SOC 1 Type 2 audit under the SSAE 18 audit standard for the relevant aspects of the solution after go-live in the first year of Operations, and continuing on an annual basis thereafter. The first SOC 1 Type 2 report period from Optum would be commence after go-live to October 31, 2021 with the final report completion planned for December 15, 2021 and delivery to the State immediately thereafter. For subsequent reports, the specific annual audit period and the timing of the delivery of the audit report shall be consistent with the audit period and audit report due

date that Optum provides to other customers with audit requests for the solution and consistent with similar conditions from any cloud service provider of their applicable infrastructure. For example in the second year, the SOC 1 Type 2 report period from Optum would be January 1, 2022 to October 31, 2022 with the final report completion planned for December 15, 2022 and delivery to the State immediately thereafter.

MR057	The Vendor must provide Department stakeholders access to conference space at the Vendor's site with accommodations for twenty participants at a minimum. The conference space must be furnished with standard conference room furniture, and equipped to support the design development and implementation (DDI) review, planning, testing, and training sessions required of the Vendor. The conference space must have a computer and projector for displaying presentations and supporting presentation material, and a high-quality speakerphone, with extendable microphones, to allow multiple remote staff to attend meetings by telephone. Conference space must also accommodate video conferencing and web-based application sharing for attendees.

Optum will provide Department stakeholders access to conference space at our facility with accommodations for a minimum of 20 participants. We realize that effective facilities management depends on clear communication and collaboration among Department staff, stakeholders, other vendors, and Optum staff. Our facility in Charleston will be designed to foster productivity and provide standard office features as all of our EDS project offices provide. We will furnish the conference space with standard conference room furniture and equip it to support required DDI review, planning, testing, and training sessions. The conference space will include collaboration features and equipment, including a computer, projector, and a high-quality speakerphone and extendable microphones to support meetings with remote staff. The space will also include supporting technology and accommodations for teleconferences, video conferencing, and Web-based application sharing.

MR058	The Vendor must acquire and maintain office-space (henceforth, "Vendor Facility") available 24 hours per day, during 365 days of the year, including all holidays, to support contracted services. The Vendor Facility must be staffed with employees hired specifically to support the scope of services in this Request for Proposal (RFP). In addition, the Vendor Facility must be located in Charleston, West Virginia within five (5) miles of the Office of Management Information Services (OMIS) Office, located at One Davis Square, Charleston, West Virginia. All key staff members proposed in this RFP for both implementation and maintenance and operations must be located at the Vendor Facility. Included in the space shall be a minimum of two (2) private offices for Department staff, a reception area, a security barrier isolating the public entrance and reception area from the rest of the facility, and restroom facilities. The site will provide space for project team meetings and work sessions. The Vendor must assume all costs related to securing and maintaining the facility for the duration of the contract including but not limited to, hardware and software acquisition necessary to maintain approved service level agreements (SLAs) throughout the life of the contract, maintenance, lease hold improvements, utilities, office equipment, supplies, janitorial services, security, storage, transportation, and insurance.

To foster close collaboration with the Department and your stakeholders, Optum will acquire and maintain an office for this project within five miles of the OMIS Office. We have established and are currently operating flexible, collaborative environments for our current EDS clients today. For example, for our Arkansas EDS, Optum staff are located in the same building as the MMIS vendor and on the same floor as the client. We use in-person meetings, WebEx videoconferencing, and collaborative tools to communicate across teams toward shared goals.

Optum has an office at 700 East Washington Street Charleston, WV. Additionally, working with our facilities team, we have identified four other potential locations for the Optum project office. They are within five miles of the OMIS Office and comply with your RFP requirements.

- **Strand Building:** Located at 209 Hale Street in Charleston, WV 25301, this 11,078-square foot (SF) facility has 5,728 SF available on the second floor. A parking garage directly across street offers monthly parking passes.

- **AF Center:** Located at 101 Washington St. E., Charleston, WV 25301, this 39,000-SF facility has 5,181 SF available on the second floor. This location provides easy access to I-64, I-77, and I-79.
- **Kanawha Valley Building:** Located at 300 Capitol St., Charleston, WV 25301, this 191,295 SF facility is surrounded by DHHR offices and overlooks Davis Park. It has 6,404 SF of space available on the 10th floor.
- **Mason Building:** Located at 1206 Quarrier St., Charleston, WV 25301, this 21,000-SF facility has 7,000 SF available on the first floor. This site is three blocks from downtown Charleston and offers ample parking.

After contract award, we will work with you to decide upon a mutually agreed upon location for the Optum project office. The selected facility will be available 24 hours a day, 365 days a year, including all holidays, to support the contract. We will staff the site with staff specifically hired to support the scope of services in this RFP. Our key staff for implementation and maintenance and operations will be located in this facility.

The Optum project office will include a minimum of two private offices for Department staff, a reception area, a security barrier isolating the public entrance and reception area from the rest of the facility, and restroom facilities. The site will provide space for project team meetings and work sessions. Optum will assume all costs for securing and maintaining the facility for the life of the contract, including but not limited to hardware and software acquisition to maintain approved SLAs throughout the contract term, maintenance, leasehold improvements, utilities, office equipment, supplies, janitorial services, security, storage, transportation, and insurance.

MR059	The Vendor must obtain prior written approval from the State for the proposed layout of the facility, including specifications relating to location, space, leasehold improvements, and support equipment prior to execution of the office lease. The Vendor must seek and obtain the State's prior written approval for any relocation Vendor Facility at, from or through which the services are provided and shall mitigate any impact to the State. Any such relocation shall be without additional cost to the State.

Before we execute the office lease, we will obtain prior written approval from the State for the proposed facility layout as we do for all of our EDS contracts. This includes specifications for the location, space, leasehold improvements, and support equipment. This is a standard Optum practice for our EDS clients and other client contracts. One of our search criteria for selecting an Optum project office is maximum flexibility in lease terms to support renewals and expansions. We will also seek and obtain the State's prior written approval for any relocation of the Optum facility where services are provided through or from. We understand the importance of providing stability throughout the contract term. We will mitigate any impact to the State for any such relocation and perform any such relocation without additional cost to the State.

MR060	The Vendor must be responsible for all costs related to the rental and operation of such facility, including, but not limited to: leasehold improvements, utilities, a minimum 100 megabyte per second (mbps) connection, office and building security, telephones with voice mail and caller ID, a toll-free line for the Help Desk telephones with roll over and messaging, office equipment (two fax machines and a networked color copier and scanner), general office supplies, storage, janitorial services and supplies, and any necessary facility insurance.

Optum will be responsible for all costs related to the rental and operation of the facility, including but not limited to leasehold improvements, utilities, a minimum 100 mbps connection, office and building security, telephones with voice mail and caller ID, a toll-free line for the Help Desk telephones with roll over and messaging, office equipment (two fax machines and a networked color copier and scanner), general office supplies, storage, janitorial services and supplies, and any necessary facility insurance. We have substantial experience working with our corporate facilities team to negotiate optimal rental rates and provision Optum project offices with the tools, technology, and features your RFP requires.

MR061	The Vendor must ensure that Department staff office space in the Vendor's Charleston facility can be individually locked. This office space must be fully equipped with furniture; telephone service, a minimum 100 megabytes per second (mbps) connection to the internet, and access to a color printer and copier. The following reserved or paid parking spaces must be provided to accommodate designated Department staff: two Department parking spaces and five general visitor parking spaces.

We will make sure that office space for Department staff in our Charleston facility can be individually locked. We control, restrict, and monitor physical access to our work environments and those we manage. We will equip Department office space with furniture; telephone service, a minimum 100 mbps connection to the Internet, and access to a color printer and copier. We will also provide reserved or paid parking spaces to accommodate two Department parking spaces and five general visitor parking spaces.

MR062	The Vendor must provide authorization from a parent, affiliate, or subsidiary organization for the State to have access to its records if such a relationship exists that impacts to the Vendor's performance under the proposed contract.

Optum will provide authorization for the State to have access to those records of our parent, affiliate or subsidiary that impact Optum's performance under the contract resulting from this RFP to the extent that such parent, affiliate or subsidiary is involved in such performance and such records exist.

MR063	The Vendor must supply documentation of components and procedures such that the solution could be operated by a variety of contractors or other users for any systems and modules developed, installed, or improved with ninety (90) percent federal funding participation (FFP) match.

Optum will provide the required documentation through our solution's deliverables and other artifacts.

MR064	The Vendor must work with the State to define, integrate, and maintain all data sources deemed necessary to the Enterprise Data Solution (EDS). This includes those data sources identified throughout implementation and maintenance and operation.

We have accounted for the tasks and effort to work with you and EDS stakeholders to define, integrate, and maintain the required data sources for the EDS, including those comprising the current DSS/DW and those identified for future ingestion to the EDS. This includes those data sources identified throughout implementation and maintenance and operation.

MR065	The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or $5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including HOPPAPATHted to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.

If Optum files a protest of a contract awarded by the State as a result of proposals submitted in response to the RFP, Optum agrees that the Department may require Optum to submit either:

1. A litigation bond made payable to the Purchasing Division in an amount equal to the greater of one percent of the lowest bid submitted or $5,000
2. A cashier's check or certified check payable to the Purchasing Division in the same amount.

Optum further agrees that the entire amount of such litigation bond, cashier's check or certified check shall be forfeited if the hearing officer determines that Optum's protest was filed for a frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency.

If it is determined that the protest has not been filed for a frivolous or improper purpose, Optum acknowledges that the bond or deposit shall be returned in its entirety to Optum.

Instructions for Completion of Attachment F - Mandatory Requirements

1. The Vendor must note compliance with each mandatory requirement listed in the ***Vendor's Disposition*** column of *Tab 3 - Mandatory Req & Responses*, using only the values that appear in the drop-down list.
2. *Vendor's Disposition* values are outlined below:
    1. "Will Meet": Vendor agrees to the mandatory requirement.
    2. "Will Not Meet": Vendor declines to meet the mandatory requirement.
3. All mandatory requirements must contain one of the values identified above. Any mandatory requirement without a ***Vendor's Disposition*** response value will be considered to be "Will Not Meet."
4. If appropriate, the Vendor must provide the ***Attachment***, ***Section***, and ***Page Number(s)*** where their detailed narrative response for each mandatory requirement resides, providing the DHHR with a crosswalk, and ensuring that each mandatory requirement is addressed. Be advised that the ***Attachment*** column has been pre-populated with the location that the DHHR anticipates the narrative response to reside, however it is up to the Vendor to update that column accordingly should the Vendor respond to a mandatory requirement in a different location.

Vendor's Responses to Mandatory Requirements

Tabs in this spreadsheet	
1. Worksheet Instructions	Instructions for completion of this RFP supplement.
2. Worksheet Information	This tab including the information about the contents of this workbook.
3. Mandatory Req Responses	Contains the mandatory requirements and all related data.
4. Code Values	Contains coded values for use in the mandatory requirements tab, and explanations as appropriate.

Columns on the specification Responses Tab

Section	Column	Description	Corresponding Code Values
Mandatory Requirements	*Req ID #*	The unique ID of the mandatory requirement.	N/A
	Specification Text	The text of the mandatory requirement.	N/A
Type	*N/A*	How the specification is categorized in the RFP	N/A
Vendor Response Area	*Vendor's Disposition*	Vendor is expected to indicate their compliance with the specification using one of the supplied values.	Vendor Response - Disposition
	Attachment	Vendor is expected to provide a reference to the appropriate RFP attachment where more detailed information about the specification can be found. The expected attachment is identified for Vendor and State convenience.	Attachment
	Section and Page Reference	Vendor is expected to provide a reference to the appropriate Section and Page Number within the specified Attachment where more detailed information about the mandatory requirement can be found.	N/A

Mandatory Requirements			Vendor Response			
Req ID #	Specification Text	Type	Vendor's Disposition	Attachment	Section	Page #
MR001	The Vendor must provide facilities for the recovery of Design, Development, and Implementation (DDI) or operations activities in the event of a disaster that disrupts DDI or operations as described in the Vendor's Disaster Recovery and Business Continuity Management Plan which will be developed by the Vendor and approved by the Department. The Vendor must provide resources necessary to: - Recover critical services in accordance with the Recovery Time Objective (RTO) and Recovery Point Objectives (RPO) to be approved by the Department and documented in the Disaster Recovery and Business Continuity Management Plan - Meet the approved Service Level Agreements listed in Appendix 5: Service Level Agreements & Performance Standards	Disaster Recovery Facility	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	105
MR002	The Vendor must participate in the oral presentations to be scheduled during the proposal scoring period. The following proposed key staff must be present for orals in lieu of corporate or sales personnel being the primary participants. - Account Manager - Project Manager - Business Lead - Technical Lead - Implementation Manager - Operations Manager - Certification Lead - Quality Assurance Manager	Orals	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	105
MR003	The Vendor must comply with all current and future security and privacy policies and procedures of the Department and the West Virginia Office of Technology (WVOT), which can be found at the following link: http://www.wvdhhr.org/mis/policies.asp https://technology.wv.gov/security/Pages/policies-issued-by-the-cto.aspx	Security	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	106
MR004	The Vendor Technical Support Call Center, as described in Appendix 1: Detailed Specifications, must be located within the continental United States, as established in requirements related to handling of federal tax information (FTI) contained in Internal Revenue Service (IRS) Publication 1075, Section 5.3 Access to FTI via State Tax Files or through other agencies under the authority granted by United States Code §6013(p)(4)(C).	Technical Support Call Center Location	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	106
MR005	The Vendor, all business partners, subcontractors, independent contractors, and other entities supporting the Vendor in delivery of the services defined in this contract must perform all work associated with this contract within the continental United States or U.S. Territories, as established in requirements related to handling of federal tax information (FTI) contained in Internal Revenue Service (IRS) Publication 1075, Section 5.3 Access to FTI via State Tax Files or Through Other Agencies under the authority granted by United States Code §6013(p)(4)(C). At no time shall information governed by privacy laws and regulations be used, maintained, transmitted, or caused to be transmitted outside of the United States.	Locations	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	106
MR006	The Vendor must host the Enterprise Data Solution (EDS) and maintain a secure site(s) and secure secondary site(s) within the continental United States. Off-site is defined as a physically separate location based on current industry best practices. These facilities must be located in the continental United States, as established in requirements related to handling of federal tax information (FTI) contained in Internal Revenue Service (IRS) Publication 1075, Section 5.3 Access to FTI via State Tax Files or Through Other Agencies under the authority granted by United States Code §6013(p)(4)(C)	Locations	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	107
MR007	The Vendor must be responsible for any lost Federal Medical Assistance Percentages (FMAP) due to system deficiencies or deficiencies noted during federal reviews. The Vendor will be responsible for only the portion of FMAP lost that is determined by the Department to be the fault of the Vendor. The Enterprise Data Solution (EDS) Vendor will not be responsible for certification requirements that are not included in the scope of this RFP.	FMAP	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	107
MR008	Prior to contract execution, the Department will conduct a review of all hardware, software, and communication components. The Vendor must ensure compatibility with the most current West Virginia Office of Technology (WVOT) supported versions and standards.	Compatibility	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	107

Mandatory Requirements			Vendor Response			
Req ID #	Specification Text	Type	Vendor's Disposition	Attachment	Section	Page #
MR009	The Vendor must agree to incorporate all applicable current and future coding standards and legislated or program necessary data requirements to ensure that the Enterprise Data Solution (EDS) is current in its ability to accept and appropriately employ new standards and requirements as they occur including, but not limited to: ICD-10, Health Insurance Portability and Accountability Act (HIPAA) v5010, the Patient Protection and Affordable Care Act (PPACA) and the Health Information Technology for Economic and Clinical Health Act (HITECH).	Compatibility	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	107
MR010	The solution must maintain full Health Insurance Portability and Accountability Act (HIPAA) compliance throughout the life of the contract at no additional cost to the Department	HIPAA	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	108
MR011	The Vendor must comply with the baseline security controls for moderate impact information systems as recommended by the National Institute of Standards and Technology (NIST), Code of Federal Regulations, and CMS.	Federal Security Requirements	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	108
MR012	The Vendor must adhere to and support all security, risks, standards, policies, and procedures of the Department, State, and the WVOT, which can be found at the following link. http://www.wvdhhr.org/mis/policies.asp https://technology.wv.gov/security/Pages/policies-issued-by-the-cto.aspx	State Security Requirements	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	108
MR013	The Vendor must agree to incorporate all requirements mandated through federal and State regulations and legislation, including new reporting requirements. The Vendor must ensure that the Enterprise Data Solution (EDS) is current in its ability to accept and employ new standards and requirements as they occur. Formalized change control will be used for all such changes, during all phases of the project as defined in the Change Management Plan.	Federal and State Regulatory Changes	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	108
MR014	The Vendor must provide right of access to systems, source code, and facilities to the Department or its designee and federal personnel to conduct audits and inspections. The Vendor must provide access to data, systems, and documentation required by auditors and inspectors.	Right of Access	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	108
MR015	The Vendor will operate the Enterprise Data Solution (EDS), perform all functions described in the RFP, and continue all operations from the date of acceptance of each release until each function is turned over to a successor at the end of the contract, including any optional additional periods or extensions.	Turnover and Closeout Operations	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	109
MR016	The Vendor must perform according to approved Service Level Agreements (SLAs) and identified Key Performance Indicators (KPIs) with associated metrics in the areas listed in Appendix 5 Service Level Agreements & Performance Standards	Compliance with Service Level Agreements	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	109
MR017	The Vendor must deduct any amount due from future payments if the agreed upon SLAs are not met. The Department reserves the right to seek any other remedies under the Contract.	Compliance with Service Level Agreements	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	109
MR018	The Vendor must use industry-standard professional project management standards, methodologies, and processes to ensure the project is delivered on time, within scope, within budget, and in accordance with the Department's quality expectations. The Department utilizes the Project Management Institute (PMI) PMBOK methodology.	Project Management	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	109
MR019	The Vendor must provide project status information to the Department and the Enterprise Data Solution (EDS) Project Management Office (PMO) within the required timeframes and in the agreed-upon format, as defined in the approved Project Management Plan.	Status Reporting	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	109
MR020	The Vendor must update deliverables at the request of the Department to align with changes in approach or methodology, or to include new or updated information that was not available at the time the deliverable was initially submitted and approved	Deliverable Updates	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	110
MR021	The Vendor must submit updated deliverables for Department approval based on the Project Schedule approved by the Department.	Deliverable Updates	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	110
MR022	The Vendor must submit substantive changes to deliverables identified in Appendix 2 Deliverables and Milestones Dictionary to the Department for review and approval within thirty (30) calendar days of the proposed change.	Deliverable Updates	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	110
MR023	The Vendor must provide compliance support services to include providing up-to-date, accurate, and thorough documentation and reporting for regulatory and State compliance auditing.	Audit Compliance Support and Deliverables	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	110
MR024	The Vendor must provide a report outlining applicable NIST SP 800-53 security control responsibilities noting which security controls are inherited by the Vendor, implemented by the Department, or shared by both parties. This report must be maintained by the Vendor and outline the following - Non-compliant and required security controls - Applied mitigations - Plan to correct deficiencies - Cyber security procedures and management plans	Security Compliance	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	110
MR025	The Vendor must coordinate with the Department to develop Centers for Medicare & Medicaid Services (CMS) Certification Checklist documentation for each Medicaid Enterprise Certification (MECT) Checklist the Department identifies as required for CMS certification of the EDS. Refer to the following link for more information: https://www.medicaid.gov/medicaid/data-and-systems/mect/index.html	CMS Certification	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	110

Mandatory Requirements			Vendor Response			
Req ID #	Specification Text	Type	Vendor's Disposition	Attachment	Section	Page #
MR026	The Vendor must coordinate with the Department to develop Centers for Medicare & Medicaid Services (CMS) Certification checklists documentation evidence for all Medicaid Enterprise Certification Toolkit (MECT) criteria related to the Enterprise Data Solution (EDS) and be prepared to work from current and future releases of the MECT to ensure compliance to CMS Certification guidance and processes including, but not limited to, artifacts and deliverables described in Appendix B – Required Artifacts List of the MECT. Refer to: https://www.medicaid.gov/medicaid/data-and-systems/mect/index.html	CMS Certification	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	111
MR027	The Vendor must design the Enterprise Data Solution (EDS) to support the Medicaid Information Technology Architecture (MITA) goals for the State as defined in the State's MITA State Self-Assessment (SS-A) and other West Virginia MITA Artifacts provided in the Procurement Library.	MITA Alignment	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	111
MR028	The Vendor must agree that the Department retains ownership of all data, procedures, applications, licenses, and all materials developed during design, development, and implementation (DDI), and Operations, as well as the licensing for installed Commercial-off- the-shelf (COTS) software in alignment with 45 CFR §95.615 and 45 CFR §95.617. Manufacturers' support and maintenance for the COTS software licensing subsequent to the initial install must be provided only for the life of the contract. The Department will not issue change orders related to software cost increases.	State Ownership (45 CFR §95.615 and 45 CFR §95.617)	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	111
MR029	The Vendor must place the source code in a third-party escrow arrangement with a designated escrow agent who is acceptable to the Department, and who shall be directed to release the deposited source code in accordance with a standard escrow agreement approved by the Department. That agreement must, at minimum, provide for release of the source code to the Department when: a) The Vendor notifies the Department that support or maintenance of the Product will no longer be available b) If the Vendor fails to provide services pursuant to this contract for a continuous period c) Individual(s) from the Department have directed the escrow agent to release the deposited source code in accordance with the terms of escrow Source code, as well as any corrections or enhancements to such source code, shall be updated for each new release of the product within sixty calendar days of being made available in the production environment. The Escrow agent and the Vendor shall notify the Department in writing when new production versions have been escrowed. The Vendor shall identify the escrow agent upon commencement of the contract term and shall certify annually that the escrow remains in effect and in compliance with the contract. The Vendor shall be responsible for all costs associated with the third-party escrow arrangement. The Vendor shall document the escrow management approach in the Configuration Management Plan. The Vendor also must place in escrow one (1) paper copy and one (1) electronic copy of all maintenance manuals and additional documentation that are required for the proper maintenance of the software used to develop, test, and implement the Enterprise Data Solution (EDS). Revised copies of manuals and documentation must be placed in the escrow account within sixty calendar days of approval by the State. Such documentation must be the same documentation as that which the Vendor supplies to its maintenance personnel to maintain its software. When source code is provided, it must be provided in the language in which it was written and will include commentary that will allow a competent programmer proficient in the source language to readily interpret the source code and understand the purpose of the source code. In the event that this contract expires and is not renewed or extended, the Department maintains ownership of the source code and has the option to continue the escrow agreement until such time that the Department is no longer using the software or documentation covered by this escrow agreement. In the case of a COTS product, the medium necessary to reinstall that version as part of the Enterprise Data Solution (EDS) platform must be kept in escrow. Any future versions of COTS products must also be kept and provided upon demand. The department will not issue change orders related to software cost increases.	Escrow	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	111
MR030	The Vendor must ensure that all applications inclusive of internet, intranet and extranet applications associated with this contract are compliant with Section 508 of the Rehabilitation Act of 1973, as amended by 29 U.S.C. §794d, and 36 Code of Federal Regulation (CFR) 1194.21 and 36 CFR 1194.22	Compliance with Rehabilitation Act of 1973	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	112
MR031	The Vendor must ensure that data entered, maintained, or generated to meet the requirements of this Request for Proposal (RFP) is retained and/or accessible according to the federal requirements in 45 CFR Part 75 and/or applicable State and/or federal requirements.	Data Retention and Accessibility	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	112
MR032	The Vendor must obtain approval from the Department for all key staff hired under the contract and all personnel assigned to the West Virginia Medicaid Enterprise Data Solution (EDS) Project. In all circumstances, key staff shall be replaced only with persons of equal or greater experience and qualifications.	Staffing	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	112
MR033	Key Staff assigned to the project must be employed on full-time basis and required to be onsite. Onsite is defined as being in the Charleston, West Virginia-based facility between Monday and Friday from 8:00 a.m. Eastern Time to 5:00 p.m. Eastern Time. On-site time excludes the time required to travel to/from the Charleston, West Virginia facility. Each Key Staff role is a full-time position, to be filled by one staff member only. Key Staff roles may not be combined or filled by multiple staff members. All Key Staff members will enter the project within 30 calendar days of the contract award. The Vendor should propose the onsite key staff and ensure how the offsite staff will fulfill project requirements as defined within this RFP.	Staffing	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	113
MR034	The Vendor must provide the Department a minimum of 10 business days' notice for staffing changes.	Staffing	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	113
MR035	The Vendor must replace key staff within 30 business days after the position is vacant, unless a longer period is approved by the Department.	Staffing	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	113
MR036	The Department has an interest in ensuring that its operations are carried out in an efficient, professional, legal, and secure manner. The Vendor must remove any staff involved in the project, if the Department determines that any such staff has or may interfere with the Department's interests identified above.	Staffing	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	113
MR037	The Vendor must accept financial, legal, ethical, and all other forms of responsibility for the conduct of all business partners, independent contractors, subcontractors, and other entities supporting the Vendor or working with Vendor on the project.	Staffing	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	113
MR038	As a corrective action, the Vendor must provide increased staffing levels if requirements, timelines, quality, or other standards are not being met, based solely on the discretion of, and without additional cost to, the Department. In making this determination, the Department will evaluate whether the Vendor is meeting deliverable dates, producing quality materials, consistently maintaining high quality, and meeting request for proposal (RFP) and contract standards without significant rework or revision.	Staffing	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	113

Mandatory Requirements			Vendor Response			
Req ID #	Specification Text	Type	Vendor's Disposition	Attachment	Section	Page #
MR039	The Vendor staff must not have the capability to access, edit, and share personal information data, including but not limited to Protected Health Information (PHI), Personally Identifiable Information (PII), Financial Transaction Information (FTI), and Social Security Administration (SSA) data (including but not limited to family, friends, and acquaintance information) with unauthorized users.	Viewing Human Services Program Information	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	113
MR040	The Vendor must ensure that all project staff have completed a Department Office of Management Information Services (OMIS) Vendor Employee Confidentiality Statement (VECS) before beginning work on the project.	West Virginia Department of Health and Human Resources (DHHR) OMIS Vendor Employee Confidentiality Statement (VECS)	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	114
MR041	The Vendor must comply with Federal Executive Order 11246 related to Equal Employment Opportunity, the Clean Air Act, and the Clean Water Act.	Equal Employment Opportunity, Clean Air Act, and Clean Water Act	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	114
MR042	The Vendor must provide a drug free workplace, and individuals shall not engage in the unlawful manufacture, distribution, dispensation, possession, abuse, or use of a controlled substance in the performance of the contract	Drug Free Workplace Act of 1988	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	114
MR043	The Vendor must designate one named individual in their proposal as the Vendor organization's Health Insurance Portability and Accountability Act of 1996 (HIPAA) compliance officer.	HIPAA Compliance Officer	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	114
MR044	The Vendor may not publish or copyright any data using the Department's name without prior written approval by the Department for every instance In this context, "data" shall mean all results, technical information and materials developed and/or obtained in the performance of the services hereunder, including but not limited to: all reports, surveys, plans, charts, recordings (video and/or sound), pictures, drawings, analyses, graphic representations, computer programs and printouts, notes and memoranda, and documents whether finished or unfinished, which result from or are prepared in connection with the services performed hereunder. Except with respect to any commercial software, the Department will be and remain the owner of all data provided to the Department by the Vendor or its agents, subcontractors, or representatives pursuant to the contract other than the Vendor's internal administrative procedure records	Publication and Copyright of State Data	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	114
MR045	The Vendor must assume software and hardware licensing costs related to the legacy and modern solutions beginning upon execution of this contract and extending through completion of the contract. As each existing software and hardware license expires, the Vendor will renew the necessary licensing as agreed upon with the Department. It is the Department's intent to transfer allowable licenses. However, on a license-by-license basis, the Vendor should obtain the licenses necessary to operate the solution as existing licenses expire. Current Department license costs shall be used for reference only. The Vendor must not assume that the current Department cost is the lowest cost. The Vendor must assume the license cost for which the Vendor can acquire the license.	Software and Hardware Licensing Costs	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	115
MR046	The Vendor must procure the necessary licenses required to support its modernized solution. The Vendor is responsible for all licenses required at project initiation and can procure licenses as needed throughout the project, with no additional cost to the Department	Software and Hardware Licensing Costs	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	115
MR047	The Vendor must assume that only 50 concurrent Department licenses are required for the User Acceptance Testing (UAT) Environment, and that only 50 concurrent Department licenses are required for the Training Environment.	Software and Hardware Licensing Costs	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	116
MR048	The Vendor must be responsible for all costs associated with solution updates or enhancements that are within the scope of the RFP	Software and Hardware Licensing Costs	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	116
MR049	Vendors proposing commercial off-the-shelf (COTS) components must develop all documentation necessary to support the receipt of federal match related to the implementation of the component, upon request by the Department.	COTS Waiver Documentation	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	116
MR050	The Vendor must comply with 45 CFR 95.617 Software and ownership rights	Federal Royalty-Free Rights to Use Software or Documentation Developed	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	116
MR051	The Vendor must provide a software and hardware solution that is upgradeable and expandable to meet the Department's current and future needs.	Adaptability to Current and Future Needs	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	116
MR052	The Vendor must adhere to the approved Change Management Plan and definitions of modifications and enhancements provided in Request for Proposal (RFP).	Adaptability to Current and Future Needs	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	116

Mandatory Requirements			Vendor Response			
Req ID #	Specification Text	Type	Vendor's Disposition	Attachment	Section	Page #
MR053	The Vendor must be responsible for all expenses required to obtain and maintain access to the Department systems. Such expenses include, but are not limited to, hardware, software, network infrastructure, and any licensing costs.	Cost of Maintaining Access to State Systems		Attachment F - Mandatory Requirements	Not Applicable	117
MR054	The Vendor must be responsible for all costs required for Department staff to access the solution. Such expenses include, but are not limited to, hardware and software necessary to support the solution.	Federal Risk and Authorization Management Program (FedRAMP) Certification	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	117
MR055	The Vendor must be fully responsible for all ongoing security monitoring of the solution for the life of the contract (or until such time that the Department and the Vendor come to an agreement to take a different approach to security monitoring), as described in the Security Requirements contained in the Business and Technical Requirements Appendix 1: Detailed Specifications of the RFP, independent of any other audits and inspections that take place.	Responsibility for Ongoing Security Monitoring	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	117
MR056	The Vendor must make available to the Department, the results of any third-party audit conducted, including, but not limited to the Service Organization Control (SOC) 2, on the Vendor's organization services within the scope of this contract.	Third Party Audit	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	117
MR057	The Vendor must provide Department stakeholders access to conference space at the Vendor's site with accommodations for twenty participants at a minimum. The conference space must be furnished with standard conference room furniture, and equipped to support the design development and implementation (DDI) review, planning, testing, and training sessions required of the Vendor. The conference space must have a computer and projector for displaying presentations and supporting presentation material, and a high-quality speakerphone, with extendable microphones, to allow multiple remote staff to attend meetings by telephone. Conference space must also accommodate video conferencing and web-based application sharing for attendees.	Facility	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	118
MR058	The Vendor must acquire and maintain office-space (henceforth, "Vendor Facility") available 24 hours per day, during 365 days of the year, including all holidays, to support contracted services. The Vendor Facility must be staffed with employees hired specifically to support the scope of services in this Request for Proposal (RFP). In addition, the Vendor Facility must be located in Charleston, West Virginia within five (5) miles of the Office of Management Information Services (OMIS) Office, located at One Davis Square, Charleston, West Virginia. All key staff members proposed in this RFP for both implementation and maintenance and operations must be located at the Vendor Facility. Included in the space shall be a minimum of two (2) private offices for Department staff, a reception area, a security barrier isolating the public entrance and reception area from the rest of the facility, and restroom facilities. The site will provide space for project team meetings and work sessions. The Vendor must assume all costs related to securing and maintaining the facility for the duration of the contract including but not limited to, hardware and software acquisition necessary to maintain approved service level agreements (SLAs) throughout the life of the contract, maintenance, lease hold improvements, utilities, office equipment, supplies, janitorial services, security, storage, transportation, and insurance.	Facility	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	118
MR059	The Vendor must obtain prior written approval from the State for the proposed layout of the facility, including specifications relating to location, space, leasehold improvements, and support equipment prior to execution of the office lease. The Vendor must seek and obtain the State's prior written approval for any relocation Vendor Facility at, from or through which the services are provided and shall mitigate any impact to the State. Any such relocation shall be without additional cost to the State.	Facility	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	119
MR060	The Vendor must be responsible for all costs related to the rental and operation of such facility, including, but not limited to: leasehold improvements, utilities, a minimum 100 megabyte per second (mbps) connection, office and building security, telephones with voice mail and caller ID, a toll-free line for the Help Desk telephones with roll over and messaging, office equipment (two fax machines and a networked color copier and scanner), general office supplies, storage, janitorial services and supplies, and any necessary facility insurance.	Facility	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	119
MR061	The Vendor must ensure that Department staff office space in the Vendor's Charleston facility can be individually locked. This office space must be fully equipped with furniture; telephone service, a minimum 100 megabytes per second (mbps) connection to the internet, and access to a color printer and copier. The following reserved or paid parking spaces must be provided to accommodate designated Department staff: two Department parking spaces and five general visitor parking spaces.	Facility	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	120
MR062	The Vendor must provide authorization from a parent, affiliate, or subsidiary organization for the State to have access to its records if such a relationship exists that impacts to the Vendor's performance under the proposed contract.	CMS RFP Checklist	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	120
MR063	The Vendor must supply documentation of components and procedures such that the solution could be operated by a variety of contractors or other users for any systems and modules developed, installed, or improved with ninety (90) percent federal funding participation (FFP) match.	CMS RFP Checklist	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	120
MR064	The Vendor must work with the State to define, integrate, and maintain all data sources deemed necessary to the Enterprise Data Solution (EDS). This includes those data sources identified throughout implementation and maintenance and operation.	Adaptability to Current and Future Needs	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	120

Mandatory Requirements			Vendor Response			
Req ID #	Specification Text	Type	Vendor's Disposition	Attachment	Section	Page #
MR005	The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or $5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.	Litigation Bond	Will Meet	Attachment F - Mandatory Requirements	Not Applicable	120

Vendor's should not edit this worksheet.

Vendor Response - Disposition	
Vendor's Disposition	Description
Will Meet	Mandatory requirement will be met by the Vendor
Will Not Meet	Mandatory requirement will not be met by the Vendor

Attachments	
Response Template	Description
Attachment A	Cost Proposal
Attachment B	Title Page, Executive Summary, and Subcontractor Letters
Attachment C	Vendor Qualifications and Experience
Attachment D	Project Organization and Staffing Approach
Attachment E	Initial Work Plan
Attachment F	Mandatory Requirements
Attachment G	Business Specifications Approach
Attachment H	Technical Specifications Approach
Attachment I	Implementation Specifications Approach
Attachment J	Maintenance and Operations Specifications Approach
Attachment K	Terms and Conditions Response Template

ATTACHMENT G: BUSINESS SPECIFICATIONS APPROACH

Instructions: The Vendor should provide a narrative overview of how the proposed system will meet the business specifications. Use the response sections to provide specific details of the proposed approach to meeting the business specifications in each subject matter area. Responses should reference specifications and relevant mandatory requirements using the appropriate IDs from ***Appendix 1: Detailed Specifications*** and ***Attachment F: Mandatory Requirements***. DHHR also expects the Vendor to propose its approach for meeting any narrative included in ***Section 4: Project Specifications*** of this RFP. Responses in this section should be highly focused on the business processes and specifications and not simply provide generic or marketing descriptions of solution capabilities.

If the Vendor is proposing a phased implementation, the Vendor should indicate how that approach may or may not affect functionality. Additionally, the Vendor should indicate exception handling processes where appropriate and any dependencies on existing systems or components of the new system to provide the specified functionality.

1. CARE MANAGEMENT

Refer to the relevant business specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Care Management below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Optum Response:

Approach and Solution Capabilities for 4.5.1 Care Management

Phased Implementation

Building a data warehouse, complete with its many interfaces both inbound and outbound, is an iterative process. In all of our data warehousing engagements from Michigan to California, we have built, and we continue operating, systems that are dynamic and growing. This growth starts from a foundational core in Design, Development, and Implementation (DDI), expanding iteratively as our clients identify new data sources and consumers. We have proposed a project plan that focuses on conversion of the existing data warehouse, complete with standing up ongoing data feeds from the existing source system.

Instead of accomplishing this in step, we have divided the work into smaller segments, both in terms of subject area and amount of history. For example, we will divide the Enterprise Data Solution (EDS) subject areas into easily recognized business areas, such as member, provider, claims, encounter and so on. This will assist in focusing requirements and design sessions, making it better use of your SMEs' time. We are also converting successively larger amounts of history in each planned data load and reload, namely three months and 12 months of history prior to the conversion of all required history in preparation for EDS go live. Through successful execution of successive test cases, we will build confidence in the data quality of converted and ongoing data refresh capabilities.

Meanwhile, our phased plan shows us making data available for Symmetry Groupers, OPAHHS reports, and the fraud and abuse data marts. Optum Symmetry provides in-depth and systematic data enrichment capabilities for enhanced analytics and decision-making. This is deployed to clients across the country and maintains data for more than 170 million individuals, which is more than half of the insured U.S. population. The Symmetry engine calculates

adherence to more than 650 quality measures, including HEDIS measures. It uses claims history data to calculate risk scores.

We will repeat this pattern with all required and mutually agreed data sources added in both DDI and Operations. Integrating data sources by dividing them into logical subject matters and successively larger longitudinal segments makes the best use of SME time and provides the right balance of development velocity and testing scrutiny. This strategy also provides opportunity for incremental steps in Organizational Change Management in your four program areas, namely Care, Financial, and Program Management, as well as Program Integrity.

Exception Handling Process

To handle deviation from processing rules and routines, we will build in instrumentation (reports and alerts) that detect and notify us of such deviations. This can come in the form of extract, transform, and load (ETL) jobs that stop and wait for manual intervention for a balancing or data quality issue. It can also come in the form of a data quality trend that is successively moving away from target specifications. We will respond to these alerts and data quality trends, and notify you of a plan of action and outcome conforming to the relevant service level agreements.

Dependencies of Existing Systems

The EDS will have several dependencies from the existing DW/DSS as well as the various source systems. These dependencies will affect the key business areas of Care, Financial, and Program Management as well as Program Integrity. The following table outlines these dependencies.

Dependency Type	Dependency	Importance
Data	Completeness	The EDS must have all relevant records and fields from the existing DW/DSS and other source systems. Missing data can lead to erroneous results, and erode user trust.
	Quality	The EDS requires predictable baseline data quality so that important records and fields are present and/or conformable to business reporting requirements.
	Metadata/ Documentation	The EDS will benefit from participation in DHHR data governance, as well as receiving all forms of technical, business, and operational metadata from the existing DW/DSS and source systems.
	MDM	The EDS will be a subscribing system to the WV master data management hub.
Process	Balancing	The EDS must use control totals that accompany data loads and extracts.
	Adjustments	DHHR, source system vendors and Optum must work to identify business rules for claims and encounter adjustment records.
	Tagging	In key areas, such as loading the CMS-64 and T-MSIS data to the EDS, all tagging, such as category of service as well as appropriation, budget and fund codes, and others, must be placed on the appropriate records by the source system.
	Change Capture	DHHR, source system vendors and Optum must work to identify methodologies for the EDS to update its ETL operational data store to reflect the current state of the source systems.
Schedule	Processing Calendar	The ongoing periodic loads of data will be dependent upon the production of extracts from source systems. Fitting such loads into regular production windows for the EDS will require source systems adhering to the agreed-upon schedules.
	SME Availability	Data conversion, loading and ongoing maintenance of the EDS will require input from key subject matter experts from DHHR. Our experience suggests that we often need access to SMEs involved with MMIS pricing, financial accounts receivable and payable, as well as Federal reporting.

	Vendor Cooperation	Similarly, the EDS development and change management staff will need access to MES vendor staff for metadata, schedule and operations questions and confirmation of assumptions we have made regarding vendor systems.

Here is a list of the pre-defined reports in our solution. Because these are delivered in Tableau workbooks, you have access to all the data needed to create the report. Users can sort, filter, and define new calculated variables and new data visualizations. You can also do all the analysis associated with pivot tables or hypercubes.

Individual Care Management Reports

Member Profile shows detailed information about a particular member, including demographics and enrollment history, geographic location in relation to providers, clinical and utilization information. This is a key report, linked to from many other reports.

Claims Detail provides a visual representation of a member's claim utilization over time. Drill-down detail information is available to the line level. All types of claims (i.e., inpatient, outpatient, professional, pharmacy) are included. Visualizations are developed to identify outlier services.

Provider Profile yields information about a specific provider and its panel of members, whether attributed or seen. The distribution of the provider's population is shown across demographic, eligibility, clinical and utilization categories.

Claims Ad Hoc provides the ability to perform essential ad hoc functionality against the data across different levels. Users can create variables and design reporting with their own visualizations and analytics.

Category of Service presents utilization of service for high-level categories (e.g., inpatient, outpatient, professional and pharmacy) as well as drill-down into more detailed levels, down to line-level assignments.

Enrollment Overview presents enrollment trends over time, variation analysis, and year-over-year metrics to track enrollment by many different characteristics as well as sub-groups.

Enrollment Analysis, a complementary report to the Enrollment Overview, dives deeper into analytics around enrollment and utilization for different enrolled groups. Metrics around member churn, risk-adjusted PMPMs, as well as comparative information is provided.

Enrollment Detail shows more detailed information and demographic data for enrolled groups.

Waiver Enrollment: focuses specifically on waiver populations, intended to help assess and manage this population particularly where enrollment caps and member churn need to be evaluated.

Provider Emergency Department Utilization provides a thorough analysis of emergency department utilization across billing providers. Using an algorithm developed by New York University, this report classifies each emergency department visit into either avoidable, required, questionable, or other visit type. It has drill-down and drill-through capability.

Eligibility Group Profile summarizes utilization, demographics, clinical, geographic, and enrollment detail in one template. Users do a deep-dive into one particular eligibility group or groups.

Geography Profile summarizes utilization, demographics, clinical, geographic, and enrollment detail in one template. Users can do a deep-dive into one particular geographic area.

Prescription Drug Utilization Analysis provides a specific deep-dive into prescription drug utilization, both from a member and prescribing provider perspective. Where available, drug

costs and rebate information is integrated into the reporting to show the true costs of prescription drug analysis by conditions, populations, services, clinical outcomes, or other identified attributes. Figure 14 shows an example of this report.

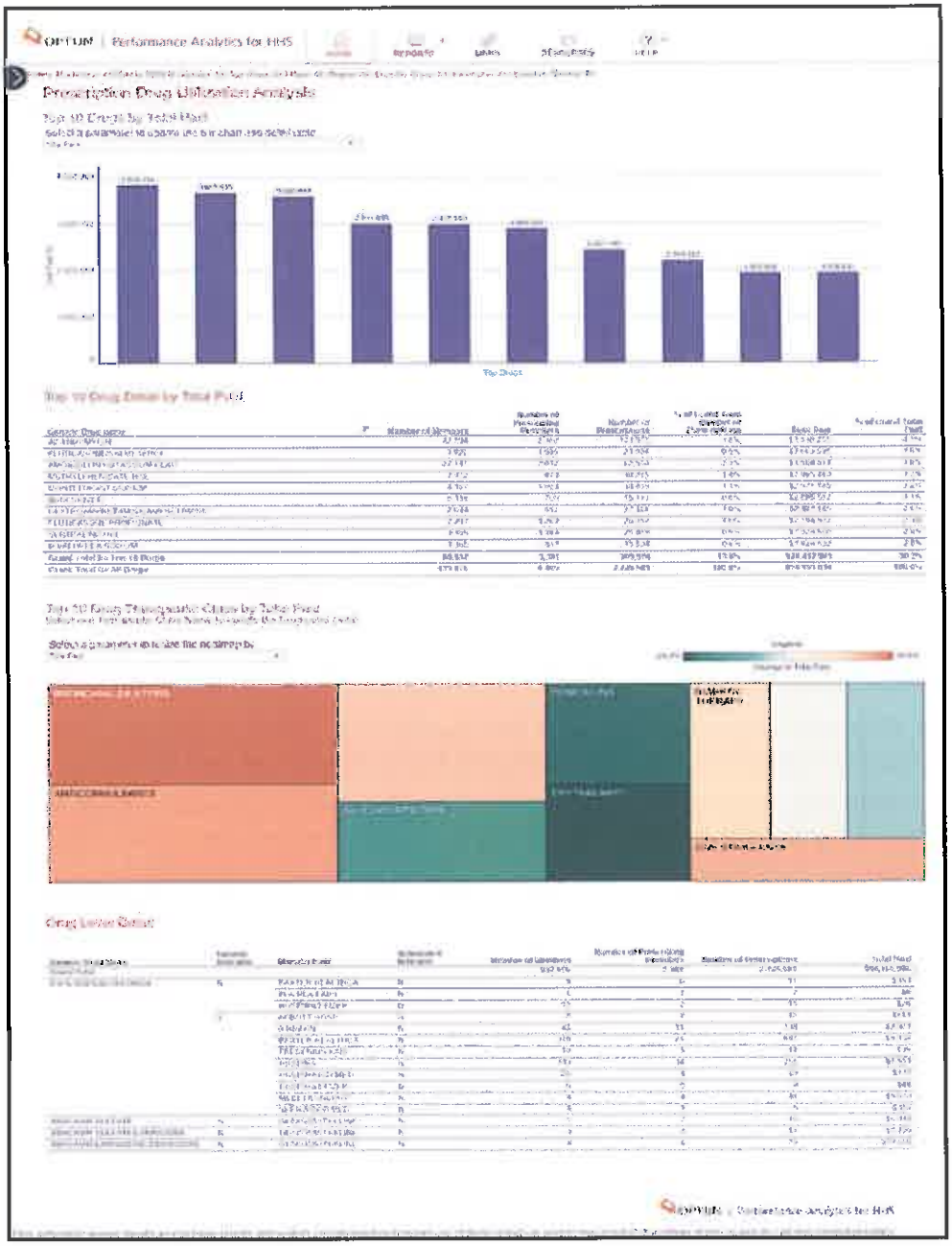


Figure 14: Prescription Drug Utilization Analysis
OPAHHS presents drug utilization at high and low levels.

Opioid Utilization - Member presents reporting and analytics that can be used by the DHHR to address the opioid epidemic that has presented many challenges for the health care delivery system. The report provides actionable information, from a member perspective. Using machine learning or advanced analytic techniques help identify recipients most at risk of addiction.

Opioid Utilization - Provider presents a view of the opioid prescribing pattern by provider specialty. Figure 15 shows an example of this report.

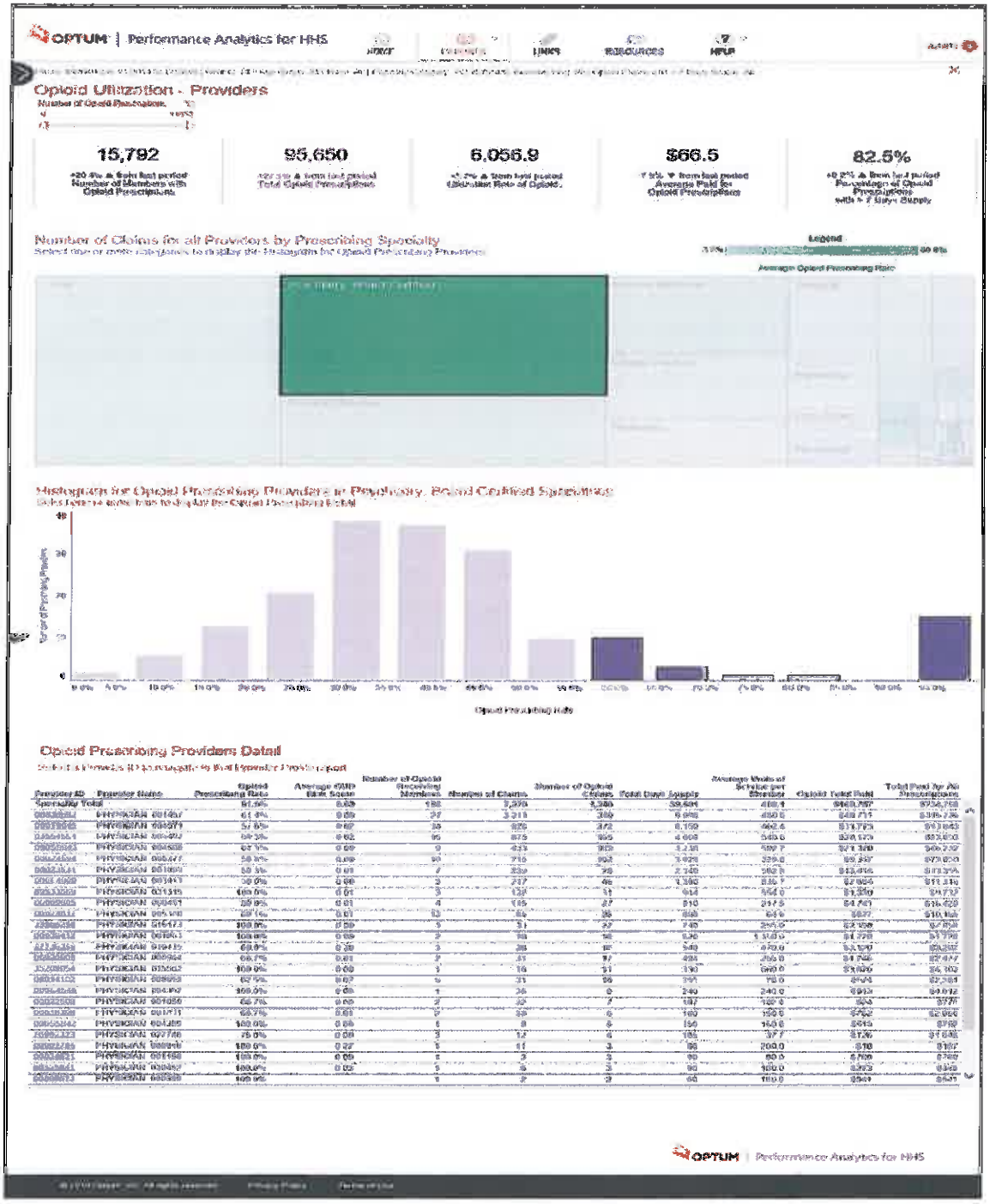


Figure 15: Opioid Utilization – Providers
OPAHHS provides insight into opioid use across the state by identifying prescribing patterns by specialty and individual prescribers.

Acute Claims Utilization provides analysis of acute care claims that helps the user to assess the utilization pattern of often very high cost services. Case mix by grouper is shown visually, as well as utilization patterns that are often tied to specific quality measures (e.g., most frequent episode/grouper associated with re-admissions). Metrics can be shown by hospital, hospital network, or other organization. If MCO or ACO data is available, reporting and analytics can be provided for in-network and out-of-network utilization enabling drilldown into utilization by category of service within these parameters.

Retrospective Utilization Analysis Paid Date pulls together utilization patterns for multiple populations, The report shows not only overall utilization rates by category of service, but also more detailed analytics, such as readmissions, avoidable emergency department utilization, and, if available, avoidable hospitalizations. Drilling down into specific groups by age, gender, race, and eligibility category provides a more detailed understanding of which cohort may be driving patterns. Additional analytic metrics, such as PMPMs, risk-adjusted PMPMs, and services per recipient, are delivered in the detail view. Benchmark data, either internal or external, are provided for utilization metrics at various levels of aggregation (i.e., peer groups, health plans/MCOs/ACOs, or other networks).

Population Health Reports

PMPM Cost by County provides an analysis of costs and utilization at the county level to compare across geographic areas, including drilldown into categories of service for those areas. Comparative metrics include clinical measures, such as disease prevalence and comorbidities, quality measure adherence, standard utilization, and cost metrics. Year-over-year comparisons are provided to establish the necessary frame of reference for data points.

Provider Comparative Analysis shows the composition of a provider's population, in terms of both attributed versus total seen, by various demographic, geographic, clinical, and utilization metrics. Each provider is compared to a peer group and, where available, other comparative groups. Measures of efficiency, such as relative resource use, and service levels by recipient acuity, are shown.

Member Outlier presents groupings of recipients, providing easy identification of like cohorts of recipients by common conditions, service utilization, and clinical measures. Clustering and other outlier measures are also used. The report has the capability to create groups of recipients for profiling and analysis by conditions, populations, services, clinical outcomes, or other identified attributes. Figure 16 provides an example of this report.

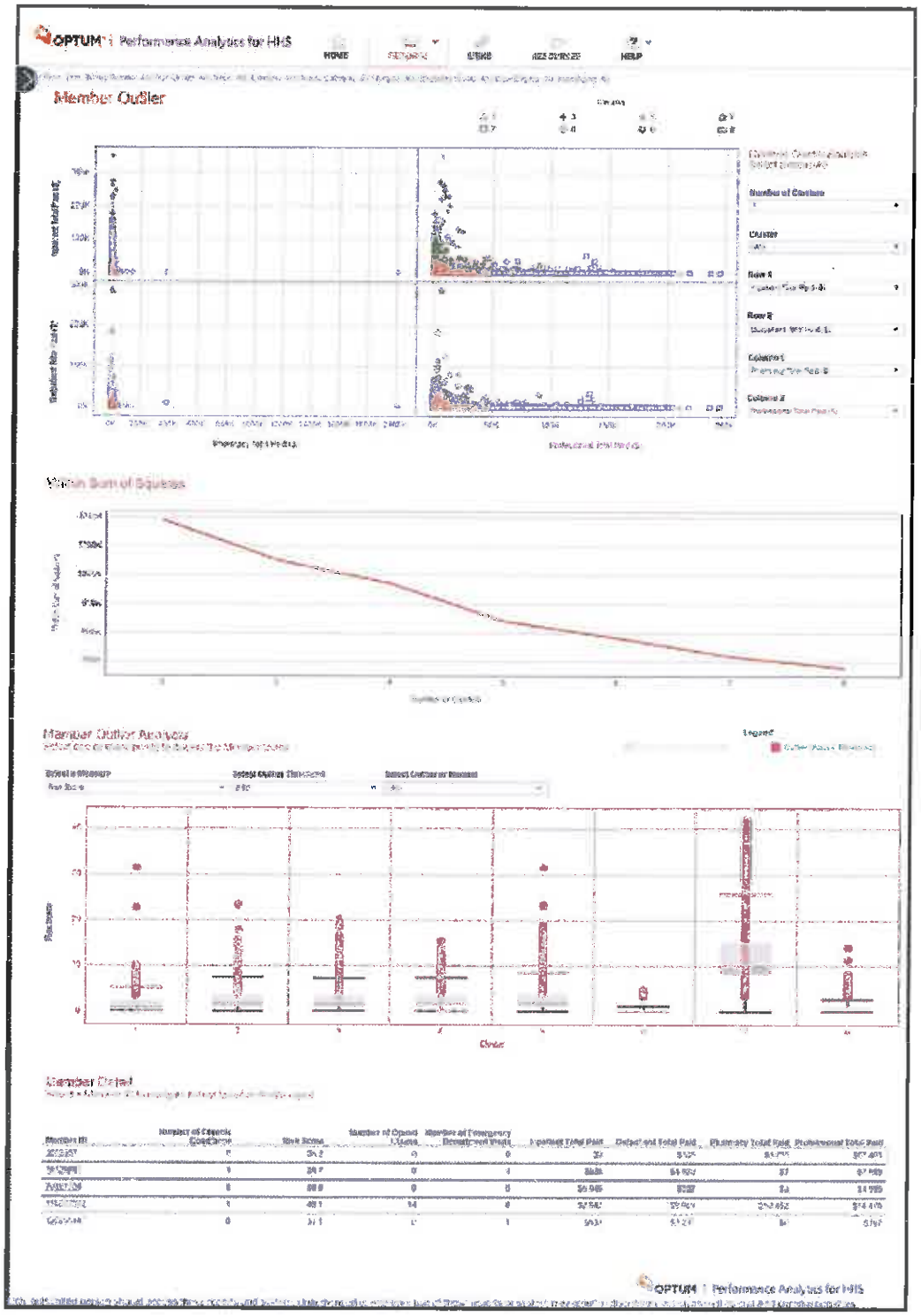


Figure 16: Member Outlier

On-demand cluster analysis and individual drilldowns into recipient cohorts helps identify outliers and cohorts of recipients by multiple criteria.

Member Access to Care support analysis that compares the provider availability and utilization by ZIP code or county and population attributes for any program. For example, to assess provider capacity in a specific area based on the number of open practices, time and distance criteria, provider type. In-network and out-of-network metrics are provided where appropriate. Member-to-provider ratios and provider workload (compared to average for peer) are included to further determine access to open care.

Determinants of Health: Analyzes other determinants of health, including access to education, nutritious food, housing, and transportation, as well as clean water and non-polluted air. Measuring health disparities across populations by looking at the social and environmental determinants is driven by availability and access to data. These factors are included in demographic reporting that supports drilldown to the recipient level. Figure 17 provides an example of this report.

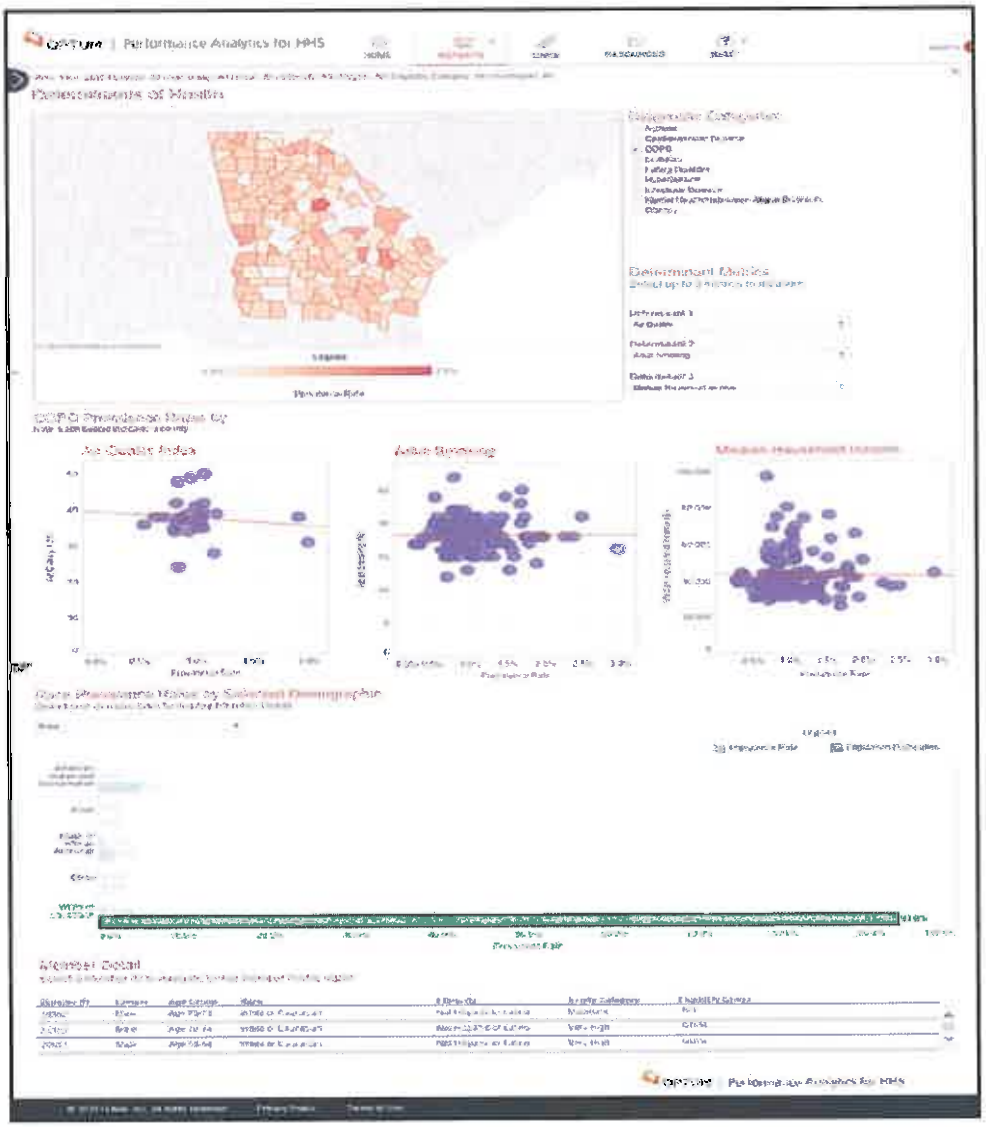


Figure 17: Determinants of Health
This report shows how social determinants affect disease prevalence across a specific population.

Quality Measure Analysis shows adherence rates for identified quality measures at a population, network (ACO/MCO/other), as well as distribution of rates by various sub-group (i.e., age/gender/race/other). Drilldown to provider-level adherence, as well as trends over time (if available) is shown. Outcome-based measures are risk-adjusted to more accurately reflect the underlying population driving the measure results. Figure 18 provides an example of this report.

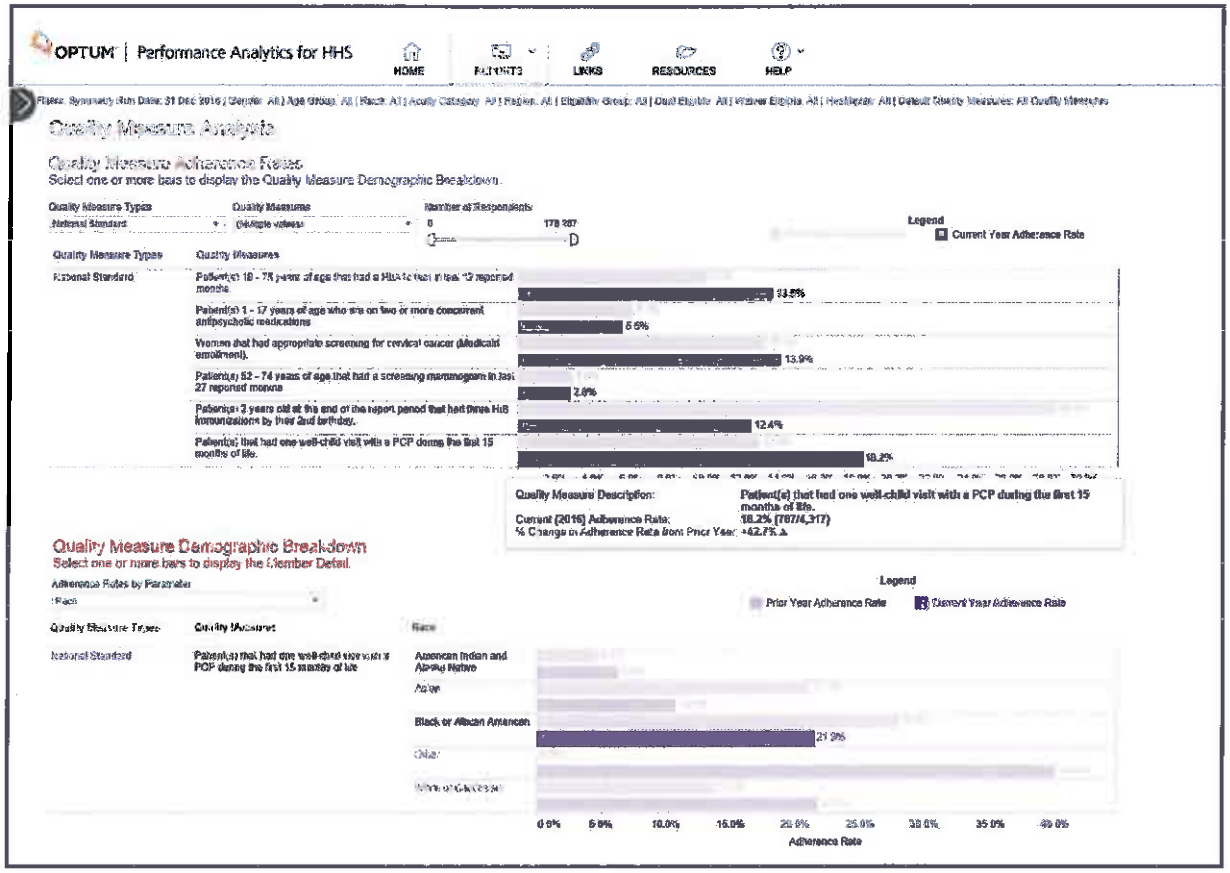


Figure 18: Quality Measure Analysis
Quality measures show both provider adherence and demographics breakdown.

Disease Prevalence shows population-level disease prevalence metrics by episodes within the Episode Treatment Group (ETG) hierarchy demographic and geographic groupings. Drilldown into category of service utilization by various episodes is shown, with appropriate utilization metrics.

Care Management/Disease Management provides a geographic representation of recipients with chronic conditions appropriate for care management programs (e.g., COPD, asthma, diabetes,) along with indications for MCO enrollment. Various metrics are presented to show recipient populations with high associated emergency department visits, inpatient admissions, risk scores, PMPMs, and others.

Claims Lag Triangle presents statistics on incurred-but-not-reported rates by various claim types and categories of service. Various other metrics on completion factors are also presented to allow a more detailed understanding on the impact of utilization metrics across time.

Finance Detail supports rate setting analyses, such as pay-for-performance, episode-based payment, and revenue modeling. This includes analysis of Federal Medical Assistance

Percentages (FMAP) differences, risk-adjusted payment, and capitation calculations (including risk-adjusted capitation). It helps in the determination of the value of services, regardless if carve-in or carve-out, such as pharmacy, behavioral health, and long-term services and supports.

Trending provides the ability to view historical patterns of measures over a selectable time. Trend measures that may be viewed include number of recipients, utilization rate, number of claims, PMPM, and total paid. The report provides the ability to view the measure trend for entire population data or a subset using provided filters such as gender, age group, race, region, category of service, eligibility group and health plan. It provides a visualization of the actual trend line for the measure along with a linear regression trend line. Specifications for the linear regression model including Number of Observations, R Squared, P-Value, and the Standard Error are also provided for use in analyzing the measure's trend.

Multi-Variable Forecasting forecasts specific measure values across time based on data from past observations of a series, plus other information that may also be relevant. Measures that can be forecasted include number of recipients, utilization rate, number of claims, PMPM, and total paid. The report provides the ability to forecast the measures for the entire population data or a subset using provided filters, such as age group, category of service, diagnostic category, eligibility group and health plan. The report also facilitates what-if analysis by providing the ability to specify an expected annual percent increase (either as a flat or cumulative change) in population and understand its impact on the forecast. For example, if there is an indication that future enrollment in Medicaid is going to increase by a certain percentage, the user can enter the expected percentage increase and observe the increase's effect on the forecast. The report uses the built-in functions of the R and Tableau reporting tools to determine the future targets and to provide users with a visualization of these future targets.

Single-Variable Forecasting forecasts specific measure values across time based on data from past observations of a series. Measures that can be forecasted include number of recipients, utilization rate, number of claims, PMPM, and total paid. The report provides the ability to forecast the measures for entire population data or a subset using provided filters, such as age group, category of service, diagnostic category, eligibility group and health plan. The report uses the built-in functions of the R and Tableau reporting tools to determine the future targets and to provide users with a visualization of these future targets.

Promotion of Health Education Reports

Waiver Impact Model enables users to assess the impacts of an increase in a waiver population. Utilization, financial and demographic results are presented.

Provider Overlap Claims Analysis pulls the overlapped services (e.g., LTSS services while a recipient is inpatient), both at the recipient and provider level of detail.

MCO High-Level Comparison provides a high-level comparison of MCO performance, across financial, utilization, and quality content areas.

MCO Outpatient Emergency Department Utilization provides a thorough analysis of emergency department utilization across health plans. Using an algorithm developed by New York University, this report classifies each emergency department visit into avoidable, required, questionable, or other visit type. Drill-down and drill-through is provided.

MCO Quality Achievement provides a deep-dive into quality measure achievement across MCOs.

MCO Quality Achievement PCP Detail presents further detailed analysis around the primary care providers affiliated with MCOs to give granular detail of quality measure achievement.

MCO Disease Management provides an assessment of the prevalence and management of disease, especially manageable chronic conditions, across the MCO-enrolled population.

Diagnosis Code shows the prevalence and use of diagnosis codes.

Procedure Code shows the prevalence and use of procedure codes.

Cost Drivers provides an analysis of the different cost drivers of service delivery.

Delivery Analysis identifies delivery events, including low birthweight deliveries, both from a provider perspective and a geographic perspective.

Long-term services and supports (LTSS) Overview presents high-level analytics of LTSS delivery of services.

LTSS Member Utilization provides a more detailed review of recipients receiving LTSS services, particularly those receiving high-levels of service and/or overlapping services.

Opioid KPI displays a high-level set of metrics identified by Optum as critical for opioid utilization tracking.

Behavioral Health/Substance Abuse (BHSA) provides detail on geography, utilization and other metrics on recipients with a history of BHSA diagnosis.

Pediatric Asthma provides a population-level view of the prevalence and severity of pediatric asthma, leveraging the pediatric asthma machine-learning module.

Long-Term Care provides a geographic representation of the use of long-term care (nursing facility) services.

Appendix 1: Care Management

Optum will meet all the Care Management requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

CM001	The solution should have the ability to collect and maintain data necessary to support budget neutrality reporting requirements as specified by the Centers for Medicare & Medicaid Services (CMS) and the Department.

Our solution provides the capability to collect and maintain data necessary to support budget neutrality reporting requirements as specified by the Centers for Medicare & Medicaid Services (CMS) and the Department.

CM002	The solution should have the ability to generate fee-for-service (FFS) claims reporting for services furnished outside of a capitation agreement including, but not limited to: services carved out of the managed care program.

Existing OPAHHS reports has the ability to generate fee-for-service (FFS) claims reporting for services furnished outside of a capitation agreement including, but not limited to, services carved out of the managed care program through our base reporting package.

CM003	The solution should have the ability to capture and support analytics of data on member service utilization including, but not limited to:

Our proposed EDS provides a wide range of analytics and reporting on member health care utilization. This includes grouping by any value service type field.

CM004	Behavioral health services

Optum's member-centric analytics for behavioral health services include utilization across relevant procedures and diagnoses. Our solution's enterprise data model will contain any

behavioral data upon which has been agreed. By including this data in a comprehensive enterprise data model, it can be joined to other required data for analytics and reporting.

CM005	Medical services

Our solution addresses medical services analytics for members based on multiple dimensions represented in claims and related data sources. These include time- and location-based analytics, as well as the various attributes of the specific services, such as the primary and secondary diagnoses and more.

CM006	Dental services

OMMS provides analytics and reporting on dental services in the same manner as the above-described medical services.

CM007	Pharmacy services

Our proposed EDS ingests pharmacy data to provide member-centric reporting and analytics specific to, and inclusive of, these services. For example, our Prescription Drug Utilization Analysis provides a specific deep-dive into prescription drug utilization, both from a recipient and prescribing provider perspective. We integrate drug costs and rebate information as available to show the true costs of prescription drugs analysis by conditions, populations, services, clinical outcomes, or other identified attributes.

CM008	Others as defined by the Department

We have the ability to meet other potential member service utilization requirements that you may identify with simple configurations or as enhancements. If others are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

CM009	The solution should have the ability to track the number of members assigned to providers.

Our data model will record members' provider assignments. Our solution provides the capability to track the number of members assigned to each provider using that field. Users may also run queries to count the number of members who have received service from each provider.

CM010	The solution should have the ability to capture provider data including, but not limited to:
CM011	Provider identification (ID) number
CM012	Provider type
CM013	Provider specialty
CM014	Provider affiliation
CM015	Provider physical address
CM016	Provider mailing address
CM017	Others as defined by the Department

Our data model includes a broad range of provider data. That model can be customized to include West Virginia-specific data.

We will store the provider's **National Provider Identifier** as assigned by CMS. We follow the CMS Healthcare Provider Taxonomy Code Set, including **provider type** and **provider specialty** unless directed otherwise. This establishes codes for institutional, medical, pharmacy, and other claims.

Optum will work with you to add fields with code sets that capture the **provider affiliations**. For example, this could be clinician affiliations with a group practice or hospital department, with a care network, or privileges at a hospital provided by the source system.

Our data model includes fields for storing **provider physical addresses** and **provider mailing address**. We validate all addresses to conform to United States Postal Service guidelines.

We will add fields to the data warehouses with code sets provided by the source system as defined by you in the requirements phase. If **others** are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

CM018	The solution should have the ability to track a provider's capacity to accept additional members.

Our solution can store data related to provider capacity and provides the capability to track such capacity as received from the source.

CM019	The solution should have the ability to identify providers based on provider type and/or specialty.

We identify providers using the CMS Healthcare Provider Taxonomy Code Set unless directed otherwise. Our solution provides the capability to identify providers based on provider type and/or specialty.

CM020	The solution should have the ability to capture and support analytics of data for cost reporting and financial monitoring of waiver programs.

Our data model captures a wide range of data with codes that support comprehensive cost reporting, including waiver programs. OPAHHS includes a number of predefined reports in Tableau workbook format, which allow end-user customization.

CM021	The solution should have the ability to capture current and historic utilization trends including, but not limited to:
CM022	Inpatient specialty care
CM023	Inpatient substance use disorder (SUD) services
CM024	Others as defined by the Department

Our solution retains all data for the seven-year period you require. The predefined reports contain a wide range of workbooks displaying historic utilization trend data. The data warehouse supports the construction of time series, which the business intelligence (BI) tool and the statistical tool can analyze.

The solution supports queries that form time series for **inpatient specialty care** and **inpatient substance use disorder (SUD) services**, when we have defined the appropriate procedure and provider codes. If **others** are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

CM025	The solution should have the ability to develop metrics to support the evaluation and monitoring of substance use disorder (SUD) including, but not limited to:

Our solution includes both a BI tool and two statistical tools (R and Python) that can be used to develop metrics and models for SUD. It also includes a pre-built statistical model, which classifies individuals as more or less likely to have SUD issues based on medical history.

CM026	Using claims and/or encounter data

Our data warehouse contains both claims and encounter data, some of which will be related to SUD. In addition, we run claims and encounter data through Symmetry to generate episodes of care, cost predictions, and care recommendations. Because we use geocode for all addresses in the system, you can map the location of claims.

CM027	Using prescription data

Among the claims in the data warehouse are prescription claims. These are all linked to the prescribed person and providers (including prescribing when provided by the source).

CM028	Using Prescription Drug Monitoring Program data

Our ETL tool enables connection to external data sources through the data extract files or REST queries. Your Prescription Drug Monitoring Program would be an example of such a source. We will work with you to identify information that should be brought over and worked using the EDS project change management process.

CM029	Using public health registries

Our ETL tool enables connection to external data sources using data extract files or REST queries. Your public health registries would be examples of such sources. We will work with you to identify the public health registries that are most relevant to SUD and address the addition of those registries using the EDS project change management process.

CM030	Using public health syndromic surveillance data

The ETL tool enables connection to external data sources using data extract files or REST queries. Your public health registries would be examples of such sources. We will work with you to identify which information would be most relevant to SUD, from what point in the surveillance system it should be retrieved, and address the defined requirements using the EDS project change management process.

CM031	Using vital statistics data

Our solution receives birth and death statistics from the state's vital statistics agency and the Social Security Administration. We will work with you to identify which information from what sources are most relevant to SUD, and if additional data is required, we can address those requirements using the EDS project change management process.

CM032	Using enrollment data

OPAHHS includes a wide range of enrollment data. We will work with you in the requirements phase to identify other information in the enrollment system useful for SUD evaluation and monitoring, and address any additional requirements using the EDS project change management process.

CM033	Using data from West Virginia Health Information Network (WVHIN)

Our ETL tool enables connection to external data sources using data extract files or REST queries. We include Health Level Seven (HL7) International libraries for translating electronic medical record (EMR) data. We will work with you to identify which information would be most relevant to SUD and address any additional requirements using the EDS project change management process.

CM034	Using Emergency Department Information Exchange (EDIE), and/or event notification data

Much of the contact with individuals suffering from overdoses is with first responder or emergency departments. Our ETL tool enables connection to external data sources using data extract files or REST queries. Your public health registries would be examples of such sources. We will work with you to identify which information would be most relevant to SUD, from what point in the surveillance system it should be retrieved, and work them through the EDS project change management process.

CM035	Using other data as defined by the Department

We will work with you to identify other data that are relevant to SUD and address others as defined by the DHHR. If the additional data is in addition to what is available in the base OPAHHS solution, can be addressed using the EDS project change management process.

CM036	The solution should have the ability to generate reports on capitation payment by eligibility group and rate code.

Optum will adapt the data model to store capitation payment information in a manner that facilitates reporting by eligibility group and rate code.

CM037	The solution should have the ability to capture information on contracted Managed Care Organizations (MCOs) including, but not limited to:

Most Medicaid programs cover most members through MCOs. Our solution can capture the needed MCO-level information.

CM038	Geographic areas served

We will work with you to define MCO service areas in ways that facilitate meaningful MCO reporting. This will involve tables that define service areas by small areas, such as counties or ZIP codes and shape files for geospatial analysis.

CM039	Capitation rates

Optum will work with you in the requirements phase to understand your approach to compensating MCOs and configure the data model to enable relevant reporting. For example, if you establish annual capitation rates by eligibility category, we would configure our model and populate the tables in a manner that supports relevant analysis and reporting.

CM040	The solution should have the ability to produce managed care program reports including, but not limited to:

Our solution provides a wide-range of predefined reports that allow you to drill down by MCO and other categorical metadata, such as service or eligibility category. In addition, users can perform ad hoc analysis against relevant data.

CM041	Category of service

Our data model includes metadata with code sets to identify service category.

CM042	Category of eligibility

The solution supports queries that form time series for inpatient SUD services, after we have defined the appropriate procedure and provider codes.

CM043	Provider type and/or specialty

We follow the CMS Healthcare Provider Taxonomy Code Set unless directed otherwise. This establishes codes for provider type and provider specialty.

CM044	Other parameters as defined by the Department

The number of dimensions in our OPAHHS solution is extensive. As displayed through the presentation layer, these dimensions support managed care data analysis. If we identify managed care parameters that are required by the Department in addition to what is provided in the base OPAHHS solution, we can address them through the EDS project change management process.

CM045	The solution should have the ability to process encounter data to detect overutilization and underutilization of services by managed care members.

We will work with you during the requirements phase to understand your definitions of overutilization and underutilization. We can then define queries to retrieve these instances and report on them. Our BI and statistical tools both have functionality for outlier detection.

CM046	The solution should have the ability to collect and sort encounter data for use in setting capitation rates.

Most encounter data arrives as a batch file from the MMIS or as X12 transactions from MCOs. Our ETL tool provides the capability to handle such transactions. We store encounter data in our data warehouse where it can be used for any purpose, including setting capitation rates.

CM047	The solution should have the ability to identify fee-for-service (FFS) claims submitted for members covered by managed care.

Our data model includes a field for identifying all FFS claims. Combining data in this field with data in fields, such as member plan, enables the identification of claims submitted by MCO members.

CM048	The solution should have the ability to use claims and encounter data to identify persons with special health care needs, as specified by the Department.

We will determine which diagnosis and procedure codes identify relevant special care needs and develop appropriate queries. Our solution has predefined reports that use Symmetry data to identify persons with likely high costs or who have chronic illness calling for special attention.

CM049	The solution should have the ability to access and report on encounter data including, but not limited to:

Most encounter data arrives as a batch file from the MMIS or X12 transactions from MCOs. Our ETL tool has the necessary libraries to handle such transactions. We store encounter data in our data warehouse where it can be used for any purpose, including the setting of capitation rates.

CM050	Monitor appropriateness of care

Our solution includes reporting based on Symmetry EBM Connect. This looks at each person's claims history to compare the care each received against the care each should have received. Differences are reported. OPAHHS has reports that identify these care opportunities and calculate HEDIS-like measures for the population.

CM051	Determine shared member financial responsibility that includes true out-of-pocket costs

We will work with you to define the data source(s) for true out-of-pocket expenses, arrange for importing into the data warehouse, and define the calculation method.

CM052	Profile Managed Care Organizations (MCOs) and compare utilization statistics

Our solution includes predefined reports that compare MCOs and service utilization by their enrolled members and participating providers.

CM053	Other purposes as defined by the Department

We will work with you to identify other purposes you define. If other purposes are identified that are in addition to what is available in the base OPAHHS solution, we can address them through the EDS project change management process.

CM054	The solution should have the ability to support analytics of fee-for-service (FFS) claims statistics and encounter data including, but not limited to:

Our solution includes all the predefined reports on the above-listed claims and encounter data.

CM055	Timeliness of care

Our episodes of care bring together all the claims associated with a specific episode of illness. By retrieving underlying claims data, you can see the elapsed time from the first claim with the diagnosis to the last. You can plot the claims on a timeline to assess timeliness of care.

CM056	Quality of care

Our solution includes reporting based on Symmetry's EBM Connect. EBM Connect looks at each person's claims history and compares the care received against the care each should have received. It then reports the differences. OPAHHS includes reports that identify care opportunities as well as calculate HEDIS-like measures for the population.

CM057	Patient outcomes

Our solution will enable you to define appropriate measures of patient outcomes. It includes claims data and Symmetry output. Because health generally means an absence of claims or encounters, this requires skill in identifying indirect measures. For example, counting the number of lower extremity amputations in the diabetes population measures the ability to avoid severe side effects of diabetes at the population level.

CM058	The solution should have the ability to receive population health data from various external entities including, but not limited to:

Our ETL tool enables connection to external data sources using data extract files or REST queries. In addition, the R tool component of our solution provides capabilities that facilitate both the solution and users retrieving data from external entities with data servers, such as Census and the CDC.

CM059	Public health surveillance data

Our ETL tool enables connection to external data sources using data extract files or REST queries. We will work with you to identify which information would be most relevant, from what point in the surveillance system it should be retrieved, and address the requirements using the change management process.

CM060	Census data

In addition to our ETL tool, R provides the capability to retrieve information directly from the Census data server.

CM061	Vital statistics data

Our solution customarily receives birth and death statistics from the state vital statistics agency and the Social Security Administration. We will work with you to identify which information from what sources are most relevant and address any additional requirements through the EDS project change management process.

CM062	Others as defined by the Department

We will work with you in the requirements phase to identify other relevant data sources. If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

CM063	The solution should have the ability to interface with data sources necessary to support analytics and report on social determinants of health.

Our solution can ingest most data sources and data necessary for analytics. This includes social determinants of health. Additionally, R has packages that retrieve data from the Census Bureau's American Community Survey, which is the premier source of social determinants data.

CM064	The solution should have the ability to support analytics of population health data to develop health improvement communication materials including, but not limited to:

Our solution has a wide range of predefined and ad hoc analytics based on population health data. In the requirements phase, we will work with you to determine how to leverage those reports in your process for developing and deploying health communication to the Medicaid-eligible population of West Virginia.

CM065	Campaigns to enroll new members in existing programs

Our solution has a wide range of predefined and ad hoc analytics based on population health data. We will work with you in the requirements phase to understand your process for running enrollment campaigns and determine how we can help you. Our statistical tool has a data publishing function that can produce production-ready documents. Our database can assist in pruning mailing lists of already-enrolled members.

CM066	New programs and services

We designed our solution to support a near limitless number of new programs and services. Requests for new programs or services defined by the Department in addition to the base OPAHHS solution can be addressed through the EDS project change management process.

CM067	Updated benefits/reference information

Optum maintains a subscription to reference data and updates the data based on an agreed-upon scheduled. We will update benefit information in accordance with your changes.

CM068	Others as defined by the Department during Design, Development and Implementation (DDI)

Our proposed solution includes an extensive range of pre-developed analytic capabilities and visualizations. Additionally, it includes flexible ad hoc reporting, self-service analytics, and visualization capabilities. If others are identified in addition to what is available in the base OPAHHS solution, we can address them through the EDS project change management process.

CM069	The solution should have the ability to capture each Managed Care Organizations' (MCOs') provider data including, but not limited to:
CM070	Provider identification (ID) number
CM071	Provider type
CM072	Provider specialty
CM073	Provider affiliation
CM074	Provider physical address
CM075	Provider mailing address
CM076	Others as defined by the state

Our solution stores the same data for MCO providers as it does for FFS providers. Our solution captures the National Provider Identifier for each provider. We follow the CMS Healthcare Provider Taxonomy Code Set unless directed otherwise. This establishes codes for institutional claims, medical claims, pharmacy claims, and so forth.

We will work with you to add fields with code sets that capture the affiliations important to you. This could be clinician affiliations with a group practice or hospital department, with a care network, or privileges at a hospital.

Our data model includes fields for **provider identification (ID) number**, **provider type**, **provider specialty**, **provider affiliation**, **provider physical address**, and **provider mailing address**. We validate addresses to conform to United States Postal Service guidelines.

If **others** are identified in addition to what is available in the base OPAHHS solution, we can address them through the EDS project change management process.

Assumptions for Care Management

- The EDS anticipates member data sourced from the MMIS and eligibility systems. Any analytics related to citizens will be limited to those who have data in the EDS.
- Analytics that depend on clinical or patient scheduling data will require the introduction of new source systems, which we assume are outside the scope of the RFP.

2. Financial Management

Refer to the relevant business specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Financial Management below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Optum Response:

Approach and Solution Capabilities for 4.5.1 Financial Management

Approach to Financial Management

We developed OPAHHS with the design principal that the data warehouse component of the EDS is the single enterprise repository to serve all stakeholder organizations' data needs, whether manual or automated. The ETL component is equally equipped to export data to dependent systems, as well as ingest from source systems. The data architecture also

anticipates the need to make data available through secure landing zones using secure data transport mechanisms. These may be scheduled or manually triggered. Our approach adds the value of data enrichment and cleansing to enhance the quality of results for downstream processes. This provides a high level of certainty of the data validity and accuracy being used for financial reporting purposes. OPAHHS has a built-in data quality improvement process that will log data anomalies and exceptions to be reviewed to understand and act, as necessary, on the quality of data for the EDS.

Our financial reporting capability supports overall management control, planning, and reporting processes within state Medicaid and Human Service programs. Typical functions covered include policy planning and evaluation, fiscal planning and control, and federal and state reporting. This data is available based on the following:

- Current month
- Same month last year
- Three and six-month averages
- Fiscal Year-to-Date this year and last year
- Projected Fiscal Year Totals

Additionally, categorized summary totals are available for providers, members, paid claims, denied claims, and suspended claims. Claim, member, and provider counts are unduplicated.

With these data, you can build member reports that enable you to review and analyze member participation, eligibility, activity, and service usage to enhance the efficiency and effectiveness of the Medicaid program. By loading your CMS-64 and T-MSIS data to our repository, you can perform deeper analysis of member eligibility, summary totals by age, race, specific program code, and unduplicated counts of members. Using your choice of Tableau, R, or SQL, you can access your administrative and financial data to perform, utilization evaluation, payment statistics, claim filing analysis, and provider evaluation. The provider data permits the evaluation of provider participation, furnishes provider billing characteristics, and monitors billing irregularities where actual or potential problems may exist.

Phased Implementation

Building a data warehouse, complete with its many interfaces (both inbound and outbound), is an iterative process. In all of our data warehousing engagements from Michigan to California, we have built, and we continue operating, systems that are dynamic and growing. This growth starts from a foundational core in DDI, expanding iteratively as our clients identify new data sources and consumers. We have proposed a project plan that focuses on converting the existing data warehouse, complete with standing up ongoing data feeds from the existing source system.

Instead of accomplishing this in step, we have divided the work into smaller segments, both in terms of subject area and amount of history. For example, we will divide the EDS subject areas into easily recognized business areas, such as member, provider, claims, and encounter. This will help focus requirements and design sessions, making it better use of your SMEs' time. We are also converting successively larger amounts of history in each planned data load and reload, namely three months and 12 months of history, prior to the conversion of all required history in preparation for EDS go-live. Through successful execution of successive test cases, we will build confidence in the data quality of converted and ongoing data refresh capabilities.

Meanwhile, our phased plan shows us making data available for Symmetry Groupers, OPAHHS reports, and the fraud and abuse data marts. Optum Symmetry provides in-depth and

systematic data enrichment capabilities for enhanced analytics and decision-making. This is deployed to clients across the country and maintains data for more than 170 million individuals, which is more than half of the insured U.S. population. The Symmetry engine calculates adherence to more than 650 quality measures, including HEDIS measures. It uses claims history data to calculate risk scores.

We will repeat this pattern with all required and mutually agreed data sources added in both DDI and Operations. Integrating data sources by dividing them into logical subject matters and successively larger longitudinal segments makes the best use of SME time and provides the right balance of development velocity and testing scrutiny. This strategy also provides opportunity for incremental steps in Organizational Change Management in your four program areas, namely Care, Financial, and Program Management, as well as Program Integrity.

Exception Handling Process

To handle deviation from processing rules and routines, we will build in instrumentation (reports and alerts) that detect and notify us of such deviations. This can come in the form of ETL jobs that stop and wait for manual intervention for a balancing or data quality issue. It can also come in the form of a data quality trend that is successively moving away from target specifications. We will respond to these alerts and data quality trends, and notify you of a plan of action and outcome conforming to the relevant service level agreements.

Dependencies of Existing Systems

The EDS will have several dependencies from the existing DW/DSS as well as the various source systems. These dependencies will affect the key business areas of Care, Financial, and Program Management as well as Program Integrity. The following table outlines these dependencies.

Dependency Type	Dependency	Importance
Data	Completeness	The EDS must have all relevant records and fields from the existing DW/DSS and other source systems. Missing data can lead to erroneous results, and erode user trust.
	Quality	The EDS requires predictable baseline data quality so that important records and fields are present and/or conformable to business reporting requirements.
	Metadata/ Documentation	The EDS will benefit from participation in DHHR data governance, as well as receiving all forms of technical, business, and operational metadata from the existing DW/DSS and source systems.
	MDM	The EDS will be a subscribing system to the West Virginia master data management hub.
Process	Balancing	The EDS must use control totals that accompany data loads and extracts.
	Adjustments	DHHR, source system vendors and Optum must work to identify business rules for claims and encounter adjustment records.
	Tagging	In key areas such as loading the CMS-64 and T-MSIS data to the EDS, all tagging, such as category of service as well as appropriation, budget and fund codes, and others must be placed on the appropriate records by the source system.
	Change Capture	DHHR, source system vendors and Optum must work to identify methodologies for the EDS to update its ETL operational data store to reflect the current state of the source systems.
Schedule	Processing Calendar	The ongoing periodic loads of data will be dependent upon the production of extracts from source systems. Fitting such loads into regular production windows for the EDS will require source systems adhering to agreed-to schedules.

Dependency Type	Dependency	Importance
	SME Availability	Data conversion, loading and ongoing maintenance of the EDS will require input from key subject matter experts from DHHR. Our experience suggests that we often need access to SMEs involved with MMIS pricing, financial accounts receivable and payable, as well as Federal reporting.
	Vendor Cooperation	Similarly, the EDS development and change management staff will need access to MES vendor staff for metadata, schedule and operations questions and confirmation of assumptions we have made regarding vendor systems.

CMS Financial Reporting

Our solution retrieves CMS-21, CMS-64, and T-MSIS information from the MMIS and stores it in the data warehouse component of the EDS. You can access this information through SQL or through a BI workbook, which allows user-friendly viewing, pivot table analysis, visualizing, and forecasting selected subsets of that data.

Expenditure Reporting

- **Finance detail:** This report supports rate-setting analyses, such as Pay for performance, Episode-based payment, Revenue modelling, including analysis of FMAP differences, Risk-adjusted payment, and Capitation calculations (including risk-adjusted capitation). It helps in determining the value of services, regardless if carve-in or carve-out, such as pharmacy, behavioral health, and LTSS.
- **LTSS utilization:** This shows a more detailed review of members receiving LTSS, particularly those receiving high levels of service and/or overlapping services.
- **Cost drivers:** This provides an analysis of the different drivers of costs of delivery of services.
- **Categories of service:** Utilization of services is presented for high-level categories (inpatient, outpatient, professional, and pharmacy) with drill-down capability into more detailed levels, down to line-level assignments.
- **PMPM cost by county:** An analysis of costs and utilization at the county level is provided to compare across geographic areas, including drilldown into categories of service for those areas. Comparative metrics include clinical measures, such as disease prevalence and comorbidities, quality measure adherence, standard utilization, and cost metrics. Year-over-year comparisons are provided to establish the necessary frame of reference for data points.

Rate Setting, Budget Modeling, Rate Analysis, and Capitation Rates

The Finance detail report workbook in OPAHHS is our primary support for financial analysis, including rate setting. This report workbook supports rate-setting analyses, such as Pay for performance, Episode-based payment, Revenue modelling, including analysis of FMAP differences, Risk-adjusted payment, and Capitation calculations (including risk-adjusted capitation). It helps in determining the value of services, regardless if carve-in or carve-out, such as pharmacy, behavioral health, and LTSS.

This workbook is in Tableau, our primary BI tool. Tableau's key underlying data model is the pivot table, sometimes known as a hypercube. Users can drill down on any supported dimension by dragging that dimension into the table. The table will then immediately recalculate.

Framework

We developed our own framework for development, the Optum Scalable Agile Method (OSAM). We comply with the governance frameworks of our clients. Additionally, we pro-actively support governance operations within the framework of our role.

Forecasting

Tableau also has built-in forecasting capabilities with automatic selection of the most appropriate model. If you wish to use higher-end statistical techniques than those supported in Tableau, Tableau has an interface to R, a statistical programming language, which has a vast archive of freely available statistical algorithms. Authorized users have access to a high-end R IDE and/or a version of Tableau that can directly access the data warehouse component of the EDS. We can also arrange for authorized users to install their preferred tools in the EDS or to export selected data to them.

Federal Reporting

Our proposed solution includes an extensive range of pre-developed analytic capabilities and visualizations. Additionally, it includes flexible, ad hoc reporting, self-service analytics, and visualization capabilities. Any of these can be sent to any agency in the Federal government. For any requirements defined by the Department that cannot be met by the base OPAHHS solution, we can address them using the change management process.

Waiver Analysis

We will load your data as it is produced in the MMIS, preserving the MMIS' data enrichment. This includes stamping eligibility at the time of payment if available, and making sure peer group populations for the 1915c waivers are clearly defined for generation and available for individual claim transactions and eligibility information making the data available for reporting.

Fiscal Impact Analysis

Making fact-based decisions is critical to engineering and developing medical assistance policies and regulations. OPAHHS enables you to base decisions on empirical analysis of medical claims, eligibility, patient satisfaction data, provider data, and clinical data. Our solution provides insight into the value of health care by risk-adjusting medical claims to obtain a fair analysis of utilization provided to members. We can produce and index over 650 quality measures, which will enable you to base your decisions on cost, as well as the value of care delivered. We use ETGs to group medical claims into homogenous units, enabling you to compare costs across a disease or condition episode rather than evaluating individual claims.

Our strategy for employing OPAHHS as part of a fiscal impact analysis involves first certifying the quality of the data processed through the application. We then identify areas of concern or directly address the medical policy being evaluated. For example, in developing a health home model, our solution may identify people at a certain risk level who would benefit most from primary physician-managed access to the health care system. Alternatively, performance rewards can be identified using our value and quality index. Impact (or what-if) analysis can be performed to determine the costs and value associated with a proposed change in benefits or payment. OPAHHS provides the enriched data required to thoroughly evaluate the design and development of policies and regulations.

Link to Disparate Data

Our base solution has reporting capabilities that provide some of the types of reporting noted in this linking question. However, we suggest the best approach is to rely on the data warehouse

in the EDS, which provides the ability to report on any data stored at any time. With this approach, the data warehouse in the EDS becomes the primary source of all reporting. Further, we recommend that all key data are loaded into the date warehouse in the EDS, to retain that data for longitudinal analysis and reporting. The data warehouse in the EDS should be the single-version of the truth for all analytics and reporting. Using this approach, we can link timing of claims filing with payment and other statistical data, and with financial/budgeting information.

The need to link disparate data is a crucial business need of every Medicaid agency. In response to that need, it is a key feature of each of our EDS. We provide the ability to query, analyze, and report on data using a number of approaches. One, for example, is to use direct linkages where matching fields exist between data sources. This is not always possible, however. A second method is to create linkages using probabilistic and deterministic approaches. We have a proven record of successfully matching data across an MMIS enterprise with a very high match rate. Our success to achieving high match rates is based on our knowledge of the data, experience with complex data architectures, and utilizing leading data integration tools.

Access to Provider Payments

As noted, we recommend the EDS be your primary reporting environment. With the EDS, you can access all data and report on it using either existing or ad hoc reports. The BI tools in the EDS provide extensive query, reporting, and analytic capabilities. They will enable you to meet needs, such as showing increases/decreases and cumulative year-to-date figures, after each claim processing cycle. In addition to the EDS and BI tools, we deliver comprehensive provider and financial reporting through a combination of our EDS proprietary health care analytics capabilities, as noted earlier.

Our EDS provides immediate access to critical data loaded from your MMIS. This includes user-selected financial, budget, processing metrics, and totals. You can view the detailed list of claims behind the totals and export to an Excel spreadsheet for further manipulation of the claims data. In addition to easily seeing the details behind aggregate totals, users can select a subset of data instead of viewing an entire report, and set up alerts for fields that are outside of pre-set norms. You can also view pie charts, bar charts, and detail reports. Finally, you can access data by date of service and paid date. No matter what your financial reporting needs may be, our administrative and financial data repository makes the job easier.

By storing the administrative and financial data from your MMIS, the EDS data supports:

- **Provider reporting,** including error code analysis, participation analysis, ranking, and claim filing statistics
- **Claim processing activity and statistics,** including claims processing time, financial aged analysis, remittance and payment summaries, suspended/denied claim reporting, and processing cycle time analysis by different categories
- **Flexible reporting** for expenditures, budget information, recoupments, and collections according to federal and State criteria
- **Reporting expenditure data** by various criteria, including fund sources categories of service, eligibility categories, provider types, and other required tracking categories
- **Trend analyses and expenditure projections**
- **Cost settlement reporting**

- **Eligibility and utilization data to support the budget process**, including eligibility counts and utilization by aid category, category of service, and lag factors used for cash flow determination
- **Adjustments and financial transactions**
- **Information** required to analyze, develop, and improve program policies, procedures, and guidelines

Balancing

We will work with your MMIS vendor to achieve data agreement between the MMIS and the EDS. Normally, in the MMIS adjudication batch process, a payable batch control file is created identifying all claims that were paid with amount, and indicating what fund sub-ledger was used to pay each claim. This control file can then be compared to the accounts payable ledger to make certain there is a one-to-one match for each payment transaction to the accounts payable entry. If there are matches by transaction and payment amount for each control record in the accounts payable ledger, then the process is balanced. If we detect discrepancies between the control file and the accounts payable ledger, we will alert the MMIS operations team to follow the published remediation policy and procedures to reconcile the accounts payable to the payment control file.

Appendix 1: Financial Management

Optum will meet the following the Financial Management requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

FM001	The solution should have the ability to obtain various listings of the procedure, diagnosis, and preferred drug list (PDL) files.

The data warehouse and modules will be loaded with both reference data and your preferred drug list retrieved from the MMIS through the ETL process. Reference data will include both procedure and diagnosis codes.

FM002	The solution should have the ability to support analytics and reporting on claims processing errors including, but not limited to:

Claims are processed by the MMIS. Errors will be available to be reported on after each EDS load cycle. We can report on the information received using our OPAHHS BI tool.

FM003	Frequency

We will work with you during the requirements validation activities to define your requirements for data extract transmission frequency, reporting frequency, and reporting on the frequency each kind of error occurred (error frequency).

FM004	Extent and type of provider

We will use the CMS Healthcare Provider Taxonomy Codes as maintained by the National Uniform Claim Committee together with your MMIS provider attribution to capture the extent and types of providers. In our provider directory we store the name of the provider, the organization they are affiliated with (if any), their physical and billing addresses, latitude and longitude of addresses, their national provider identifier, their master data management unique ID, their type (e.g., doctor, pharmacy), and their specialty if any. Further, we will use this information to link and correlate the roles providers are playing on claims and encounters, not limited to treating and billing but extending to PCP, referring, prescribing, as well as attending.

FM005	Others as defined by the Department

Our proposed solution includes an extensive range of pre-developed analytic capabilities and visualizations. Additionally, it includes flexible ad hoc reporting, self-service analytics, and visualization capabilities. If others are identified in addition to what is available in the base

OPAHHS solution, they can be addressed through the EDS project change management process.

FM006	The solution should have the ability to report based on line and subline categories to all claim line details that correspond to the CMS-21 report.

OPAHHS has the ability to report based online and subline categories to all claim line details that correspond to the CMS-21 report.

The source vendor will provide Optum the appropriate claim line detail data with the CMS-21 line and subline categories appended to the claim line detail (or a mutually agreed-upon alternate approach). Optum must receive the CMS-21 data in a mutually agreed-upon time frame that will allow Optum to store the data and make it available to the State for query and reporting. The source vendor will be responsible for addressing any data issues associated with the data they provide Optum and provide any corrected or replacement data in a mutually agreed-upon manner and time frame.

Optum's responsibility will be limited to accurately storing and maintaining the CMS-21 data as provided by the source vendor and making it available to the State for query and reporting.

FM007	The solution should have the ability to report based on line and subline categories to all claim line details that correspond to the CMS-64 report.

OPAHHS has the ability to report based online and subline categories to all claim line details that correspond to the CMS-64 report.

The source vendor providing Optum the appropriate claim line detail data with the CMS-64 line and subline categories appended to the claim line detail (or a mutually agreed upon alternate approach). We must receive the CMS-64 data in a mutually agreed-upon time frame that will permit us to store the CMS-64 data and make it available to the State for query and reporting. The source vendor will be responsible for addressing any data issues associated with the data they provide Optum and provide any corrected or replacement data in a mutually agreed-upon manner and time frame.

Optum's responsibility will be limited to accurately storing and maintaining the CMS-64 data as provided by the source vendor and making it available to the State for query and reporting.

FM008	The solution should have the ability to provide data for budgeting, forecasting, and rate analysis for all benefits, benefit types, and eligibility groups.

The Finance detail report workbook in OPAHHS is our primary support for financial analysis. This report workbook supports rate-setting analyses, such as Pay for performance, Episode-based payment, Revenue modelling, including analysis of FMAP differences, Risk-adjusted payment, and Capitation calculations (including risk-adjusted capitation). It helps in determining the value of services, regardless if carve-in or carve-out, such as pharmacy, behavioral health, and LTSS.

Other relevant report workbooks include the Eligibility Group Profile, where utilization, demographics, clinical, geographic, and enrollment detail are summarized in one template. This enables the user to deep dive into one particular eligibility group or groups. Authorized users can also directly access the data warehouse component of the EDS for more detailed data.

FM009	The solution should have the ability to support data modeling and to import to and export from other software solutions.

Our solution includes leading data modeling tools, data architects to model data, and the data models embedded in our modules. Our ETL tool and database allow export and import to or from other source solutions and data stores through extract or REST Web service APIs. Figure 19 shows an example of an OPAHHS data model.

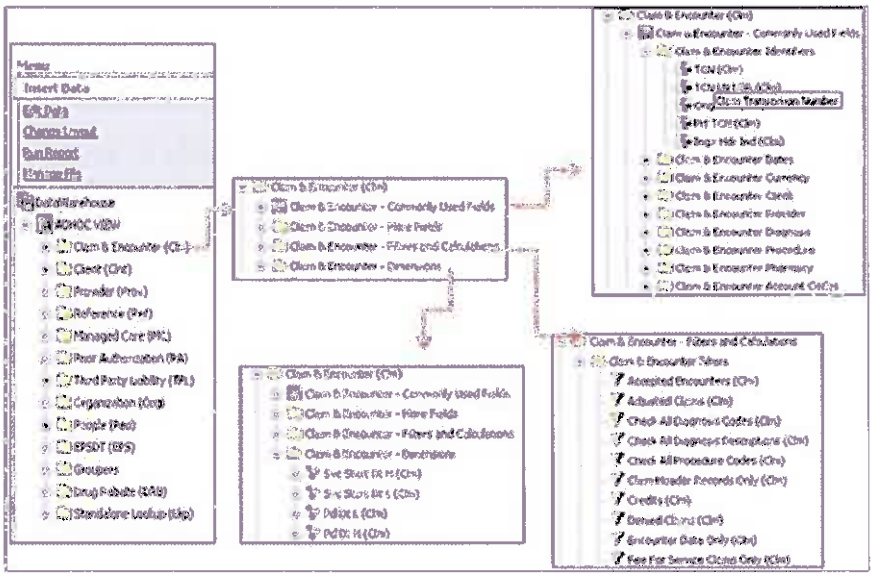


Figure 19: OPAHHS Data Model

The OPAHHS data model demonstrates the linkage and relationship of data across the solution. Our industry-standard data modeling tools support export and import from other software solutions.

FM010	The solution should be populated with data as defined by the Department during Design, Development, and Implementation (DDI).

OPAHHS has a pre-built data model that includes relevant Department-defined MMIS claims files. These include medical, dental, pharmaceutical, behavioral, long-term care, and durable medical equipment. We will also add Department-defined PEIA medical and pharmacy claims, and HSC birth and death records to the EDS during DDI.

Our process includes populating our data stores with relevant data after the base models have been configured. The EDS will supply the Department with a greater range of analytical capabilities beyond standard reporting of aggregated data. We will be able to integrate external data sources (e.g., immunization, eligibility, and public health records) into the Medicaid data warehouse and by supplying more advanced analytical tools to detect fraud and abuse, as well as measure health outcomes.

FM011	The solution should have ability to provide data for rate-setting analysis applicable to all provider types and member benefits.

Our solution's Finance Detail report workbook is the most accessible relevant analysis-ready data. This report workbook supports rate-setting analyses, such as Pay for performance, Episode-based payment, Revenue modelling, including analysis of FMAP differences, Risk-adjusted payment, and Capitation calculations (including risk-adjusted capitation). It helps in determining the value of services, regardless if carve-in or carve-out, such as pharmacy, behavioral health, and LTSS. OPAHHS maintains data on enrollment, providers, and claims that provide value in your rate-setting analysis.

Authorized users have access to more fine-grained data in the data warehouse component of the EDS using Tableau Creator, RStudio, or the ODBC client of our choice.

FM012	The solution should have the ability to add attachments at the detail level of the budget using software applications defined by the Department including, but not limited to:
FM013	Microsoft Word
FM014	Microsoft Excel
FM015	Portable Document Format (PDF)

FM016	Others as defined by the Department

OPAHHS provides the ability to **add attachments**. For example, DHHR could use Excel to define a budget in the solution and then attach **Microsoft Word**, **PDF**, or other **Microsoft Excel** spreadsheets at a detail level.

We support all required attachment types and many others (e.g., JPG, GIF). If **others** are identified in addition to what is available in the base OPAHHS solution, we can address them through the EDS project change management process.

FM017	The solution should have the ability to provide ad hoc reporting that allows authorized solution user flexibility definitions, and it should have the ability to encompass the Department's reporting needs.

Our BI and statistical tools provide great flexibility in both data access and ad hoc reporting on data. Authorized users have read access to the entire data warehouse as well as the ability to import any external data into a personal storage area for ad hoc reporting.

FM018	The solution should have the ability to report across all Medicaid and Social Service payments regardless of service delivery method and financing mechanism including, but not limited to, the use of a master data management system or function.

We can report on any data in the EDS. We understand DHHR has a master data management capability, so it links together all the social service programs an individual or family. OPAHHS is able to leverage and use the Department's Master Data Management system. Many program have their own ID code systems for identifying their members. With MDM, we can accurately link together information on the same person from multiple sources and then calculate total expenditure.

FM019	The solution should provide the ability to organize reports based on member enrollment and eligibility criteria.

OPAHHS product has predefined enrollment reports that allow drilldown by eligibility categories.

FM020	The solution should have the ability to capture data necessary to perform actuarial services and analyses.

Actuaries in health insurance generally need claims data formed into cohorts defined by diagnostic categories, eligibility categories, and demographics. OPAHHS captures that data in the process of building and operating the data warehouse component of the ODS. The database being used can store any kind of data including XML and JSON, the most common format for transport of electronic medical records data you may receive in the future.

Although you indicated your actuaries have their own tools plans, you should know our solution's data science tool has access to statistical algorithms commonly used by actuaries such as incurred, but-not-reported calculation and survival analysis.

Assumptions for Financial Management

- Analytics in this section that depend upon MMIS claims processing errors depend on that data to be supplied using the normal MMIS source feeds to the EDS.
- Source system data submission frequencies will dictate the reporting frequencies attainable within the EDS.

3. Program Management

Refer to the relevant business specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Program Management below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Optum Response:

Approach and Solution Capabilities 4.5.1 Program Management

Approach to Meeting Program Management

We base our approach for providing EDS solutions on meeting client business needs. You require a solution that drives business value for your enterprise and your Medicaid Enterprise stakeholders. OPAHHS will give DHHR the professional services needed to translate analytic content into useable information. Our experience with Medicaid and state government HHS data enables us to engage in timely, productive conversations with you about converting and enriching your data, and collecting it moving forward. OPAHHS will render your data in reports, APIs, and data collections that will provide actionable insights. OPAHHS will help you meet your goals to promote lower costs, better care and services, and improve analytics and reporting capabilities.

Phased Implementation

Building a data warehouse, complete with its many interfaces both inbound and outbound, is an iterative process. In all of our data warehousing engagements from Michigan to California, we have built, and we continue operating, systems that are dynamic and growing. This growth starts from a foundational core in DDI, expanding iteratively as our clients identify new data sources and consumers. We have proposed a project plan that focuses on conversion of your existing data warehouse, complete with standing up ongoing data feeds from the existing source system.

Instead of accomplishing this in step, we have divided the work into smaller segments, both in terms of subject area and amount of history. For example, we will divide the EDS subject areas into easily recognized business areas, such as member, provider, claims, encounter and so on. This will assist focusing requirements and design sessions, making it better use of your SMEs' time. We are also converting successively larger amounts of history in each planned data load and reload, namely three months and 12 months of history prior to the conversion of all required history in preparation for EDS go-live. Through successful execution of successive test cases, we will build confidence in the data quality of converted and ongoing data refresh capabilities.

Meanwhile, our phased plan shows us making data available for Symmetry Groupers, OPAHHS reports, and the fraud and abuse data marts. Optum Symmetry provides in-depth and systematic data enrichment capabilities for enhanced analytics and decision-making. This is deployed to clients across the country and maintains data for more than 170 million individuals, which is more than half of the insured U.S. population. The Symmetry engine calculates adherence to more than 650 quality measures, including HEDIS measures. It uses claims history data to calculate risk scores.

We will repeat this pattern with all required and mutually agreed data sources added in both DDI and Operations. Integrating data sources by dividing them into logical subject matters and successively larger longitudinal segments makes the best use of SME time and provides the right balance of development velocity and testing scrutiny. This strategy also provides opportunity for incremental steps in Organizational Change Management in your four program areas, namely Care, Financial, and Program Management, as well as Program Integrity.

Exception Handling Process

To handle deviation from processing rules and routines, we will build in instrumentation (reports and alerts) that detect and notify us of such deviations. This can come in the form of ETL jobs that stop and wait for manual intervention for a balancing or data quality issue. It can also come

in the form of a data quality trend that is successively moving away from target specifications. We will respond to these alerts and data quality trends, and notify you of a plan of action and outcome conforming to the relevant service level agreements.

Dependencies of Existing Systems

The EDS will have several dependencies from the existing DW/DSS as well as the various source systems. These dependencies will affect the key business areas of Care, Financial, and Program Management as well as Program Integrity. The following table outlines these dependencies.

Dependency Type	Dependency	Importance
Data	Completeness	The EDS must have all relevant records and fields from the existing DW/DSS and other source systems. Missing data can lead to erroneous results, and erode user trust.
	Quality	The EDS requires predictable baseline data quality so that important records and fields are present and/or conformable to business reporting requirements.
	Metadata/ Documentation	The EDS will benefit from participation in DHHR data governance, as well as receiving all forms of technical, business, and operational metadata from the existing DW/DSS and source systems.
	MDM	The EDS will be a subscribing system to the West Virginia master data management hub.
Process	Balancing	The EDS must use control totals that accompany data loads and extracts.
	Adjustments	DHHR, source system vendors and Optum must work to identify business rules for claims and encounter adjustment records.
	Tagging	In key areas such as loading the CMS-64 and T-MSIS data to the EDS, all tagging, such as category of service as well as appropriation, budget and fund codes, and others must be placed on the appropriate records by the source system.
	Change Capture	DHHR, source system vendors and Optum must work to identify methodologies for the EDS to update its ETL operational data store to reflect the current state of the source systems.
Schedule	Processing Calendar	The ongoing periodic loads of data will depend upon the production of extracts from source systems. Fitting such loads into regular production windows for the EDS will require source systems adhering to agreed-to schedules.
	SME Availability	Data conversion, loading and ongoing maintenance of the EDS will require input from key subject matter experts from DHHR. Our experience suggests that we often need access to SMEs involved with MMIS pricing, financial accounts receivable and payable, as well as Federal reporting.
	Vendor Cooperation	Similarly, the EDS development and change management staff will need access to MES vendor staff for metadata, schedule and operations questions, and confirmation of assumptions we have made regarding vendor systems.

Lower Costs

Part of our data warehouse success comes from saving our clients time and money while expanding their capabilities. One major source of these savings is consolidating databases, eliminating duplicate and silo-oriented data collection. Throughout joint application design (JAD) sessions, we will help you identify places in your Medicaid Enterprise where data intake operations are duplicated, and help you plan for consolidation. Our capabilities in 360-degree data lineage analysis will help you with duplicate databases that often have differing business functions and data consumers. This analysis will not only facilitate the consolidation of data sources and databases, but will also verify that downstream subscribers are supported and not negatively impacted.

OPAHHS powers modern health care by combining data and analytics with technology and expertise. Our solution establishes an empirical framework for decision making that mirrors the

learning health system model from the Institute of Medicine, recently renamed the National Academy of Medicine. OPAHHS will support you in delivering high-quality care while learning and improving your programs over time. Unlike traditional, older COTS products that have a static set of program-independent measures, your new EDS will show you specific program data to evaluate with tailored performance measures. Your improved analytics will help you make informed program and policy decisions, monitor their effects over time, and continually improve quality, cost, and effectiveness. This continual learning and improvement makes our approach meaningful and unique.

We will facilitate improvement of operational performance by helping you evaluate programs, measure performance, and grow the data behind those measures. Our project leadership and staff will work with you to develop and maintain close working relationships as we do with each of our state government clients. We will support you by:

- Providing business and technical expertise to help you evaluate your programs
- Helping you to develop an annual reporting and analytics plan that details and prioritizes reporting based on your identified key performance indicators and focus areas
- Expanding measurement capabilities to support your program management needs, including measurement against baseline periods, benchmarks or population averages, and longitudinal tracking
- Implementing performance measurement calculation methodologies to provide consistency and comparability across population groups
- Researching and recommending new methodologies to enhance program reporting and maintain currency with industry standards

OPAHHS will become an integral part of your learning health system for defining and measuring how well your Department is meeting your goals. OPAHHS will serve as your knowledge center to support innovative health care analytics, retrospective reporting, and strategic planning.

Eliminate Cost of Duplicate Analysis

Just as we support you in the elimination of duplicate data sources and silos, we will also help you drive out duplication in data delivery systems. Our data stores, and business intelligence tools are flexible while retaining their business meaning. We do not derive flexibility from having a generic presentation layer that shifts the burden to the user, or one that is too specific leaving users with gaps. Instead, we derive flexibility by organizing our presentation layer into flexible data collections that allow use across multiple business areas. For example, our recipient data collections are useful for enrollment, claims, encounter, Third Party Liability (TPL), and a host of other business functions. If you look deeper, you see that these flexible data collections tie back to non-duplicated objects in the EDS reporting data store. In other words, we will build your system in a manner that allows reusability from end-to-end: from ingestion, to storage, to presentation.

Improved Care and Services

Our experience in harmonizing and consolidating systems across Medicaid and state government enterprises is significant. In New York, Virginia, Michigan, Indiana, and Illinois we have brought traditional Medicaid entity data, such as provider, recipient, and claims together with emerging sources such as encounter data, LTSS, and DSRIP. By doing so, we have afforded our customers a more predictable and uniform way of managing their reporting data. By bringing other sources of data from Medicaid (e.g., drug rebate and TPL) together with non-Medicaid data (e.g., judicial system data), our clients realize an even greater benefit. No longer do our customers need to manage one-off systems or vendors in managing the reporting data

for these systems. As part of our approach, we provide templates and architypes for bringing in data, harmonizing it with existing data, protecting it over its entire lifecycle. We provide easy to understand standard and secure tools and processes for rendering the data in reports, interfaces, and extracts complete with supporting materials, enterprise metadata, and subject matter expertise.

OPAHHS is a framework that expands to include future data sources, such as clinical and public health data, if DHHR chooses to expand the scope of the EDS in the future. You will not need a new solution to accommodate those future data sets. Near-term cost, access, and quality metrics inform decisions for the future. This helps you advance monitoring efforts for reducing health care costs while improving care quality and services.

Improved Analytics and Reporting

OPAHHS provides a single platform for integrated health care data that promotes efficient analytics and reporting, enabling a holistic, evidence-based decision-making process. It also supports centralized data management services and analytics that you can leverage as a common capability. Our solution provides a highly reliable and flexible data warehouse and triple aim analytic environment. We will organize your data and analytics into the following business domains:

- **Population analytics:** Data follows each recipient. We collect, integrate, and analyze comprehensive service information to support goals for improved health and program outcomes for individuals and populations.
- **Provider analytics:** We assess provider and health plan performance using peer-group quality and cost efficiency scoring. We look at information from provider type, cost, and utilization to avoidable events measures and patient attribution.
- **Financial analytics:** We collect and track information over time to support budget forecasting. The information also informs changes to policy and resource allocation in ways that can improve program and financial outcomes.
- **Ecosystem analytics:** We identify and assess trends in the health care industry and HHS programs at the local, regional, and national levels. These trends can help you design, implement, and evaluate innovative payment and service delivery models.
- **Engagement analytics:** We help you build strategies to engage individuals and their families as partners in care while supporting successful stakeholder commitment.

Together, these domains will serve as your health care operations and triple aim measurement library. This OPAHHS library is the transparent, analytical framework you need to improve, manage, and evaluate your health care system.

Reduce Error Payments using Prepayment Analysis

Although we are not proposing out-of-the-box capabilities for prepayment analysis, we are very familiar with the classic feedback loop involving retrospective analysis feeding into the design of business rules and claims and encounter processing edits. While our FADS product is an excellent tool for identifying leads, it will also be a source to confirm non-compliant billing behavior.

The EDS is an excellent place to see more about identified aberrant billing and utilization behavior, as authorized users will have access to more columns and attributes in claims and encounter data. The EDS will allow users to explore dimensional and historical data more fully.

The solution's retention of paid, denied and pending claims, and where possible the encounter data counterparts, will provide a rich data foundation for statistical analysis of billing data

patterns. This analysis may take the form of a frequency or dollar impact ranked chart of the top aberrant billing patterns or a list of the top billers engaged in such behavior. Using this and other pattern recognition tools, the EDS will enable you to recognize where your efforts in building Medicaid Enterprise prepayment code will pay off the most.

Appendix 1: Program Management

Optum will meet all the Program Management requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

PG001	The solution should support a range of analysis actions including, but not limited to:

Our solution provides comprehensive support for analysis actions. This support operates at several levels:

- **Easily locatable relevant clean data:** Our data warehouse will be populated with cleansed data from your sources. We will model that data in a way that facilitates rapid location and retrieval through careful deployment of metadata and indexing.
- **Analysis-ready views:** Our solution includes a number of analysis-ready views supporting common topics of Medicaid analysis.
- **Business intelligence tools:** Our primary BI tool is Tableau, renowned for data visualization and ease of use.
- **Data science tools:** Our primary data science tool is RStudio Pro Enterprise, which gives you access to Microsoft R Open and Python as well as the thousands of freely available packages in those languages.
- **Training and support:** Our staff, help desk, and consultants will help you make use of those tools, or you can delegate development to the consultants though appropriate procedures.

PG002	Benefit modeling

Our solution includes the Financial Detail report workbook. This report workbook supports rate-setting analyses, such as Pay for performance, Episode-based payment, Revenue modelling, including analysis of FMAP differences, Risk-adjusted payment, and Capitation calculations (including risk-adjusted capitation). It helps in determining the value of services, regardless if carve-in or carve-out, such as pharmacy, behavioral health, and LTSS, and provides a wide range of options to support your analysis actions. Optum will work with you during requirements activities to confirm your goals and approach to benefit modeling. We will adapt our training to include showing how to use the tools and data in the solution to do benefit modeling.

PG003	Clinical review

Our solution provides a wide range of report workbooks to support clinical review. These include Diagnostic Code, Procedure Code, Care Management/Disease Management, Disease Prevalence, and Quality Measure Analytics to support your analyses. We will work with you during requirements activities to confirm your goals and approach to clinical review. We will provide training on the reports/workbooks relevant to clinical review, such as Diagnostic Code and Procedure Code.

PG004	Utilization management

Our solution utilization management workbooks pull together utilization patterns for multiple populations, showing not only overall utilization rates by category of service but also more detailed analytics, such as readmissions, avoidable emergency department utilization, and if available, avoidable hospitalizations. We offer drill-down into specific groups by age, gender, race and eligibility category provide a more detailed understanding of which cohort may be driving patterns. Additional analytic metrics, such as PMPMs, risk-adjusted PMPMs, and services per member, are delivered in the detail view. Internal and external benchmark data are

provided for utilization metrics at various levels of aggregation (peer groups, health plans/MCOs/ACOs, or other networks), providing a wide range of options to support your analyses. We will work with you during requirements activities to confirm your goals and approach to utilization management. We will provide training on the reports/workbooks relevant to utilization management such as Acute Claims Utilization and LTSS Utilization.

PG005	Provider-member-Managed Care Organization (MCO) profiling

Our solution provides a wide range of options to support your analysis actions. Our solution includes a number of reports/workbooks specifically for profiling MCO activity. These include the MCO High Level Comparison Report, the MCO Disease Management report, the MCO Quality Achievement report among others. We provide training in using these workbooks and in using the BI and data science tools in the solution.

PG006	Program planning

Our solution provides a wide range of options to support your program planning analysis. We will work with you during requirements activities to identify your goals and approach to program planning. We will add metadata to the OPAHHS data model to enable claims associated with the specific program you wish to track and plan. That will enable you to select and aggregate claims in program specific ways.

PG007	Forecasting

Our solution includes a number of tools that can forecast. Our data warehouse component includes Symmetry Enterprise Risk Group output, which estimates future costs per patient. There is a wide range of forecasting packages freely available in R and Python. The primary BI tool has built-in forecasting with automatic model selection.

PG008	Program assessment

Just as with program planning, we will work with you during requirements activities to define which programs you want to assess and what data will be used to assess them. We will add metadata to the OPAHHS data model to enable claims associated with the specific program you wish to track and plan. That will enable you to select and aggregate claims in program-specific ways. You can use our BI and data science tools to compare before and after intervention results to assess program impacts.

PG009	Provider or contractor performance

Our solution includes existing support for provider reporting. It includes reports/workbooks of Provider Profile, Provider Comparative Analysis, and Provider Overlapping Claims Analysis. We will work with you during requirements activities to define contractor-reporting requirements. Figure 20 shows an example of the Billing Provider Profile.

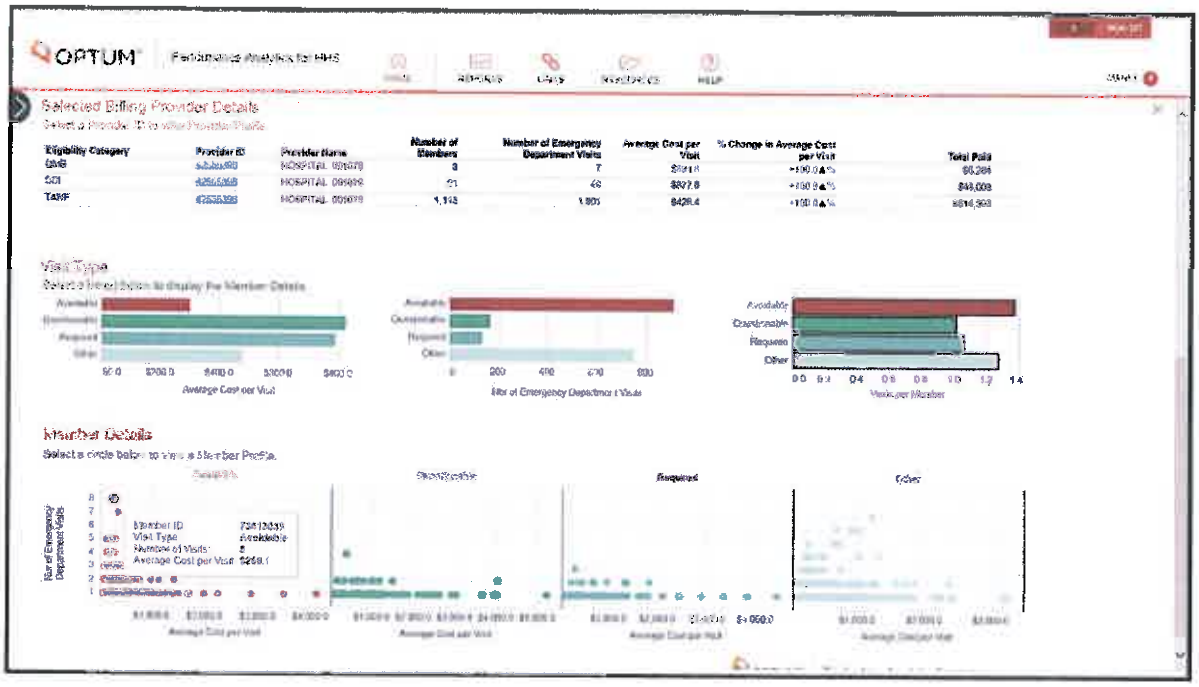


Figure 20: Billing Provider Profile
OPAHHS provides comprehensive provider reporting capabilities. In this example, summary level data about billing providers displays. Users can drill down into supporting detail by clicking a link in the summary or on a graph element in the visual summaries.

PG010	Quality assurance

Our solution includes a Quality Measure Analysis report/workbook, which reports on clinical quality measures, data quality, and clinical quality. This uses the results of the included in our solution includes the Symmetry EBM Connect tool, which enables the calculation of 650 total quality measures and 138 different measures of clinical quality based on evidence-based rules. Many of these are based on HEDIS recommendations. Figure 21 shows a sample of OPAHHS Quality Measure Analysis.

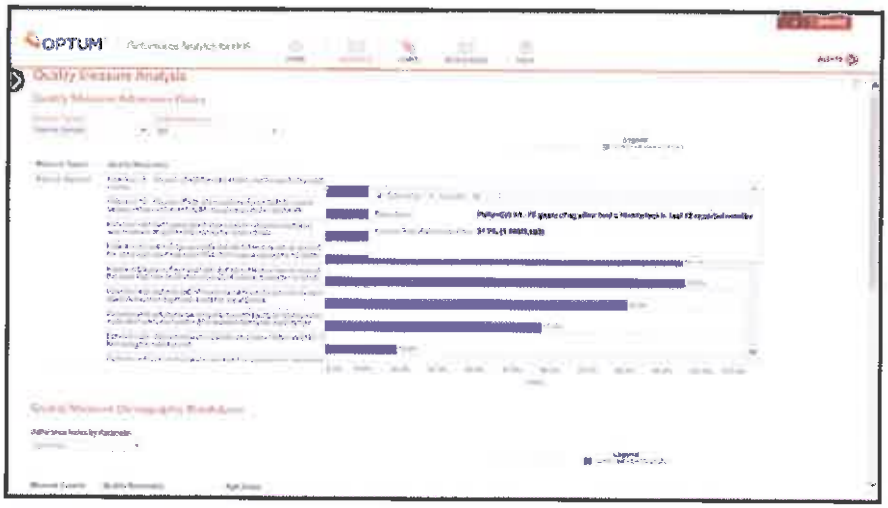


Figure 21: OPAHHS Quality Measure Analysis
Quality Measure Analysis shows measures from EBM Connect.

Our ETL tool includes a data quality component, which has an extensive and extendable knowledgebase and identifies errors in data extracts. This intercepts bad data from being written into the data warehouse. Throughout the project, we actively monitor error and warning on ETL jobs and take appropriate corrective action. Optum Scalable Agile method is our approach to quality assurance in development.

PG011	Fraud, waste, and abuse detection

Our solution includes the Optum FADS component. This is our fraud and abuse detection system. It is an actively maintained product, which is regularly updated for compliance and algorithmic purposes. It is discussed in the Payment Integrity section of Attachment G.

PG012	Comparison of fee-for-service (FFS) and managed care

Our solution will contain both fee-for-service claims and encounter data from managed care organizations. Our solution enables comparing one to the other. For example, the Acute Claims Utilization report/workbook reporting and analytics can be provided for in-network and out-of-network utilization allowing drilldown into utilization by category of service within these parameters.

PG013	Other functions as described in the Advanced Planning Document (APD) and/or the Request for Proposal (RFP)

Our solution provides a wide range of options to support your analysis actions. Will work with you to identify what is needed in the requirement activities. We will accommodate other functions as described in the APD and/or RFP, given our current understanding and estimates. We will discuss other functions with consideration to feasibility, schedule, and resources, and work with you to accommodate others within implementation time frames.

PG014	The Vendor should comply fully with all applicable Department, State, and federal requirements and regulations including, but not limited to:
PG015	State Medicaid Manual
PG016	Centers for Medicare & Medicaid Services (CMS)
PG017	West Virginia State Medicaid Plan
PG018	Section 1902 and 2103 of the Social Security Act
PG019	Title 42, Code of Federal Regulations
PG020	Applicable West Virginia Code
PG021	Chapter 9, Human Services
PG022	Section 504 and 508 of the Rehabilitation Act of 1973 as amended
PG023	West Virginia Children's Health Insurance Program (CHIP) State Plan

As a health care services company, we are used to complying with both federal regulations and with state, local, and departmental regulations that vary from engagement to engagement. We do so by identifying all relevant sources of regulations, reading them, and extracting the requirements into a plan. We discuss that the list of relevant materials and plan with you in the regular course of project management discussions.

Optum will comply with all **applicable Department, State, and federal requirements and regulations**. We will use the **State Medicaid Manual**, **Centers for Medicare & Medicaid Services (CMS)**, **West Virginia State Medicaid Plan**, and **Sections 1902 and 2103 of the Social Security Act** and associated regulations in the Code of Federal Regulations as sources of rules and regulations with which to comply.

Title 42 of the Code of Federal Regulations is an omnibus section affecting a wide range of activities conducted. We will identify and comply with applicable sections relevant to West Virginia Medicaid and use those as a source of rules and regulations.

Optum will work with DHHR to identify which sections of the **West Virginia Code** and the applicable context and text of **Chapter 9 Human Services** that are relevant to this engagement. We will comply with applicable sections as a source of rules and regulations. Our solution can

handle both Medicaid and CHIP and complies with the accessibility rules of **Sections 504 and 508 of the Rehabilitation Act of 1973** as amended. We will work with you to adopt to the specific needs of the **West Virginia CHIP**.

PG024	The Vendor should address how data fields to be included in the data warehouse are defined and agreed upon during Design, Development and Implementation (DDI) as well as how new fields will be added.

We have existing data model, which is designed to meet the needs of Medicaid programs. We have established procedures for JAD sessions at the beginning of an engagement to confirm requirements and configure our data model and reports to meet the needs and differences of the specific engagement. We then translate the requirements into a technical design and implementation plan. Once the DDI phase is complete, new or modified requirements can be addressed through the EDS project change management process.

To add new fields, authorized solution users can copy warehouse data into their sandbox, where they can add whatever fields they would like.

PG025	The solution should mirror all fields and field naming conventions (both current and future) within the Medicaid Management Information System (MMIS).

We will comply with your naming conventions. We anticipate no issues in doing so except in the very rare circumstance when a name in one tool is a reserved word in another.

PG026	The Vendor should propose, develop, produce, and maintain a searchable and indexed library embedded within all solution applications including, but not limited to:
PG027	Solution policy manuals
PG028	Training materials
PG029	User guides
PG030	Implementation memos
PG031	Data dictionary
PG032	Frequently Asked Questions (FAQs)

Our solution includes a portal component, Liferay, which has extensive document management capabilities. This **searchable and indexed library** includes being able to full-text index documents, as well as develop faceted search, which enables search on keywords, dates, authors and other dimensions. This capability can be reached though links embedded in applications.

We will use the document management capabilities of our Liferay portal to store and index **solution policy manuals**, **training materials**, **user guides**, **implementation memos** and **FAQ documents**. We use the **data dictionary** capabilities of our ETL tool to maintain a data dictionary. This shows the complete provenance of all data.

PG033	The Vendor should provide full documentation of developed reports in a searchable, electronic, legible format that is available within the solution.

Reports implemented in Tableau and in R notebooks are to some extent self-documenting, because code and data references are embedded in the result. We will define a format for the documentation during requirements activities. We will follow that format as we create reports. We still store that documentation in the portal document management system.

PG034	The solution should maintain updated industry standard and third-party reference data as it changes including, but not limited to:

We will store reference data from the MMIS. If this is updated in the MMIS, we can create a crosswalk to deal with historical data collected before the change.

PG035	Inpatient hospital Diagnosis Related Groups (DRGs)

We will be able to store the descriptions and codes of the current 467 diagnosis related groups defined (DRGs) by CMS and their associated major diagnostic categories.

PG036	Current Procedural Terminology (CPT)

We will be able to store the descriptions and CPT codes as defined by the American Medical Association.

PG037	Healthcare Common Procedure Coding System (HCPCS)

HCPCS is a superset of CPT defined by CMS to account for services provided by non-physicians. We will be able to store those codes and definitions.

PG038	Therapeutic classes

Most codes have associated categorical metadata, which groups highly specific codes into more general and useful descriptive categories. We believe this refers to the pharmaceutical codes, which map into therapeutic classes. Optum will have no difficulties in storing those codes, their specific descriptions, and their more general therapeutic class.

PG039	The solution should have the ability to review utilization by Department-defined member categories to determine the extent of participation and related cost.

Our solution will store and index the member categories in the feed from your eligibility system. This will enable you to report and drill down by defined categories to count participants and calculate the cost of those participants. In addition, our solution includes our Member Profile, Waiver Enrollment and Waiver Impact Model report/workbooks.

PG040	The solution should have the ability to review utilization by Department-defined provider categories to determine the extent of participation and related cost.

Our solution will store and index the provider categories you define in your provider list, as well as CMS' provider specialty taxonomy. This will enable you report and drilldown by your categories to count participants and calculate the cost of those participants. We can add these categories into our provider-centric report workbooks, such as Provider Profile.

PG041	The solution should have the ability to review utilization by Department-defined Managed Care Organization (MCO) categories to determine the extent of participation and related cost.

Our solution will store and index the MCO categories you define in your MCO list. This will enable you report and drilldown by your categories to count participants and calculate the cost of those participants. Our solution includes a number of reports/workbooks specifically for profiling MCO activity. These include the MCO High Level Comparison Report, the MCO Disease Management report, the MCO Quality Achievement report, among others.

PG042	The solution should have the ability to archive and retain data in accordance with Department, State, and federal regulations, laws, policies, and/or procedures.

We will comply with all relevant Department, State, and federal regulations, laws, policies and procedures. This commitment includes archival and data retention requirements.

PG043	The solution should have the ability to receive data from the Medicaid Management Information System (MMIS) including, but not limited to:

Being able to ingest data from the MMIS is the central mission of all Medicaid data warehouses, including ours. With our ETL tool, we will develop a schedule and interface control documents to bring that data over in a timely fashion.

PG044	Claims history

We will retrieve and store claims in our data model and data warehouse. Because claims are an important information source for our reporting we do much more than merely storing claims. They are an input to our Symmetry data enhancement tools, which generates episodes of care

and quality measures. The data model is specifically designed to support ad hoc reporting. We will keep them in compliance with your conversion and data retention requirements.

PG045	Member enrollment

Our solution includes the Enrollment Overview, Enrollment Breakdown, and Member Profile report workbooks. These show information are different levels of detail on the members. We will retrieve and store member data in our data model and data warehouse. Because members are an important information source for our reporting we do much more than merely storing claims. They are an input to our Symmetry data enhancement tools, which generates episodes of care and quality measures. The data model is specifically designed to support ad hoc reporting. We will keep them in compliance with your conversion and data retention requirements.

PG046	Provider enrollment

We will retrieve and store provider enrollment data in our data model and data warehouse. Because providers are an important information source for our reporting, we do much more than merely store claims. They are an input to our Symmetry data enhancement tools which generates episodes of care and quality measures. The data model is specifically designed to support ad hoc reporting. We will keep them in compliance with your conversion and data retention requirements.

PG047	Primary reference data such as:

We will store reference data included in the MMIS feed. This will include primary reference data as well as other kinds of reference data are in the feed.

PG048	Diagnosis

Our solution includes the Diagnosis Code and Disease Prevalence report workbooks. The former shows the prevalence and use of diagnosis codes. The latter shows population-level disease prevalence metrics by episodes within the ETG hierarchy are shown, along with cost-per-episode statistics. Disease prevalence can be characterized by different demographic and geographic groupings. Drill-down into category of service utilization by various episodes is shown, with appropriate utilization metrics. We will store reference data included in the MMIS feed. We understand the importance of having descriptions of the thousands of diagnosis codes.

PG049	Procedure

Our solution includes the Procedure Code report workbook. This is a standard report showing the prevalence and use of procedure codes. We will store reference data included in the MMIS feed. We understand the importance of having descriptions of the thousands of procedure codes.

PG050	National Drug Code (NDC)

Optum will store reference data included in the MMIS feed. We understand the importance of having descriptions of the thousands of drug codes.

PG051	Pricing

We will store reference data included in the MMIS feed. This will include such pricing reference data as is included in the feed.

PG052	The solution should have the ability to refresh or replace all historical claims data, member enrollment, provider enrollment, and other primary reference data on a scheduled basis as approved by the Department.

Optum will work with you during the requirements activities to develop a nuanced understanding of this requirement. OPAHHS has the ability to refresh or replace all historical claims data, member enrollment, provider enrollment, and other primary reference data on a scheduled basis

as approved by the Department. As older data ages out of the retention window, we will archive it and either delete it or mark it as deleted in accordance with your policy.

PG053	The solution should have the ability to refresh or replace all historical claims data, member enrollment, provider enrollment, and other primary reference data as defined by the Department.

Our solution includes the Trending report workbook. Trending over time is available for a range of variables, along with relevant statistical metrics. Our solution includes the capability to refresh or replace all historical claims data, member enrollment, provider enrollment, and other primary reference data. We update the EDS data warehouse with new data as it comes in. As older data ages out of the retention window we archive it and either delete it or mark it as deleted in accordance with your policy.

PG054	The solution should provide the ability to manage offline storage and retrieval of archived data.

Our solution is designed to be completely cloud-based, with backup and archiving taking place at an alternative data center of the same cloud provider. We will work with you in the requirements phase to understand your use case for storing data offline. If needed, the cloud vendor we have selected supports hybrid (part cloud, part on-premises) operation. It also supports creating partial or complete copies onto a physical storage device you can connect to an on-premises system.

PG055	The solution should have the ability to look up information such as subsets, norms, benchmarks, query creation, and all other objects.

The database, the BI tool, and the data science tool can all look up anything stored in the data warehouse including subsets, norms, benchmarks, query creation, and all other objects. We document stored queries in the document management part of the portal.

PG056	The solution should have the ability to receive data in different formats and from different sources including but not limited to:
PG057	Vital statistics data
PG058	Encounter data
PG059	Managed Care Organization (MCO) encounter data
PG060	Pharmacy data
PG061	Rebate data
PG062	Dental data
PG063	Behavioral health data
PG064	Waiver program data such as enrollment
PG065	Others identified by the Department

Our solution includes an ETL tool that can handle multiple data formats and a database that can store that data. Our ETL tool includes libraries to handle EDI and HL7 data.

We can use our ETL tool to take extracts from your **Vital statistics** system and load that data into the data warehouse. We can also use our ETL tool to take **encounter data**, **MCO encounter data**, **pharmacy data**, **rebate data**, **dental data**, **behavioral health data**, and **waiver program data**, such as enrollment, extracts from your MMIS and load them data into the data warehouse. If **others** are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

PG066	The solution should provide the ability to report any issues impacting integration and interoperability between the proposed solution and related data sources within one (1) business day of discovery.

We agree to report any integration or interoperability issues to the designated point of contact within one business day of discovery in accordance with the communications plan.

PG067	The solution should have the ability to integrate data from sources including, but not limited to:
PG068	Eligibility
PG069	Capitation
PG070	Claims system
PG071	Managed care encounter data

Our solution includes an ETL tool that can **integrate data** from data sources such as **eligibility, capitation, claims system,** and **managed care encounter data** and load that data into the data warehouse. In addition, our solution includes the Eligibility Group profile report workbook. Utilization, demographics, clinical, geographic, and enrollment detail are summarized in one template, allowing the user to do a deep-dive into one particular eligibility group or groups.

PG072	The solution should have the ability to integrate data from contractors including, but not limited to:
PG073	Pharmacy benefit manager (PBM)
PG074	Behavioral health plans
PG075	Managed Care Organization (MCO) health plans
PG076	Children's Health Insurance Program (CHIP) contractors
PG077	Others as defined by the Department
PG078	All data sources as defined by the Department
PG079	Providers
PG080	Reference files

Our solution has the capability to **integrate** most any data from contractors such as **PBM, behavioral health plans, MCO health plans, CHIP contractors, providers,** and **reference files** and can load that data into the data warehouse. Our ETL tool includes libraries that handle EDI and HL7 data.

If **others** are identified by the Department that are in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

PG081	The solution should have the ability to securely load, save, and report on confidential and/or proprietary data/information, and limit access to authorized solution users.

Our solution includes role-based access control at the data warehouse, report, and tool level. This allows fine-grained control of access. In the requirements phase you can define a security matrix at the level of detail you wish, which defines groups and the privileges granted to members of that group. (A person can be in more than one privilege group.) In addition, the data warehouse has role-based masking. For example, you can display only the last four digits of a Social Security number to most people, while only those in a high-privilege group can see all nine digits. All data is encrypted both at rest and in motion.

PG082	The solution should have the ability to incorporate current standards and benchmarks as defined by the Department relevant to Medicaid and other health care programs including, but not limited to:
PG083	Utilization
PG084	Cost
PG085	Quality of Care
PG086	Outcomes
PG087	Prevention
PG088	Access to Care
PG089	Eligibility
PG090	Administrative Performance

Comparing actuals against standards or benchmarks in a widely-used paradigm in performance measurement. Our data model already supports a wide range of reports, which compare standards to actuals. In addition, EBM Connect produces a number of measures useful in evaluating results.

We will work with you in the requirements phase to complete a gap analysis of the standards and benchmarks that are currently in our data model as opposed to the ones you require, such as **utilization**, **cost**, **quality of care**, **outcomes**, **prevention**, **access to care**, **eligibility**, and **administrative performance**. We will then update the model with the difference and make plans to acquire the new standards and benchmarks from the source you designate.

Our solution includes the Member Access to Care report workbook. The workbook supports analysis that compares the provider availability and utilization by ZIP code or county and population attributes for any program. (i.e., to assess provider capacity in a specific area based on the number of open practices, time and distance criteria, provider type, etc.). In-network and out-of-network metrics are provided where appropriate. Beneficiary-to-provider ratios and provider workload (compared to average for peer) are included to further determine access to open care.

Our solution includes the Eligibility Group Profile, Enrollment Analysis, and Enrollment Breakdown report workbooks. These have analytics at varying levels of detail around enrollment and utilization for different enrolled groups. Metrics around member churn, risk-adjusted PMPMs as well as comparative information is provided. Enrollment Breakdown includes demographics data.

PG091	The solution should have the ability to track claims processing activities and report on current status of payments.

Claims processing is generally the responsibility of the MMIS. We can report on any data the MMIS sends us, including the current status of individual claims and the status of payments on those claims.

PG092	The solution should have the ability to access and report on third-party avoidance and collections per West Virginia Medicaid State Plan for the Department's review.

We will work with you in the requirements phase to define needs and data sources for reporting on third-party avoidance and collections. Our ETL tool can load that data into the data warehouse. The BI and data science tools can then access and report on that data.

PG093	The solution should have the ability to track claims at any status or location including, but not limited to:
PG094	Claims backlog
PG095	Key entry backlog
PG096	File status
PG097	Other indicators as identified by the Department

Our solution includes an ETL tool that can handle any kind of data and a database that can store any kind of data. Once data that **tracks claim** status and claim location is loaded into the data warehouse, you can use the BI tool or the data science tool to track claims at any status or location.

After the ETL tool has loaded the appropriate data into the data warehouse, you can use the BI tool or the data science tool to analyze the **claims backlog**, **key entry backlog**, **file status** along with **other** indicators as identified by the Department.

PG098	The solution should have the ability to analyze and report on timely claims filing by providers.

We can develop queries that calculate the average number of days between the date of service and the date of claim submission for each provider ability to analyze and report on timely claims filing by providers.

PG099	The solution should have the ability to report on and accurately reflect payments on dual eligibles.

Our ETL field can bring in data that identifies dual eligible members. We can report on those payments for those individuals. If we have Medicare claims data available, we could report on total payments at the claim or person level, broken down by Medicare versus Medicaid.

PG100	The solution should have the ability to aggregate and report on services including, but not limited to:

The data warehouse (using SQL), the BI tool, and the data science tool can all aggregate and report on services stored in the data warehouse.

PG101	Specified time periods

SQL, the BI tool, and the data science tool allow for extensive date arithmetic, including filtering by specified time periods.

PG102	Service categories

Our solution includes a Category of Service report workbook. In addition, the data warehouse's SQL, the BI tool, and the data science tool allow for counting, subtotaling, or applying any function by service category if a field for service category is populated in the relevant data. For example, SQL's GROUP BY predicate allows calculation on any field containing categorical data.

PG103	Unduplicated claims

Our solutions expect claims data to come from the MMIS, which has the primary responsibility for not paying claims twice and assigning unique transaction IDs. Having said that, we are mindful that we are receiving data on incomplete claims. Our ETL quality process involves checking whether individual claims records in a new extract are new or are updates of existing claims. This means you can safely use SQL or tools to aggregate payments on claims. In addition, SQL has a DISTINCT qualifier, which you can use to avoid counting duplicated claims.

PG104	Members

Our solution includes report workbooks for Member Profile, Member Outlier, and Member Access to Care. In addition, our tools can aggregate and report by member.

PG105	Providers

Our solution includes report workbooks for Provider Profile, Provider Comparative Analysis, Provider Outpatient Emergency Department Utilization, and Provider Overlapping Claims. In addition, our tools can aggregate and report by provider. As most claims have both a billing NPI (national provider identifier) and a performing NPI (the NPI for the clinician personally doing the work), you will be able to aggregate on both an institutional basis (i.e., hospital or group practice) or on an individual clinician basis. Figure 22 is an example of Provider Comparative Analysis.

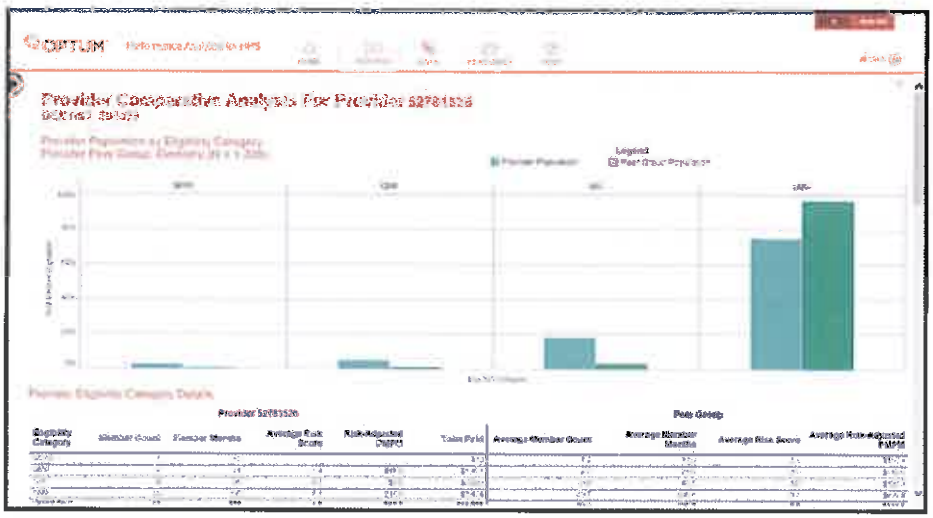


Figure 22: Provider Comparative Analysis
This analysis compares providers by eligibility category.

PG106	The solution should have the ability to identify payments by type, as defined by the Department.

Our solution provides you the capability to aggregate claims payments by the codes in those payments. In the requirements phase we will work with you to define additional categorical

metadata fields and associated lookup tables for more useful means of aggregating claims. That might be by a very high-level type of claim (hospital, medical, behavioral, etc.) or by other typologies as you may define.

PG107	The solution should have the ability to track and report on claims by all attributes of the claim including but not limited to:

Azure SQL Data Warehouse and the Tableau will track and report on all the fields in the claim. During the requirements phase we will modify the data model as needed to meet your reporting needs. As long as the relevant data is available from the data source, we can make it available in the data warehouse.

PG108	Claim and line identifier

Azure SQL Data Warehouse, Tableau, and the R tool will track and report by claim number and line identifier within claim.

PG109	Payment status

Azure SQL Data Warehouse, Tableau, and the R tool will track and report by payment status to the extent that information has been received from the MMIS.

PG110	Member

Azure SQL Data Warehouse, Tableau, and the R tool will track and report by member.

PG111	Provider and entity identifiers

Azure SQL Data Warehouse, Tableau, and the R tool will track and report by provider and entity identifiers. We will work with you in the requirements phase to develop an understanding as to how the high-level concept of entity identifiers can be mapped onto billing providers identified in claims.

PG112	Diagnosis

Azure SQL Data Warehouse, Tableau, and the R will be able to track and report by diagnosis. We can map diagnosis codes into CMS' major diagnostic categories for a useful higher-level view. In addition, our solution groups claims into episodes of care using Symmetry.

PG113	Diagnosis code

Azure SQL Data Warehouse, Tableau, and the R tool will track and report by diagnosis codes. We can map diagnosis codes into CMS' major diagnostic categories for a useful higher-level view. In addition, our solution groups claims into episodes of care using Symmetry.

Our solution includes the Diagnosis Code report workbook. This is a standard report showing the prevalence and use of diagnosis codes.

PG114	Procedure

Azure SQL Data Warehouse, Tableau, and the R tool will track and report by procedures. In addition, our solution groups claims into episodes of care using Symmetry.

PG115	Procedure code

Azure SQL Data Warehouse, Tableau, and the R tool will track and report by procedure codes. We can map diagnosis codes into CMS' major diagnostic categories for a useful higher-level view. Our solution includes a Procedure Code report workbook. This is a standard report showing the prevalence and use of procedure codes.

PG116	Treatment

We will work with you in the requirements phase to develop an understanding of how the concept of treatment maps into the information available in claims. We will then implement that understanding through the data model.

PG117	Dates

We understand the importance of using dates in Medicaid reporting. Our data model and its tools are fully date-aware and can use dates in both aggregation and filtering.

PG118	Reviewing entity

We will work with you in the requirement phase to define the concept of Reviewing entity and determine how that concept should be reflected in the data model. When populated, you will be able to use all tools to aggregate and report in reviewing entity.

PG119	Others identified by the Department

We will work with you in the requirements phase to identify other useful fields and their source. Other requirements defined by the Department in addition to the base OPAHHS solution can be addressed through the EDS project change management process.

PG120	The solution should have the ability to assist auditors in reviewing provider cost reports and establishing a basis for cost settlements.

Our solution and all the tools and date in it will be available to your auditors 24 hours a day, seven days a week to assist them in reviewing provider cost reports and establishing a basis for cost settlements. Your auditors will have access to our help desk.

Our solution includes the Provider Profile report workbook. This yields information about a specific provider and its panel of members, whether attributed or seen. The distribution of the provider's population is shown across demographic, eligibility, clinical and utilization categories. The member profile may also be of use in identifying costs for particular members from particular providers.

PG121	The solution should have the ability to analyze and report on individual provider payments.

Our solution includes report workbooks for Provider Profile, Provider Comparative Analysis, Provider Outpatient Emergency Department Utilization, and Provider Overlapping Claims. Our data model has both performing and billing provider NPIs. You can use those with our tools to calculate total payment by relevant NPI.

PG122	The solution should have the ability to retrieve data, on an ad hoc basis, relevant to specific operational units including, but not limited to:
PG123	Claims resolution
PG124	Prior authorization
PG125	Medical necessity review
PG126	Others identified by the Department

We will work with you to develop an understanding of the concept of operational unit. There is a range of practices in submitting claims from institutional providers with multiple business units. The same NPI can be used for multiple business units. We will work with you to define a mapping from a combination of NPI, descriptors, and reasonable inference for each of your ad hoc situations. For example, it is likely that a fee for an X-ray comes from a radiology department even if the NPI is for the entire hospital.

Our solution has the ability to store and **retrieve data** such as **claims resolution**, **prior authorization**, and **medical necessity review** data received from the MMIS. **Others** as defined by the Department in addition to the base OPAHHS solution can be addressed through the EDS project change management process.

PG127	The solution should have the ability to maintain online access to selected management reports and annual reports for the time period specified by the Department, with flexibility for the Department to alter the length of the retention period.

Our solution's portal has a document management system. We can store selected management reports and annual reports in that system for as long as the Department would like.

PG128	The solution should have the ability to produce the current volume of Department standard and operational reports.

We have carefully sized our system to be able to keep up with your volume. We have many clients, so we have the experience needed to estimate accurately.

PG129	The solution should have the ability to populate new data fields with historical data.

Optum will work with you in the requirements phase to understand the use case behind populating new data fields with historical data in the system. We can use our ETL tool or SQL to create new data fields based on that data. Our solution will store the historical data you require. Historical data that is in addition to the base OPAHHS solution can be addressed through the change management process.

PG130	The solution should have the ability to allow authorized solution users to promote rules to permanent tables upon approval through the Change Management Process.

We will establish procedures to comply with this requirement. Our system features a built-in feature of SQL to define new tables based on existing tables. Upon approval, we will incorporate user-initiated changes utilizing the change management process.

PG131	The solution should have the ability to create and modify automated authorized solution user-configurable business rules that link, classify, and relate rules and rule groups by patterns, mathematical sets, dependencies, and other factors.

Users can create new rules in the form of SQL statements created directly or using Tableau Creator's visual query editor that link, classify, and relate rules and rule groups by patterns, mathematical sets, dependencies, and other factors. When those rules are documented and added to the rules knowledge base maintained in the portal, they can be searched through the search mechanism in the portal.

PG132	The solution should have the ability to allow authorized solution users to use online screens and services inside the solution to promote rules to user-specific tables.

In our solution's Azure SQL Data Warehouse, any rule can create a virtual table in their sandbox using the Create View command or an actual table using the Create Table command.

PG133	The solution should have the ability to configure rules to be date-specific including, but not limited to:
PG134	Date added
PG135	Date modified
PG136	Start and end dates
PG137	Effective date

Azure SQL Data Warehouse, Tableau, and the R tool included in our solution all have extensive facilities for handling dates and date arithmetic. Rules written in SQL can apply date functions to any data field. This includes **date-added, date-modified, start-date** and **end-date,** and **effective-date fields.**

PG138	The solution should have the ability to allow authorized solution users to create and modify user-specific or shared business rules that link, classify, and relate rules and rule groups by patterns, mathematical sets, dependencies, and other factors.

Authorized solution users will be able to create new rules, queries, and functions in tools. Personal storage space can be created on demand, subject to rules you set. These rules and their documentation can be stored in the rules knowledge base in the solution, which has faceted search. This enables searching by patterns, mathematical sets, dependencies, and other factors.

PG139	The solution should have the ability to allow authorized solution users to apply identifying codes to any record based on rules engine criteria.

Authorized solution users can retrieve any data into their personal storage space or into group storage space where they can apply anything they want, including identifying codes to any record based on rules engine criteria.

PG140	The solution should have the ability for authorized solution users to receive push notifications based on user-configurable parameters.

We will work with you to understand what kind of push notification you want supported. Our primary BI tool and primary ETL tool both have a publish-subscribe function that automatically generates notifications when the trigger condition is met, such as completion of an ETL job or publishing of a new report.

PG141	The solution should have the ability for authorized solution users to review and validate rules without the need to learn a specialized coding language.

We will work with you to understand your definition of rules and what is meant by review and validation. We provide documentation of our rules, which can be read and reviewed without the need to learn a specialized coding language.

PG142	The solution should have the ability to process multi-level rule review and approval that validates logic errors, conflicts, redundancy, and incompleteness across business rules as they are being developed, tested, and implemented.

We will work with you to define a process for multi-level rule review, which will include the full lifecycle of development, testing, and implementation. This multi-level rule review and approval validates logic errors, conflicts, redundancy, and incompleteness across business rules as they are being developed, tested, and implemented.

PG143	The solution should have the ability for authorized solution users to test rules against replicated data prior to implementation, including full user acceptance testing (UAT) of the rules.

Our solution includes a UAT environment. We have functionality to create de-identified test data. We will work with you in requirements to understand your particular needs to user (as opposed to Optum employee) testing.

PG144	The solution should have the ability to track and report rule usage, exception usage, and when rules fail to work as designed, and provide recommendations to resolve rule failure.

Our solution maintains comprehensive logs. We will work with you to understand your definitions of rule and rule usage to be able to produce usage reports. If a rule fails to work as designed, we will provide recommendations to resolve rule failure.

PG145	The solution should have the ability to capture care management data including, but not limited to:

Our solution can capture and store most types of data. We will work with you in the requirements phase to identify what care management data is available, how to acquire it, and what format would support reporting and analysis best.

PG146	Treatment plan

We will work with you in the requirements phase to identify what treatment plan data is available, how to acquire it, and what format would support reporting and analysis best. We do support XML as a data type, which is how treatment plan data is often stored.

PG147	Outcomes

We will work with you in the requirements phase to identify what outcomes data is available, how to acquire it, and what format would support reporting and analysis best. Our solution includes EBM Connect output, which has 650 measures, some of which involve outcomes inferred from claims.

PG148	Prior authorization information

We will work with you in the requirements phase to identify what prior authorization data is available, how to acquire it, and what format would support reporting and analysis best.

PG149	Others as defined by the Department

We will work with you in the requirements phase to identify what department-defined data is available, how to acquire it, and what format would best support reporting and analysis. If others

are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the change management process.

PG150	The solution should have the ability to capture compliance incident data including, but not limited to:

We will work with you in the requirements phase to determine the source of compliance incident data. We will then develop a plan to update the data model and develop a plan to ingest that data so it will be available to you in the data warehouse through the tools in the solution. If needed, you can commission reports or an application to allow manual entry of that data.

PG151	Anomalies and adverse actions, such as:
PG152	Termination
PG153	Suspension
PG154	Nonrenewals
PG155	Denial of contracts
PG156	Others as defined by the Department

Our solution will enable the storage of and reporting on compliance **anomalies and adverse actions**. Our solution will enable the storage of and reporting on **terminations**, **suspensions**, **nonrenewals**, and **denial of contracts**. If **others** are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

PG157	The solution should have the ability to capture claims data including, but not limited to:
PG158	Payment
PG159	In-house claim number
PG160	Member number
PG161	Patient account number
PG162	Encounters
PG163	Adjudication
PG164	Historical payment information
PG165	Others as defined by the Department

Capturing claims data is core to our EDS. We have extensive experience ingesting and cleaning claims data from MMISs and PBMs. We map all claims and encounter data into a single enterprise data model. We will store all the data in the claim without deleting any available information. We then enhance that data with our Symmetry suite to generate episodes of care. All this is available to you though our tools.

Our data model includes **payment** information on each claim. Depending on data availability, it can also contain breakdown of net payment calculation such as rebates. The data warehouse will store the **in-house claim number**, **member number**, **patient account number**, and **encounter** data in the claim record.

We will work with you in the requirements phase to develop a nuanced understanding of what data is associated with **adjudication**. If the MMIS, which does adjudication, sends over intermediate information each time an action is taken, we can store and report on it.

We will keep claim records for the duration you specify. This means that both current and **historical payment information** is stored in the same place and is analyzed using the same tools.

Our solution has the capability to store all of the standard fields on the claims record as provided by the source system. If **others** are identified in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

PG166	The solution should have the ability to capture encounter data including, but not limited to:
PG167	Adjudication and encounter payment history information
PG168	Others as defined by the Department.

Our solution can **capture encounter data** made available by the MMIS in the same way we capture claims data. Our solution can capture **adjudication and encounter payment data** made available by the MMIS in the same way we capture claims data. We store all data for the duration you specify so historical data is in the same place as current data.

If **others** are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

PG169	The solution should have the ability to capture reference data including, but not limited to:

Our solution will be able to capture and store reference data.

PG170	Filing deadlines

We will work with you in the requirements phase to determine the source of filing deadlines data, the context of its use, and modify the data model to make it available in a useful way.

PG171	Code sets

Code sets will have been used by the MMIS in adjudicating claims. When we bring over the claims, we will bring over the code sets into the EDS.

PG172	Drug status (preferred, non-preferred, non-managed)

Drug status will have been used by the MMIS in adjudicating drug claims. When we bring over the claims, we will bring over the drug status into the EDS.

PG173	Procedure code

Procedure codes will have been used by the MMIS to adjudicating claims. When we bring over the claims, we will bring over the procedure codes into the EDS.

PG174	Diagnosis-related group (DRG)

DRG codes will have been used by the MMIS in adjudicating hospital claims. When we bring over hospital claims, we will bring over the DRG into the EDS.

PG175	Ambulatory payment classification

Ambulatory payment classification will have been used by the MMIS in adjudicating outpatient claims. When we bring over outpatient claims, we will be bringing over the ambulatory payment classification into the EDS.

PG176	National Correct Coding Initiative (NCCI) information

The NCCI defines procedure-to-procedure edits and medically unlikely edits that ordinarily would be applied by the MMIS in the process of adjudicating claims. When we bring over those claims into the EDS, we will also be bringing over the results of NCCI edits. In addition, our FADS component also reviews appropriateness of coding in a payment integrity context.

PG177	Others as defined by the Department

Our solution has the capability to store most any type of reference data, including those defined in your requirements. If others are identified in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

PG178	The solution should have the ability to capture plan data, as defined by the Department.

Our solution provides the capability to store plan data. We will work with you in the requirements phase to update the data model to store plan data in accordance with your definitions.

PG179	The solution should have the ability to capture carrier data including, but not limited to:
PG180	Third-party policy type
PG181	Coverage
PG182	Policy number
PG183	Effective date
PG184	Benefits

PG185	Others defined by the Department

We will work with you in the requirements phase to update the data model to **capture carrier data** in accordance with your needs. When we update the data model to include carrier data that addition will include **third-party policy type**, **coverage**, **policy number**, **effective date**, and **benefits**. We will edit the data model with erwin. If **others** are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

PG186	The solution should have the ability to capture data source contracting information including, but not limited to:

We will work with you in the requirements phase to capture data source contracting information in the data model. Optum uses Informatica's metadata management tools. We will create an information control documents to describe each data source. If you want to store contracts in the document management system we can do that as well. These are stores and viewable in our document management system.

PG187	Provider network

Our solution has the capability to store information about all providers in the provider network.

PG188	Contract

Our solution has the ability to store contract information. We will work with you in the requirements phase to identify the contract information to be stored and its source.

PG189	Grievance and appeals information

EDS can store grievance and appeals. We will work with you in the requirements phase to identify the grievance and appeals information to be stored and its source.

PG190	Others defined by the Department

Our solution has the capability to store most any kind of contracting information. If others are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

PG191	The solution should have the ability to capture member data including, but not limited to:

Our solution has the ability to store member data. Being able to analyze population health requires detailed member information.

PG192	Demographics

By default, our solution stores the demographic information needed for reporting and to drive the Symmetry Grouper. This includes age and gender. We can work with you in the requirements phase to identify additional demographic fields you would like to include. In addition, the data science tool can interface to the Census data server and retrieve American Community Survey at a Census tract, ZIP code, or higher level.

PG193	Eligibility

We can store eligibility data. We understand the importance of current eligibility information for payment integrity. We customarily bring over eligibility information from your eligibility system.

PG194	Enrollment

We can store enrollment data. We understand the importance of current enrollment information for payment integrity. We customarily bring over enrollment information from your enrollment system.

PG195	Grievance and appeals information

Optum will work with you in the requirements phase to define what grievance and appeals information you wish to store and its source. We will then update the data model to include grievance and appeals information.

PG196	Others defined by the Department

Our solution includes a broad range of member data. Any data that DHHR identifies as being required beyond those elements that are in our data model can be addressed through the change management process. If others are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

PG197	The solution should have the ability to provide authorized solution users with analytical tools including statistical, comparative, and financial trend analyses, as well as case-mix adjustments.

We have tools that provide comprehensive support for statistical, comparison, data visualization, and financial trend analysis. We back this up with analysis-ready data sets, so your users will not have to go hunting for the data they want.

Authorized solution users have access to three kinds of tools. Most users will access the system via their web browsers where they will use pre-defined workbooks on the Tableau web server. Those workbooks are not mere reports. They are closer to spreadsheets and offer the user the ability to define new fields, to filter and sort what is visible, and to make projections based on available data. Selected users can have a version of Tableau, which allows them to import their own data and connect directly to the data warehouse.

That version can also call R functions allowing the use of statistical functions not available in Tableau. In addition, selected users have access to RStudio Pro Enterprise, a development environment for the R and Python data science languages. Those two languages each have thousands of freely downloadable packages giving you a vast range of analytical options. It also acts as a SQL client for connecting to the data warehouse.

Users you select also have the ability to install their preferred tools onto a virtual desktop where they will have read access to the data warehouse, role permitting, and be able to upload external data into a personal storage area. This could be a preferred SQL client or something like Excel.

PG198	The solution should have the ability to compare current expenditures by service type and/or member/eligibility category with previous period expenditures to establish a frame of reference for analyzing trends.

Our solution has a pre-defined data structure supporting this analysis. OPAHHS includes a Category of Service report workbook. Utilization of services is presented for high-level categories (e.g., inpatient, outpatient, professional, and pharmacy) as well as drilldown into more detailed levels, down to line-level assignments. Figure 23 shows an example of retrospective analysis.

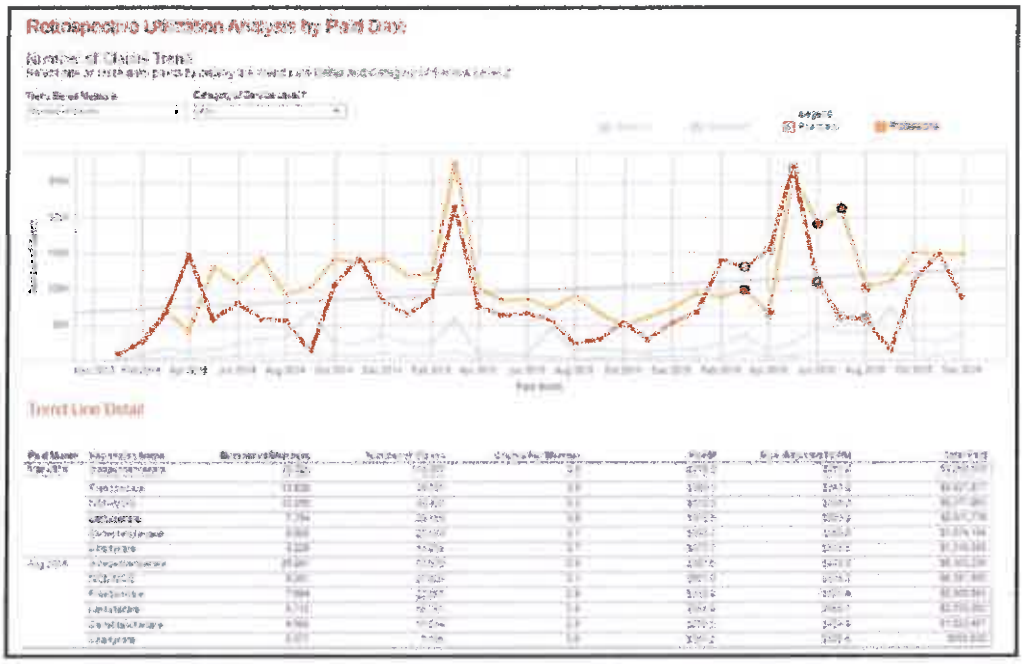


Figure 23: Retrospective Utilization Analysis by Paid Date
This retrospective analysis on claims is an example of how OPAHHS provides the capability to establish a frame of reference and identify trends.

This view pulls together utilization patterns for multiple populations, showing not only overall utilization rates by category of service but also more detailed analytics such as readmissions, avoidable ED utilization and if available avoidable hospitalizations. Drill-down into specific groups by age, gender, race and eligibility category provide a more detailed understanding of which cohort may be driving patterns. Additional analytic metrics, such as PMPMs, risk-adjusted PMPMs, and services per member are delivered in the detail view. Benchmark data, either internal or external, is provided for utilization metrics at various levels of aggregation (peer groups, health plans/MCOs/ACOs, or other networks).

PG199	The solution should have the ability to compare actual expenditures against budget to determine control of current and projected financial positions.

Our solution includes a Finance Detail report workbook that displays this information. We will work with you in JAD sessions to determine the source of your budget information. We will then configure the ETL tool to bring this information into the data warehouse.

PG200	The solution should have the ability to analyze expenditures to identify areas of greatest cost.

Our solution has a number of pre-defined report workbooks that support cost analysis. Because these workbooks contain underlying data, you can select categories of interest and/or sort by cost or any field you choose. Relevant reports include Finance Detail, Diagnosis Code, Procedure Code, and Retrospective Utilization Analysis by paid date or submission date. Figure 24 shows an analysis of claims by diagnosis code.

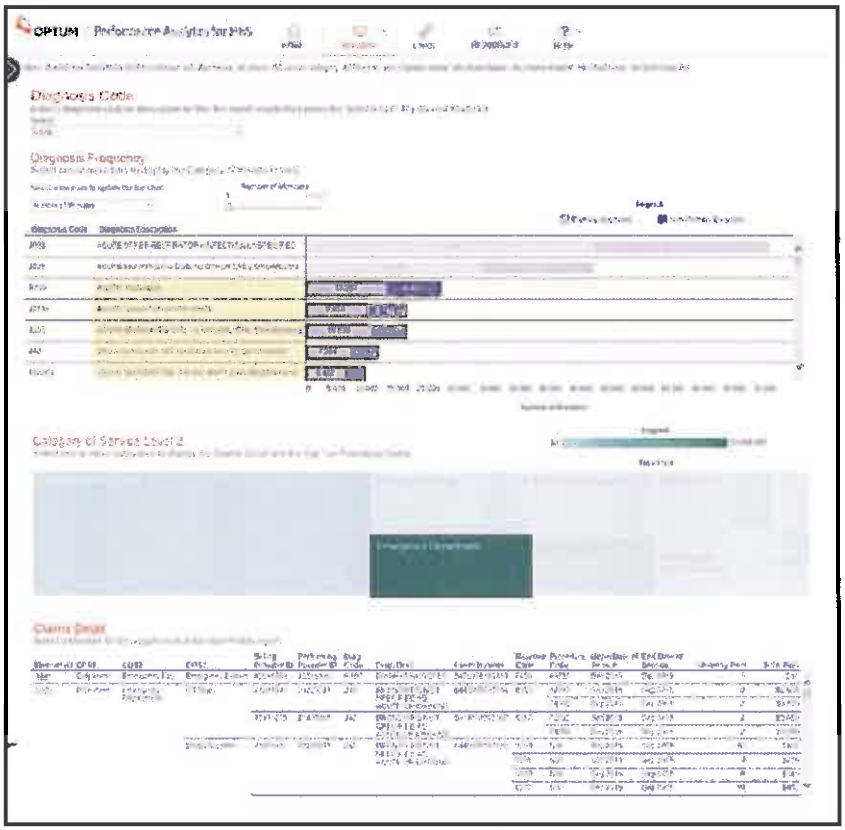


Figure 24: Cost Driver Report Workbook
This analysis of the different drivers of costs of delivery of services shows the ease of identifying areas contributing the greatest cost.

PG201	The solution should have the ability to report on utilization and cost of services against benefit limitations.

We will work with you in the requirements phase to determine how to model benefit limitations and how they should appear in reporting. Our solution has pre-defined report workbooks for Retrospective Utilization Analysis by paid date or submission date, among others. Our primary BI tool allows ad hoc drilldown on a wide range of dimensions in the data model including provider type, demographics, and geography.

PG202	The solution should have the ability to provide member enrollment and participation analyses and overall summary, showing utilization rates, payments, and numbers of members by eligibility category.

Our solution has several pre-defined report workbooks on this subject Enrollment Overview, Enrollment Analysis, Enrollment Breakdown, Eligibility Group Profile, Waiver Enrollment, Waiver Impact Model, and Retrospective Utilization Analysis by paid date or submission date, among others. Our primary BI tool allows ad hoc drilldown on a wide range of dimensions in the data model including provider type, demographics, and geography.

PG203	The solution should have the ability to provide expenditure data by service codes including, but not limited to, current versions of:

Our solution has pre-defined report workbooks to support expenditure reporting. These include Finance Detail, Retrospective Utilization Analysis by paid date or submission date, Diagnosis Code and Procedure Code among others. The Enrollment Analysis report this report dives deeper into analytics around enrollment and utilization for different enrolled groups. Metrics around member churn, risk-adjusted PMPMs as well as comparative information is provided.

Our primary BI tool allows ad hoc drilldown on a wide range of dimensions in the data model including service codes, provider type, demographics, and geography.

PG204	Healthcare Common Procedure Coding System (HCPCS)

HCPCS codes are an essential data field in claims records. We can calculate subtotals by these codes. Because they are numerous and fine-grained, we will include higher-level categorical metadata for an overview of expenditure patterns.

PG205	International Classification of Diseases (ICD)

Diagnosis (ICD) codes are another essential data field in claims records. We can calculate subtotals by these codes. Because they are numerous and fine-grained, we will include higher-level categorical metadata, such as major diagnostic category, for an overview of expenditure patterns.

PG206	Clinical modifiers

Clinical modifiers are often required for HCPCS and other codes, often in the context of providing additional information useful in waste and abuse detection. An example is appropriate use criteria modifiers in advanced imaging. Our data model captures these modifiers. You will be able to use them in reporting and analysis.

PG207	National Drug Code (NDC)

Pharmaceutical claims have their own coding schemes for drugs – the national drug code. We capture that code in pharmacy claims. We can calculate subtotals by these codes. Because they are numerous and fine-grained, we will include higher-level categorical metadata, such as therapeutic class, for an overview of expenditure patterns.

PG208	Revenue codes

We will work with you in the requirements phase to understand your approach to revenue codes, and then update the data model to capture them. You will then be able to use them in reporting and analysis.

PG209	The solution should have the ability to support determining reimbursement methodologies by providing expenditure data by service codes including, but not limited to, current versions of:
PG210	Healthcare Common Procedure Coding System (HCPCS)
PG211	International Classification of Diseases (ICD)
PG212	Clinical modifiers
PG213	National Drug Code (NDC)
PG214	Revenue codes

Your previous requirements PG203-208 were about providing expenditure data by service codes. This requirement is about using the same data to **support determining reimbursement methodologies**. We will work with you in the requirements phase to understand your approach to doing so. We will then train you in how best to use the tools and data to accomplish your objective. One general approach is to develop the alternative prices implicit in each alternative reimbursement methodology and then reprice paid claims to see what difference it would make in cost. In addition, you could model projected differences in utilization.

We will make **HCPCS codes**, **ICD codes**, **clinical modifiers** in codes, **NDCs**, and **revenue codes** available in claims and encounters to support reimbursement methodology analysis.

PG215	The solution should have the ability to analyze provider participation data by criteria including, but not limited to:

Our solution has the pre-defined report workbook Provider Profile that has extensive information about individual providers. The provider profile yields information about a specific provider and its panel of members, whether attributed or seen. The distribution of the provider's population is shown across demographic, eligibility, clinical and utilization categories.

The Provider Comparative Analysis is also relevant. The composition of a provider's population, in terms of both attributed versus total seen, is shown by various demographic, geographic, clinical and utilization metrics. Each provider is compared to a peer group and, where available, other comparative groups. Measures of efficiency, such as relative resource use, and service levels by member acuity, are shown. Figure 25 shows an example.

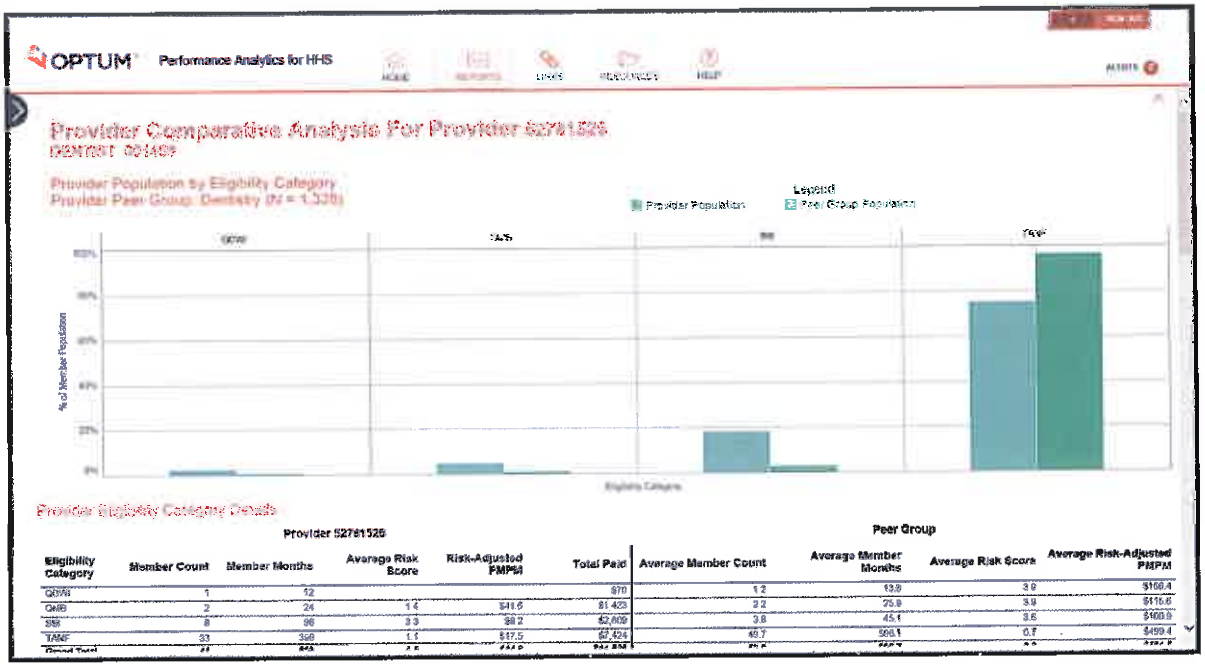


Figure 25: Provider Comparative Analysis
You can compare providers with this view that shows the composition of a provider's population, in terms of both attributed versus total seen, is shown by various demographic, geographic, clinical and utilization metrics

Many other workbooks have provider fields, which enable selecting, sorting and subtotaling by provider. In addition, you will be able to use your choice of Tableau, SQL, R, or Python to combine provider data with claims/encounter data to do any custom analysis you want.

PG216	Payments

Our solution links provider information to claims/encounter data. That enables reporting on total payments by provider, which can be broken out by such dimensions as service type, provider type, and location among others.

PG217	Services

Our solution links provider information to claims/encounter data. Claims/encounter data include service (procedure) codes. That enables reporting on services by provider, which can be broken out by such dimensions as provider type, patient eligibility code, location among others.

PG218	Types of services

Our solution links provider information to claims/encounter data. Claims/encounter data include service (procedure) codes. After working with you to map service (procedure) codes to a type of service, we enable reporting on provider by type of service.

PG219	Member eligibility categories

Our solution links member information to claims/encounter data. Claims/encounter data include provider IDs. By linking providers to members through the claims in common, you can analyze provider participation by member eligibility code.

PG220	Others defined by the Department

Our solution provides a wide range of criteria for analyzing provider participation. If others are identified in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

PG221	The solution should have the ability to summarize expenditures based on type of federal expenditure and the member's eligibility and program.

Our solution contains a number of pre-defined report workbooks, which summarize federal expenditures by member and member eligibility. These include Member Profile, Waiver Enrollment, and Waiver Impact Model. Because member data has eligibility codes that link members to programs we can summarize expenditures by linking members in particular programs to claims/encounters associated with those programs. For dual eligible members, if we have Medicare claims/encounter data, we can calculate the total payment and then split it by Medicare/Medicaid.

PG222	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on claims edit checking and adjudication rules, claims parameters and payment rules, provider payment rules or amounts, or claims sequencing.

Our solution includes the pre-defined report workbook Retrospective Utilization Analysis, which provides a basis for spreadsheet-style policy modeling, as the data is in a pivot table, which allows for creation of calculated fields that can be used for (what-if analysis). In addition our solution includes the Optum FADS component which does a wide range of payment integrity analysis on claims edit checking and adjudication rules, claims parameters and payment rules, provider payment rules or amounts, or claims sequencing. Our data warehouse that stores all the information sent over from the MMIS adjudication system enables a wide range of fine-grained policy modeling.

PG223	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on changes in provider profiles.

Our solution includes the pre-defined workbook Provider Profile. With our tools you can project prospectively and retrospectively, modeling (what-if analyses), on what the change would be if particular providers were included or excluded from particular programs.

PG224	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on changes in member profiles.

Our solution includes the pre-defined report workbook Member Profile. With our tools you can project prospectively and retrospectively what the change would be (what-if analyses) if particular members were included or excluded from particular programs.

PG225	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on changes in benefit plans.

Our solution includes the pre-defined workbook Retrospective Utilization Analysis. With our tools you can project prospectively and retrospectively, modeling (what-if analyses), on what the change would be if particular benefits were included or excluded from particular members. With RStudio, you can run a difference-in-differences regression to see what the actual impact was among various classes of members and providers in response to a benefit plan change.

PG226	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on patterns in relationships between disparate data.

Our solution includes RStudio Pro Enterprise, which enables you to run robust statistical and machine learning algorithms to look at patterns in relationships, modeling (what-if analyses), between disparate data. You can execute deep learning algorithms as well as simulations and difference-in-differences regression.

PG227	The solution should have the ability for authorized solution users to perform policy modeling (what-if analyses) on other criteria as defined by the Department.

Our solution includes RStudio Pro Enterprise which enables you to run a wide range of robust statistical and machine learning algorithms to look at patterns in relationships, modeling (what-if analyses), between disparate data. Additional criteria can be added to your policy modeling using the RStudio capabilities. You can execute deep learning algorithms as well as simulations and difference-in-difference regressions.

PG228	The solution should have the ability for authorized solution users to perform retrospective reviews on claims that appear to have been inappropriately paid, such as:

Our FADS component has an investigative case management function. It includes the development of Focused Analytics. These are comprehensive analytic strategies that retrospectively detect suspect intra-claim and cross-claim situations and complex or collusive health care fraud, waste and abuse.

We will work closely with you during the analytics development process to identify which analytics will be of most benefit to you, thus enabling you to take advantage of timely and dynamic analytics. We will add additional pattern recognition analytics to the production schedule over time, including through the identification of successful peer group profiles that the State would like to run automatically. Focused analytics selected can be implemented for automated deployment.

Analytics are developed to target fraudulent or abusive practices that are not normally detectable using statistical methodologies. Implementing custom analytics that target specific and known problems, provide maximum return on investment, and cause a deterrent effect. This functional component is supported, executed, and maintained by Optum staff and does not rely upon your staff to learn complex query languages. This enables your program integrity staff to concentrate on discoveries identified by the analytics.

Analytics are executed on an agreed upon schedule depending on the purpose of the algorithm and your request. Historical results are retained and available online to users for research purposes. Figure 26 shows a small sample of the analytics contained in our algorithm library that we can deploy and configure for you. Other West Virginia-specific analytics in addition to the base FADS solution can be designed and built at your request through the EDS project change management process.

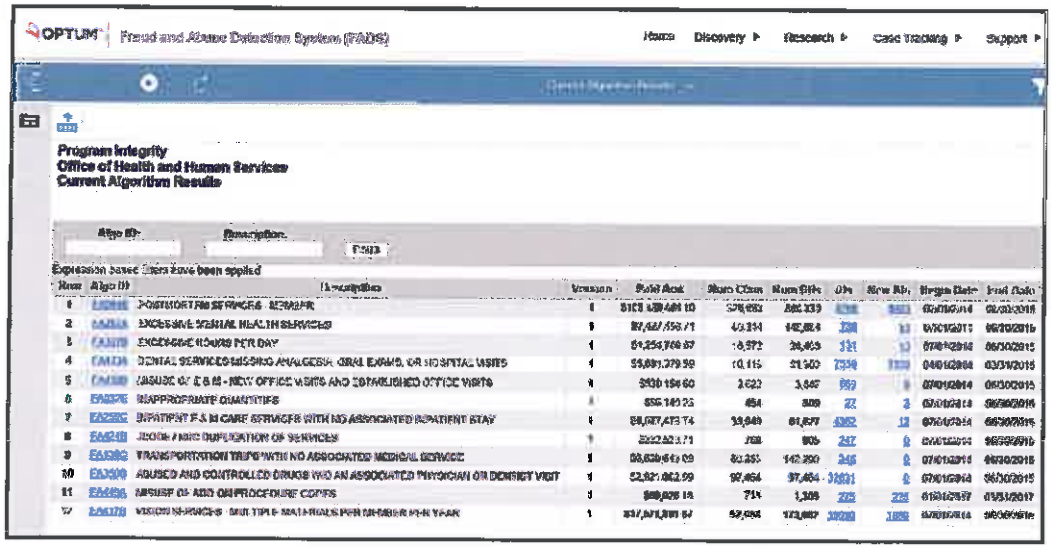


Figure 26: Current Analytic Results

The Current Analytics Results report is a list of the most recent runs of all deployed analytics.

PG229	Excessive units

Our FADS product has a Browse and Search function, which enables users to view claims details without the need to access a full ad hoc querying tool. Users can see the associated provider and member IDs and names, dates of service, procedure codes and modifiers, diagnoses, units of service, and many other data elements meeting the search criteria. The user can filter to display specific criteria that may indicate a policy violation, or they can manipulate the claims to easily detect patterns and anomalies.

PG230	Duplicate services

The Claims Browse & Search reports and a user's knowledge of policy guidelines, contractual requirements and State and federal laws and requirements can be applied as filters and/or sorts to confirm excessive quantities, duplicate billing. A focused analytic can be developed and defined to identify excessive quantities and/or duplicate billing practices.

PG231	Coding errors, or other errors

The statistical methodology of the FADS Peer Group Profiling module is a perfect choice for identifying excessive use of individual procedure codes, surgical codes or ranges or errors. Focused Analytics have the ability to identify two or more procedures that are carried out at the same time that should not be reimbursed separately based on DHHR specific rules or published NCCI Incidental Procedure Edits.

PG232	The solution should have the ability for authorized solution users to perform retrospective reviews to determine whether services and billings were a medically-necessary exception to usual practice.

Our solution includes the pre-defined report workbooks Claims Detail and Retrospective Utilization Analysis. Other tools allow access to claims data in the data warehouse itself. Authorized solution users can then review services and billing in context to determine if they were medically necessary.

PG233	The solution should have the ability to compare encounter data and claims with capitation versus fee-for-service (FFS) payment data to determine optimal utilization and payment scenarios.

Our solution has the ability to compare encounter data and claims with capitation versus FFS payment data to determine optimal utilization and payment scenarios through ad hoc reporting and statistical analysis. We will work with you in the requirements phase to understand your

goals and the level of granularity for such a comparison and the objective to be optimized. We will then develop a plan for implementing those requirements.

PG234	The solution should have the ability to report health care quality measures in accordance with the Centers for Medicare & Medicaid Services (CMS) Technical Specifications including, but not limited to:

Our solution contains pre-defined report workbooks such as Quality Measure Analysis, which use the output of the included Symmetry EBM Connect module to calculate almost all of the measures in the Adult and Child Core Sets. The rest will be created in SQL or Tableau VizQL.

PG235	Adult Core Set

Our solution includes the Symmetry EBM Connect data enhancement component, which produces 28 Adult Quality measures. The rest will be created in SQL or Tableau VizQL.

PG236	Child Core Set

Our solution includes the Symmetry EBM Connect data enhancement component, which produces 40 Child Core Set measures. The rest will be created in SQL or Tableau VizQL.

PG237	Health Home Core Set

We will work with you in the requirements phase to determine the calculation method for the necessary measures. We will then implement them in SQL or Tableau VizQL.

PG238	Substance Use Disorder (SUD) Waiver Measures

We will work with you in the requirements phase to determine the calculation method for the necessary measures. We will then implement them in SQL or Tableau VizQL.

PG239	Others identified by the CMS and/or the Department

We will work with you in the requirements phase to determine the calculation method for the necessary measures. Other measure defined by the Department and CMS in addition to the base OPAHHS solution and Symmetry can be addressed through the EDS project change management process.

PG240	The solution should have the ability to provide on an annual basis pre-built queries for the Centers for Medicare & Medicaid Services (CMS) Adult Core Set, Child Core Set, Health Home Core Set, Substance Use Disorder (SUD) Waiver Measures, and others identified by CMS and/or the Department, and the Vendor should review the queries with Department staff once they are complete within a timeline agreed upon with the Department.

Our solution contains pre-defined report workbooks such as Quality Measure Analysis that use the output of the included Symmetry EBM Connect module to calculate almost all of the measures in the Adult and Child Core Sets. The rest will be created in SQL or Tableau VizQL.

PG241	The solution should maintain all historical queries for the Centers for Medicare & Medicaid Services (CMS) Adult Core Set, Child Core Set, Health Home Core Set, Substance Use Disorder (SUD) Waiver Measures, and others identified by the Department and/or CMS for a minimum of ten (10) years.

We will document and store all such queries in the rule/query knowledge base in our document management system for a minimum of ten (10) years. OPAHHS has a powerful search function to identify relevant rules.

PG242	The solution should have the ability to report state-defined healthcare quality measures in accordance with specification criteria from various measure stewards such as:

Our solution includes EBM Connect, which has 650 measures from a wide range of quality measure sources. This comes with complete documentation that identifies the research base justifying the measure as well as the calculation method. We use these in our analysis-ready data sets.

PG243	Pharmacy Quality Alliance (PQA)
PG244	National Quality Forum (NQF)
PG245	National Committee for Quality Assurance (NCQA)
PG246	Healthcare Effectiveness Data and Information Set (HEDIS) Measures

PG247	The Joint Commission (TJC) National Quality Measures
PG248	Centers for Medicare & Medicaid Services (CMS) Measures
PG249	U.S. Office of Population Affairs (OPA)
PG250	Agency for Healthcare Research and Quality (AHRQ)
PG251	Centers for Disease Control (CDC)
PG252	Others as identified by the Department

With more than 650 rules covering many important clinical conditions, our EBM Connect product that is included with OPAHHS provides a solid foundation for quality measurement. National standard specifications from organizations such as the Pharmacy Quality Alliance, CMS, and NCQA HEDIS are the primary source for many EBM Connect measures, with priority given to any measure endorsed by the National Quality Forum (NQF). In addition to these national standard measures, the EBM Connect software contains two other types of measures. One type is derived from national standards but is enhanced with additional logic for more robust measures. An example is a measure that uses additional data sources (e.g., pharmacy prescriptions) to complement a measure dependent solely on CPT (Current procedural terminology) or HCPCS (Healthcare Common Procedure Coding System) codes. The second type consists of quality measures and care opportunities supported by clinical evidence where no national standard exists.

Our EBM Connect product includes a number of **PQA**, **NQF**, **NCQA**, and **HEDIS measures**. We will work with you to identify any **TJC**, **OPA**, **AHRQ**, and **CDC** measures in EBM Connect that may meet your requirements. CMS normally uses third-party authorities to develop and maintain measures. We will work with you in the requirements phase to determine what measures you require and a schedule for implementing them. If **others** are identified in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

PG253	The solution should provide the ability to produce multidimensional, flexible, ad hoc reports across business functions which meet reporting needs including, but not limited to:

Our solution includes Tableau as our primary BI tool. This intrinsically flexible tool enables creating workbooks that contain data along with the code and data needed to create those reports. Because drill-down dimensions and a pivot table interface are in every workbook, you have great flexibility and outstanding data visualization capabilities. Selected users have a version, which allows access to external data and read access to the data warehouse, role permitting. Following is a list of the reports/workbooks in OPAHHS. In addition, selected users can use the exploratory data analysis tools in the R environment using RStudio.

Report Name	Report Description
Acute Claims Utilization	Analysis of acute care claims allows the user to assess the utilization pattern of often very high cost services. Case mix by grouper is shown visually, as well as utilization patterns that are often tied to specific quality measures (most frequent episode/grouper associated with re-admissions, for example). Metrics can be shown by hospital, hospital network, or other organization. If MCO or ACO data is available, reporting and analytics can be provided for in-network and out-of-network utilization allowing drill-down into utilization by category of service within these parameters.
Behavioral Health/Substance Abuse	This provides a detailed report showing geography, utilization, and other metrics on recipients with a history of BHSA diagnosis.
Care Management/Disease Management	A geographic representation of members with chronic conditions appropriate for care management programs (COPD, Asthma, diabetes) is presented, along with indications for MCO enrollment. Various metrics are presented to show member populations with high associated emergency department visits, inpatient admissions, risk scores, PMPMs, and so forth.

Report Name	Report Description
Category of Service	Utilization of services is presented for high-level categories (inpatient, outpatient, professional, and pharmacy) as well as drill-down into more detailed levels, down to line-level assignments.
Claims Ad Hoc	The ability to perform essential ad hoc functionality against the data is provided across different levels. Users can create variables and design reporting with their own visualizations and analytics.
Claims Detail	The claims detail report provides a visual representation of a member's claim utilization over time. Drill-down detail information is available to the line level. All types of claims (inpatient, outpatient, professional, pharmacy) are included. Visualizations are developed to identify outlier services.
Claims Lag Triangle by Paid Date	The claims lag triangle by paid date presents statistics on incurred-but-not-reported rates by various claim types and categories of service. Various other metrics on completion factors are also presented to allow a more detailed understanding on the impact of utilization metrics across time.
Claims Lag Triangle by Submission Date	The claims lag triangle by submission date presents statistics on incurred-but-not-submitted rates by managed care encounters and categories of service. Various other metrics on completion factors are also presented to allow a more detailed understanding on the impact of utilization metrics across time.
Cost Drivers	An analysis of the different drivers of costs of delivery of services.
Delivery analysis	Identification of delivery events, including low birthweight deliveries, both from a provider perspective and a geographic perspective.
Determinants of Health	Reporting and analysis that looks at other determinants of health, including access to education, nutritious food, housing and transportation, as well as clean water and non-polluted air. Measuring health disparities across populations by looking at the social and environmental determinants is driven by availability and access to data. The above factors are included in demographic reporting that supports drill-down to the member level.
Diagnosis Code	Standard report showing the prevalence and use of diagnosis codes.
Disease Prevalence	Population-level disease prevalence metrics by episodes within the ETG hierarchy are shown, along with cost-per-episode statistics. Disease prevalence can be characterized by different demographic and geographic groupings. Drill-down into category of service utilization by various episodes is shown, with appropriate utilization metrics.
Eligibility Group Profile	Utilization, demographics, clinical, geographic, and enrollment detail are summarized in one template allowing the user to do a deep-dive into one particular eligibility group or groups.
Enrollment Analysis	A complementary report to the Enrollment Overview, this report dives deeper into analytics around enrollment and utilization for different enrolled groups. Metrics around member churn, risk-adjusted PMPMs, and comparative information is provided.
Enrollment Breakdown	More detailed information showing demographic data for enrolled groups.
Enrollment Overview	The user is presented with enrollment trends over time, variation analysis, and year-over-year metrics to track enrollment by many different characteristics as well as sub-groups.
Finance Detail	This report supports rate-setting analyses, such as pay for performance, episode-based payment, revenue modelling, including analysis of Federal Medical Assistance Percentages (FMAP) differences, risk-adjusted payment, and capitation calculations (including risk-adjusted capitation). Helps determine the value of services, regardless if carve-in or carve-out, such as pharmacy, behavioral health, long-term services, and supports.

Report Name	Report Description
Geography Profile	Utilization, demographics, clinical, geographic, and enrollment detail are summarized in one template allowing the user to do a deep-dive into one particular geographic area.
Long Term Care	Provides geographic representation about using long-term care (nursing facility) services.
LTSS Member Utilization	A more detailed review of members receiving LTSS services, particularly those receiving high levels of service and/or overlapping services.
LTSS Utilization Overview	High-level analytics of long-term services and supports (LTSS) delivery of services.
MCO Disease Management	Assessment of the prevalence and management of disease, especially manageable chronic conditions, across the MCO enrolled population.
MCO High Level Comparison Report	A high-level comparison of MCO performance, across financial, utilization, and quality content areas.
MCO Outpatient Emergency Department Utilization Report	This report provides a thorough analysis of emergency department utilization, grouped at the MCO/ACO level or other levels. Using an algorithm for classification of emergency department visits developed at NYU, the report characterizes visits as Avoidable, Required, Questionable, and Other for analysis at the pattern of utilization. Drill-down and drill-through is provided.
MCO Quality Achievement	A deep dive into quality measure achievement across MCOs.
MCO Quality Achievement PCP Detail	Further detailed analysis around the primary care providers affiliated with MCOs to give granular detail around quality measure achievement.
Member Access to Care	The view supports analysis that compares the provider availability and utilization by ZIP code or county and population attributes for any program (i.e., in order to assess provider capacity in a specific area based on the number of open practices, time and distance criteria, provider type). In-network and out-of-network metrics are provided where appropriate. Beneficiary-to-provider ratios and provider workload (compared to average for peer) are included to further determine access to 'open' care.
Member Outlier	Groupings of members are presented visually allowing easy identification of 'like' cohorts of members by common conditions, service utilization, and clinical measures. Clustering and other outlier measures are also utilized. The report has the capability to create groups of beneficiaries for profiling and analysis by conditions, populations, services, clinical outcomes, or other identified attributes.
Member Profile	The member profile shows detailed information about a particular member, including demographics and enrollment history, geographic location in relation to providers, clinical and utilization information. This is a key report, linked to from many other reports.
Multivariate Forecasting	A more advanced version of single variable forecasting is presented with more sensitive adjustments to the forecasting model.
Opioid Utilization - Member	Provides reporting and analytics to address opioid use issues with actionable information from a member perspective. Advanced analytic techniques are used to identify those members who are most at risk of addiction. Includes KPI dashboard.
Opioid Utilization - Provider	This view presents a view of the opioids prescribing pattern by provider specialty.
Pediatric Asthma Prevalence	Provides a population-level report on the prevalence and severity of pediatric asthma, leveraging the pediatric asthma machine-learning module.

Report Name	Report Description
PMPM Cost By County	An analysis of costs and utilization at the county level is provided to allow comparison across geographic areas, including drill-down into categories of service for those areas. Comparative metrics include clinical measures, such as disease prevalence and comorbidities, as well as quality measure adherence, standard utilization, and cost metrics. Year-over-year comparisons are provided to establish the necessary frame of reference for data points.
Prescription Drug Utilization Analysis	A specific deep dive into prescription drug utilization is provided, both from a member and prescribing provider perspective. Where available, drug costs and rebate information is integrated with the reporting to show the true costs of prescription drugs.
Procedure Code	Standard report showing the prevalence and use of procedure codes.
Provider Comparative Analysis	The composition of a provider's population, in terms of both attributed vs. total seen, is shown by various demographic, geographic, clinical, and utilization metrics. Each provider is compared to a peer group and, where available, other comparative groups. Measures of efficiency, such as relative resource use, and service levels by member acuity are shown.
Provider Outpatient Emergency Department Utilization	This report provides a thorough analysis of Emergency Department utilization, grouped either at the billing provider level. Using an algorithm for classification of emergency department visits developed at NYU, the report characterizes visits as Avoidable, Required, Questionable, and Other for analysis at the pattern of utilization. Drill-down and drill-through is provided.
Provider Overlapping Claims Analysis	Analysis that pulls overlapped services (LTSS services while a recipient is an inpatient), both at the member and provider level of detail.
Provider Profile	The provider profile yields information about a specific provider and its panel of members, whether attributed or seen. The distribution of the provider's population is shown across demographic, eligibility, clinical, and utilization categories.
Quality Measure Analysis	Adherence rates for identified quality measures at a population, network (ACO/MCO/other) are shown, as well as distribution of rates by various sub-group (age/gender/race/other). Drill-down to provider-level adherence as well as trends over time (if available) is shown. Outcome-based measures are risk-adjusted to more accurately reflect the underlying population driving the measure results.
Retrospective Utilization Analysis by Paid Date	This view pulls together utilization patterns for multiple populations, showing not only overall utilization rates by category of service, but also more detailed analytics such as readmissions, avoidable emergency department utilization, and if available avoidable hospitalizations. Drill-down into specific groups by age, gender, race, and eligibility category provide a more detailed understanding of which cohort may be driving patterns. More analytic metrics, such as PMPMs, risk-adjusted PMPMs and services per member are delivered in the detail view. Benchmark data, either internal or external, is provided for utilization metrics at various levels of aggregation (peer groups, health plans/MCOs/ACOs, or other networks).
Retrospective Utilization Analysis by Submission Date	This view pulls together utilization patterns for multiple populations, showing not only overall utilization rates by category of service, but also more detailed analytics such as readmissions, avoidable emergency department utilization, and if available avoidable hospitalizations. Drill-down into specific groups by age, gender, race, and eligibility category provide a more detailed understanding of which cohort may be driving patterns. More analytic metrics, such as PMPMs, risk-adjusted PMPMs, and services per member are delivered in the detail view. Benchmark data, either internal or external, is provided for utilization metrics at various levels of aggregation (peer groups, health plans/MCOs/ACOs, or other networks).
Single Variable Forecasting	Users are provided with the ability to forecast various metrics across time, with appropriate filters and functionality.

Report Name	Report Description
Trending	Trending over time is available for a range of variables, along with relevant statistical metrics.
Waiver Enrollment	This is an enrollment report focused specifically on the waiver population, intended to help assess and manage this population particularly where enrollment caps and member churn need to be evaluated.
Waiver Impact Model	This view provides users the ability to assess the impacts of an increase in a waiver population. Utilization, financial, and demographic results are presented.

Figure 27 provides relevant dashboard images from the OPAHHS homepage.

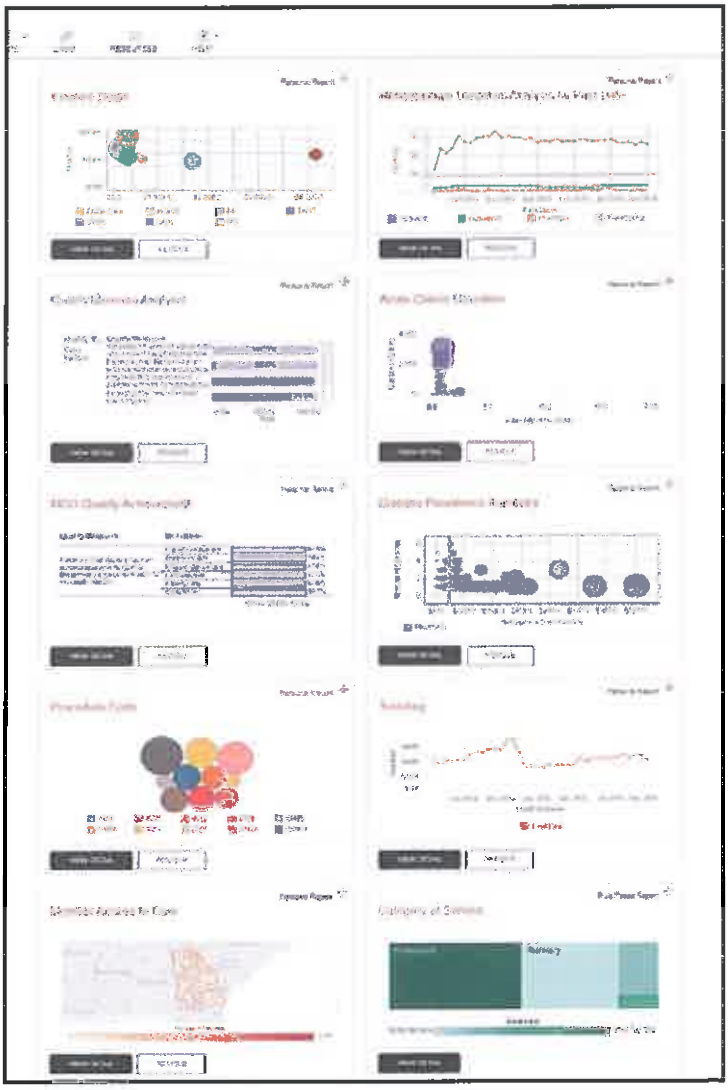


Figure 27: Dashboard Views from OPAHHS Home Page
OPAHHS widgets can be dragged onto a custom dashboard.

PG254	Financial reporting

Our solution includes pre-defined report workbooks that implement financial reporting. These include Finance Detail, PMPM Cost by County, and Retrospective Utilization Analysis among

others. In addition, we store CMS financial reporting data in the data warehouse and make it available.

PG255	Budget forecasting

Because our primary BI tool is based in a pivot table model, you can use its capability to define new calculated fields and built-in statistical function to forecast. In addition, we include a robust data science tool.

PG256	Fiscal planning and control

Our solution includes pre-defined report workbooks that implement financial reporting. These include Finance Detail, PMPM Cost by County, and Retrospective Utilization Analysis among others. In addition, we store CMS financial reporting data in the data warehouse and make it available. Because our primary BI tool is based in a pivot table model, you can use its capability to define new calculated fields and built-in statistical function to develop fiscal planning and control models. We also include a robust data science tool.

PG257	Claims payment accuracy

The solution includes the Optum FADS component, a renowned payment integrity tool. This is documented at length in the Payment Integrity section of Attachment G.

PG258	Expenditures

Our solution includes several pre-defined report workbooks with expenditure information, including Cost Drivers, Claims Detail, Retrospective Utilization Analysis, Diagnosis Code, and Procedure Code. Because these are workbooks and not mere reports, you can sort, select, drill-down, and create new calculated views and data visualizations. Figure 28 shows an example of Member Claims Detail.

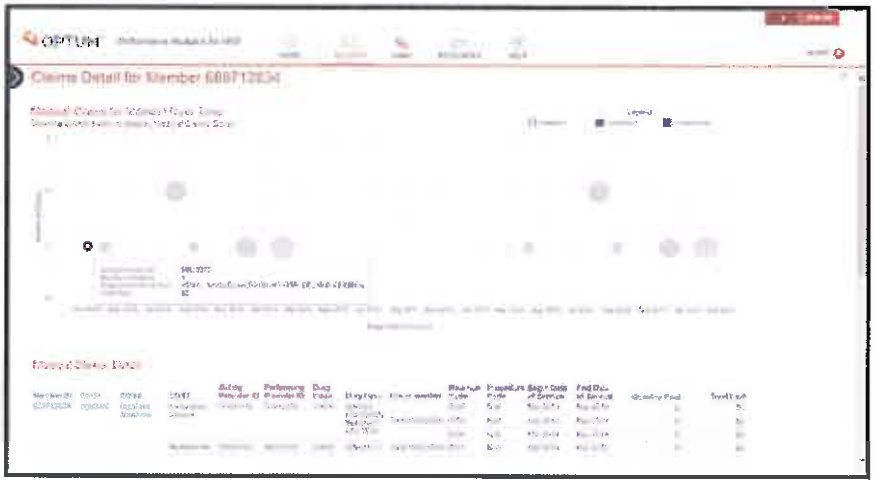


Figure 28: Member Claims Detail
One of the pre-defined reports that include expenditure information is the Member Claim Detail. Expenditure by claim is shown for the member in a graphical representation over time, and in a claims detail section.

PG259	Timely reimbursement analysis

Many of our pre-defined report workbooks with claims data include fields for date of service, date of claim submission, and date of payment. You can create a new calculated field, which subtracts data of submission from data of payment, and then plot a bar chart of the frequency distribution of time to pay.

PG260	Cost/benefit analysis

OPAHHS includes several pre-defined report workbooks with expenditure information, including Cost Drivers, Claims Detail, Retrospective Utilization Analysis, Diagnosis Code, and Procedure Code. Because these are workbooks and not mere reports, you can sort, select, drill-down, and create new calculated views and data visualizations. This enables you to create fields for benefits and then perform cost/benefit analysis.

PG261	Eligibility and benefit design

OPAHHS includes the pre-defined report workbook Eligibility Group Profile Utilization, where demographics, clinical, geographic, and enrollment detail are summarized in one template. Users can deep dive into one particular eligibility group or groups. You can use this in conjunction with financial data to perform benefit design.

PG262	Geographical analysis

OPAHHS includes the pre-defined report workbook Geography Profile. Utilization, demographics, clinical, geographic, and enrollment detail are summarized in one template. Users can deep dive into one particular geographic area. In addition, we use geocodes for every address in the system, including members and providers. Together with shape files freely available from Census, this enables you to use the geospatial analysis capabilities inherent in the BI tool and the data science tool.

PG263	Program planning

We will work with you in the requirements phase to develop a crosswalk of programs to procedure codes. You will be able to use the result to retrieve relevant claims and aggregate them to determine program costs. By linking with provider or member data, you will be able to do geospatial analysis. With the BI or data science tool, you will be able to look at trends and compare to benchmarks.

PG264	Policy Analysis

We will work with you in the requirements phase to develop a crosswalk of policies to procedure and diagnosis codes. You will be able to use the result to retrieve relevant claims and aggregate them to determine program costs. By linking with provider or member data, you will be able to do geospatial analysis. With the BI or data science tool, you will be able to look at trends and compare to benchmarks.

PG265	Federal waiver program evaluation

Our solution includes the pre-defined report workbooks Waiver Enrollment and Waiver Impact Model. Waiver Enrollment is an enrollment report focused specifically on the waiver population, intended to help assess and manage this population particularly where enrollment caps and member churn need to be evaluated. Waiver Impact Model provides users the ability to assess the impacts of an increase in a waiver population. Figure 29 shows a geographical example of waiver enrollment.

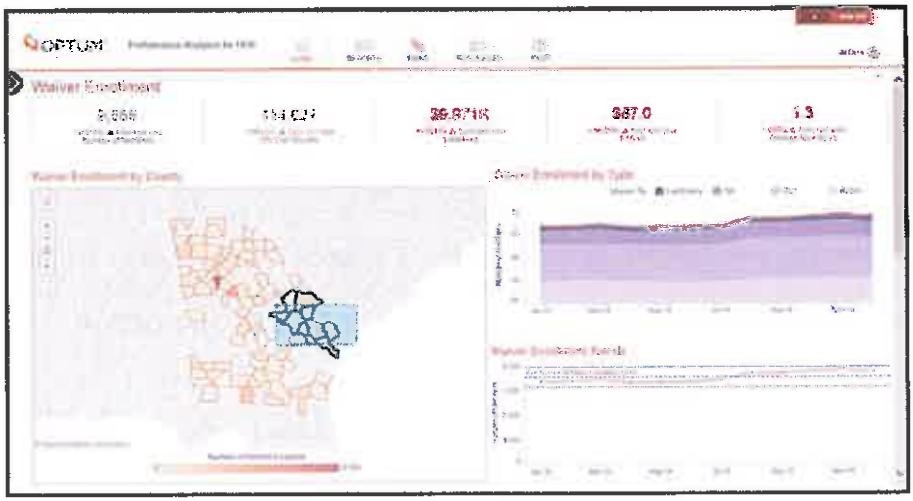


Figure 29: Waiver Enrollment
Utilization, financial, and demographic results for specific waiver programs are presented in summary and through graphical views.

PG266	Adequacy of and access to care

OPAHHS includes the re-defined report workbook Member Access to Care, which compares the provider availability and utilization by ZIP code or county and population attributes for any program (i.e., in order to assess provider capacity in a specific area based on the number of open practices, time and distance criteria, provider type). In-network and out-of-network metrics are provided where appropriate. Beneficiary-to-provider ratios and provider workload (compared to average for peer) are included to further determine access to 'open' care.

PG267	Quality of care

OPAHHS includes the pre-defined workbook Quality Measure Analysis. Adherence rates for identified quality measures at a population, network (ACO/MCO/other) are shown, as well as distribution of rates by various sub-group (age/gender/race/other). Drill-down to provider-level adherence as well as trends over time (if available) is shown. Outcome-based measures are risk-adjusted to more accurately reflect the underlying population driving the measure results. This in turn relies on output in the data warehouse from Optum's Symmetry EBM Connect, which infers the basis for 650 measures from claims data.

PG268	Outcomes assessment

OPAHHS includes the Member Outlier report notebook. Groupings of members are presented visually allowing easy identification of 'like' cohorts of members by common conditions, service utilization, and clinical measures. Clustering and other outlier measures are also utilized. The report has the capability to create groups of beneficiaries for profiling and analysis by conditions, populations, services, clinical outcomes, or other identified attributes.

Our solution also includes the Quality Measure Analysis report workbook. Adherence rates for identified quality measures at a population, network (ACO/MCO/other) are shown, as well as distribution of rates by various sub-group (age/gender/race/other). Drill-down to provider-level adherence as well as trends over time (if available) is shown. Outcome-based measures are risk-adjusted to more accurately reflect the underlying population driving the measure results.

PG269	Disease management.

OPAHHS includes the pre-defined report workbook Care Management/Disease Management. This provides a geographic representation of members with chronic conditions appropriate for care management programs (COPD, Asthma, diabetes), along with indications for MCO

enrollment. Various metrics are presented to show member populations with high associated emergency department visits, inpatient admissions, risk scores, PMPMs, and so forth.

PG270	Managed care plan planning and analyses

OPAHHS includes a number of managed care pre-defined report workbooks, including MCO Disease Management, MCO High Level Comparison Report, MCO Outpatient Emergency Department Utilization Report, MCO Quality Achievement, and MCI Quality Achievement PCP Detail. These include from high-level comparison of MCO performance, across financial, utilization, and quality content areas, assessment of the prevalence and management of disease, especially manageable chronic conditions, across the MCO enrolled population, and a deep dive into quality measure achievement across MCOs.

PG271	Others as defined by the Department

OPAHHS provides the capability to report on any data element in the data warehouse or any data that DHHR power users or data scientists may bring into a sandbox. If others are identified that are in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

PG272	The solution should have the ability to calculate Department-specified calculations in temporary arrays allowing for multi-step array-based queries.

Both Azure SQL Data Warehouse and the R tool allow for the creation of temporary tables or arrays. SQL, R, and Python allow for the creation of queries/scripts, which process multiple arrays in multiple steps.

PG273	The solution's data access component should allow the authorized solution user to have the ability to type or select from any menu options available in the solution that include measures, dimensions, subsets, and time periods.

OPAHHS allows authorized users to select from any menu options available in the solution. Users can drill-down or filter by measures or time periods. Supported dimensions and subsets include diagnosis codes, procedure codes, demographics, and geography.

PG274	The solution's data access component should provide the authorized solution user with search capability for all unique values for macros whose size exceeds system limitations.

Both the primary BI tool and the primary statistics tool can develop queries, which are delegated to the underlying data warehouse. Only the answers are loaded into main memory. This vastly expands the ability to search among a large number of unique values.

PG275	The solution should have the ability to capture data collected by each contracted Managed Care Organization (MCO) including, but not limited to:

We will work with you, the MCOs, and our governance operation to identify what this other data might be and how we would get access to it.

PG276	Social determinants of health

If any MCO transmits social determinants of health (SDOH) to us, we can store it. If they used the Z codes in ICD-10 to record SDOH data, this would become available when we received the encounter data through the MMIS. Because we geocode every address in the system, we can infer social determinants at a neighborhood (Census tract or ZIP code level) by retrieving information from the Census' American Community Survey.

Our solution includes the Determinants of Health report workbook. This has reporting and analysis that looks at other determinants of health, including access to education, nutritious food, housing, and transportation, as well as clean water and non-polluted air. It measures health disparities across populations by looking at the social and environmental determinants is driven by availability and access to data. The above factors are included in demographic reporting that supports drill-down to the member level.

PG277	Others as defined by the Department

MCO data elements that DHHR identifies as being required in addition to the base OPAHHS solution can be addressed through the EDS project change management process.

PG278	The solution should have the ability to produce a hospice report comparing hospice days to inpatient days for each enrolled hospice member and for all hospice providers.

We will work with you in the requirements phase to define a hospice report. This includes producing a hospice report that will compare hospice days to inpatient days for each enrolled hospice member and for all hospice providers.

PG279	The solution should track the impact of the Medicare drug program.

Our solution will receive information from the Medicare drug program. Our tools can then report on that data.

PG280	The solution should provide information required for the review and development of medical assistance policy and regulations.

Our solution will capture all enrollment and claims information, and has all the information you require. This makes it an excellent data source for reviewing and developing your assistance policy and its regulations.

PG281	The solution should support the projection of the cost of program services for future periods.

OPAHHS includes Symmetry's episode risk group output, which predicts future costs at a patient-specific level. In addition, we have tool-level support for prediction. Tableau has built-in forecast with automated model section that projects past behavior into future periods. RStudio, our data science environment gives you access to a wide range of freely downloadable time-series algorithms.

PG282	The solution should meet Transformed Medicaid Statistical Information System (T-MSIS) reporting timelines, providing T-MSIS tapes for submission in accordance with the tape delivery schedules.

While the solution can produce T-MSIS tapes for submission, Optum understands that CMS has replaced the T-MSIS tape submission process with an electronic data transmission process. Our proposed solution will provide the capability to transmit T-MSIS extract files to CMS using the new data transmission process.

We understand that the delivery schedule dates will be negotiated between CMS and the State. Optum assumes that the State will work with Optum in connection with any delivery schedule dates that the State will negotiate with CMS, such that Optum will be able to meet the agreed upon delivery schedules to the extent consistent with what Optum has proposed to the State.

Optum's ability to meet this requirement is also based on the State's T-MMIS vendor providing Optum all T-MSIS data in the format required by CMS (the T-MSIS Data) in a period that is consistent with the assumptions provided by Optum as part of the overall schedule to be mutually agreed upon between the State and Optum.

We will store the T-MSIS Data and make it available to the State for query and reporting. The State's T-MSIS vendor will be responsible for addressing any data issues associated with the T-MSIS Data they provide Optum and for providing Optum with any corrected or replacement data (in a mutually agreed upon manner and time frame). This includes the responsibility for resolving any Top Priority Issues (TPIs), as defined by CMS.

Our responsibility will be limited to (a) accurately storing and maintaining the T-MSIS data as provided by the T-MSIS vendor and making it available to the State for query and reporting and (b) maintaining the CMS-64 data in balance with the data feeds as provided by the source vendor.

PG283	The solution should comply with the information reporting requirements of section 6041 of the Internal Revenue Code (26 U.S.C. 6041). Section 6041 requires the filing of annual information returns showing

	amounts paid to providers, who are identified by name, address, and social security number or employer identification number.

We will work with you in the requirements phase to understand your workflow and our role in it to electronically send 1099's to providers and the IRS. We can store the remittance advices the MMIS sends to providers when claims adjudication finishes.

PG284	The solution should provide the ability to create a quarterly report on expenditures under the Money Follows the Person program based on the Department's rules.

OPAHHS includes the tooling for producing and distributing regularly scheduled reports. We will work with you in the requirements phase to develop a definition for the Money Follows the Person Program. We will then reverse engineer that report to validate that the data needed to drive the report is both present in the data model and has a source with an interface control document.

PG285	The solution development efforts should be tied to and supportive of agency goals and objectives including, but not limited to:

OPAHHS is specifically designed to support the goals and objectives of state Medicaid programs.

PG286	Managing long term care costs

Both OPAHHS and FADS (the payment integrity tool) have data structures supporting reporting on long-term care costs. The data model will capture all long-term care claims, making them available for reporting.

PG287	Acute care

Both OPAHHS and FADS have data structures supporting reporting on acute care costs. Our Symmetry episode of care grouper will group together both inpatient and outpatient costs, giving you a more accurate timeline and cost picture. The data model will capture all acute care claims, making them available for reporting.

Our solution includes the Acute Claims Utilization report workbook. This provides analysis of acute care claims, enabling the user to assess the utilization pattern of often very high cost services. Case mix by grouper is shown visually, as well as utilization patterns that are often tied to specific quality measures (most frequent episode/grouper associated with re-admissions, for example). Metrics can be shown by hospital, hospital network, or other organization. If MCO or ACO data is available, reporting and analytics can be provided for in-network and out-of-network utilization, allowing drill-down into utilization by category of service within these parameters.

PG288	Others as defined by the Department

Our vision for OPAHHS is to continue being the leading state health care analytic solution in the market. The sole focus of Optum is health care and we are aligned with, and supportive of, DHHR goals and objectives for health care analytics and reporting. If others are identified in addition to what is available in the base OPAHHS solution, they can be addressed through the EDS project change management process.

PG289	The solution should have the ability to meet Department-defined time frames and prioritization for processing authorized solution user requests.

We have carefully sized our solution to be able to keep up with volume. We will develop a production schedule that will be validated against your time frames. We will also work with you to develop a process for defining priorities for authorized solution user requests. Because of our extensive support for self-service, many such requests may be done immediately by the users themselves, perhaps with a bit of assistance from the help desk. More complex requests requiring custom development or more extensive assistance will go through a process developed in consultation with you.

Assumptions for Program Management:

- DRG codes will be supplied by the source system and not calculated within the EDS.
- MMIS and other data sources will provide reference data for use by the EDS so that no additional subscriptions are required for standard code sets or other references.
- The State's Medicaid Enrollment/Eligibility system will provide Member Enrollment Categories to the EDS through standard member data submissions.

4. PROGRAM INTEGRITY

Refer to the relevant business specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Program Integrity below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Optum Response:

Approach and Solution Capabilities for 4.5.1 Program Integrity

The OPAHHS FADS component will use your data to discover apparent fraud, abnormal behaviors, and outliers. FADS meets the Program Integrity checklist items from the Medicaid Enterprise Certification Toolkit (MECT).

FADS provides a broad range of program integrity capabilities, including Web-based statistical analytics, focused analytics, reporting, and case tracking. It reviews your provider, member, claims, and encounter data using different methodologies to classify individual members or providers and detect aberrant behaviors for review, follow-up, and corrective action. It provides statistical profiling and reporting of delivery and utilization of services by provider, member, and plans for any specified time frame. FADS supports a broad continuum of program integrity endeavors with discovery, pursue, and case management features as shown in Figure 30.

Figure 30: Purpose: Discover, Pursue, Track Progress.
FADS capabilities allow data to be reviewed to determine actionable items.

Understanding the data that is used by FADS is essential when investigating potential fraud. FADS operates from a data mart - a database containing a subset of claims, provider, and member information. With FADS, you can review all claim types (e.g., professional, institutional, dental, pharmacy, transportation, DME, home health), looking for apparently aberrant patterns

both within claims types (e.g., upcoding of professional claims) and across claims types (e.g., physicians and/or dentists prescribing excessive amounts of narcotics).

Fraud is collusive, complex, hidden, and innovative, and multiple data mining methodologies are needed to uncover fraud, waste and abuse. Our comprehensive approach to detecting these behaviors includes the following FADS modules that we will deliver for DHHR:

- **Case Tracking** is used to track and refer investigative cases throughout the investigative, findings, and appeals processes.
- **Peer Group Profiling (statistical analytics)** detects outlier behaviors within the provider or member population when compared to a peer group who should be behaving similarly.
- **Focused Analytics** are comprehensive strategies that detect suspect intra-claim and cross-claim situations and complex or collusive health care fraud, waste and abuse.
- **Provider Activity Spike Detection (Spike)** automatically detects providers who have had large increases (or decreases) in billing activity from one data load to the next.
- **Long Term Care (LTC) Review** monitors billing activity on behalf of the residents of LTC facilities to overcome the difficulty in tracking claims for other services purported to be rendered for LTC residents.
- **Browse and Search** is a query tool that enables users to view the details of claims without leaving the FADS module. It is not intended to replace a robust query tool, but our users report that it meets about 80 percent of their daily querying needs without having to leave FADS.
- **Analytical Library** contains pre-built reports that include Top N Reports for claim types, procedures, diagnosis codes, and NDCs; analytical reports with summarized data by billing and rendering providers by year, quarter, and month; and reports focusing on pharmacy and prescribing patterns.
- **Random Sampling** provides users with a statistically valid and court tested capability to create random samples for provider audits, member utilization analysis, and recoupment of funds.
- **Product Support** provides ongoing experienced support to assist with the building of statistical and focused analytics, as well as consultative services in using FADS effectively.

Figure 31 illustrates the synergy between the FADS modules and your program integrity efforts.

Figure 31: FADS Modules

We developed the FADS modules to address the program integrity needs that are specific to the Medicaid program. We have enhanced these modules over time to address changes in threats and the reporting needs of our clients.

FADS is a proven solution that is currently deployed in nine states. It has been certified by CMS in six states, with the most recent certification in Arkansas in 2018, and certifications are in process in two additional states (California and Virginia).

Successful implementations and CMS certifications in the current landscape require a high degree of component and vendor flexibility and innovation, as well as the capability to meet frequently changing standards. The flexibility of our FADS component is reflected in our successful implementations under multiple iterations of the MECT Program Integrity Checklist. We will assist and support you in preparing documentation and artifacts for your MECT Program Integrity certification efforts. We are also a veteran of working with every major MMIS vendor in the marketplace, as well as multiple System Integrators (SI) and Independent Verification and Validation (IV&V) vendors. These disparate vendors frequently have different interpretations of requirements and in the manner in which they should be implemented. Our experience in navigating these challenges, as well as supporting our clients throughout the CMS certification process, have helped us achieve a successfully track record of on time and on budget implementations of our FADS solution.

Phased Implementation

The implementation of FADS is dependent on the availability and quality of data received from the EDS. FADS data requirements are noted in the Exception Handling Process section immediately following this section. FADS will begin pre-construction (e.g., requirements traceability matrix, gap analysis, and requirement specification design) work in month 7 after the award. FADS will begin construction after the successful completion of the EDS system integrated testing. This will make sure that the data will meet the FADS data quality expectations.

Exception Handling Process

Most of the data loaded into the FADS data mart consists of straight moves from source to target. As with any system, the system is only as good as the data. Below is a list of minimum data qualifications that must be met for a successful implementation.

- Minimum of 13 months of claims data at the start of the construction phase
- Provider demographic and enrollment data, member demographic and member enrollment data, reference and valid values data to support the 13 months of claims data
- Unique identifiers for a claim; claim number, claim line, and paid date are typical
- All providers have a unique identifier
- All members have an original identifier, which remains constant throughout all member services
- The provider and member identifiers can be found on the provider and member tables and the current record is differentiated from the historical record
- Receive a crosswalk of valid values and reference table lookups
- Description to matching values on claims can be found on the valid values and reference table lookups
- Minimum requirements for provider identifiers on claims:
  - All claims will include a billing/pay to provider
  - Pharmacy claims will include a prescribing provider.
  - Medical/Professional claims will include a rendering/treating/servicing provider
- There must be logic/data identifiers available to perform adjustment processing
- There must be logic/data identifiers available to perform member merge process

The FADS team and EDS team work closely together to meet data requirements. When defects are found, they will be logged for tracking. Once a defect is identified, we will work to analyze the defect to understand the severity and priority of a defect, the root cause of the defect, and to determine an appropriate resolution of the defect.

Dependencies of Existing Systems

The EDS is the source for the FADS data mart. The FADS team will work closely with the EDS team to make certain the claim, provider, member, and reference/valid value data are accurately moved into the FADS data mart.

During the operational phase, the data mart is refreshed over each weekend with new claims (e.g., fee-for-service, managed care, adjustments, denied, and paid), and a full replacement of the provider and member data with an extract, transform, and load process (ETL) from the data warehouse. With each weekly load FADS balances the current week of claims data loaded back to the EDS and the full 36 months of claims in the data mart back to the EDS. The balancing report is stored in a table within the FADS data mart. This means that when users generate any FADS report, the data is based on claim data that was processed the previous week depending on the load schedule. The FADS data mart will initially maintain 36 months of claims data.

Appendix 1: Program Integrity

Optum will meet the Program Integrity requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

PI001	The solution should have the ability to search, sort, filter, and group by any field to support investigative case management.

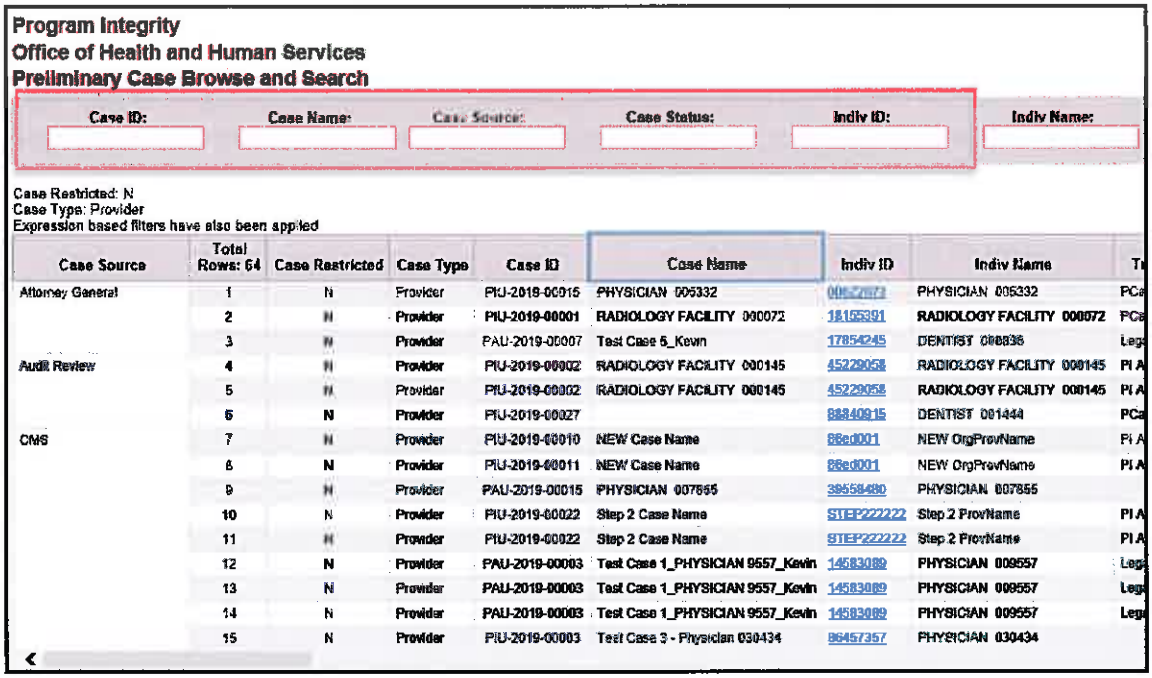
Our Case Tracking component provides an extensive suite of detailed investigator-level and summary management reports. An on-demand tool bar provides the capability to filter, sort, and group by on any column displayed on the FADS detailed/list reports.

Case Tracking reports are generated in real time, meaning that they are created based on current case tracking data. Each report is initially displayed for all groups (based on groups) which the user has been authorized to access. The reports can be filtered to display specific criteria applicable for a group, user, or any other variety of data. Case Tracking reports are broken out into three categories:

- Browse and Search
- Summary Reports
- Aging by Current Case Reports

Case Tracking Browse and Search refers to a series of reports used to view different aspects of a case. Each browse and search report is based on case data entered during the investigation. The reports have filtering and sorting capabilities enabling a user to regenerate and organize the report based on the information important to them.

Figure 32 is example of the Preliminary Case Browse & Search report; the data is filtered provider cases (Case Type: Provider) that are not restricted (Case Restricted: N). The report is grouped by the Case Source and sorted ascending by the Case Name. Selection or search for an individual record is accomplished with the text boxes located immediately below the report heading and highlighted by the red box.



Program Integrity
Office of Health and Human Services
Preliminary Case Browse and Search

Case ID: | Case Name: | Case Source: | Case Status: | Indiv ID: | Indiv Name:

Case Restricted: N
Case Type: Provider
Expression based filters have also been applied

Case Source	Total Rows: 64	Case Restricted	Case Type	Case ID	Case Name	Indiv ID	Indiv Name	T
Attorney General	1	N	Provider	PIU-2018-00015	PHYSICIAN 005332	00527873	PHYSICIAN 005332	PCa
	2	N	Provider	PIU-2019-00001	RADIOLOGY FACILITY 000072	18155391	RADIOLOGY FACILITY 000072	PCa
	3	N	Provider	PAU-2019-00007	Test Case 5_Kevin	17854245	DENTIST 008836	Leg
Audit Review	4	N	Provider	PIU-2019-00002	RADIOLOGY FACILITY 000145	45229058	RADIOLOGY FACILITY 000145	PI A
	5	N	Provider	PIU-2019-00002	RADIOLOGY FACILITY 000145	45229058	RADIOLOGY FACILITY 000145	PI A
	6	N	Provider	PIU-2019-00027		88840915	DENTIST 001444	PCa
CMS	7	N	Provider	PIU-2019-00010	NEW Case Name	88ed001	NEW OrgProvName	PI A
	8	N	Provider	PIU-2019-00011	NEW Case Name	88ed001	NEW OrgProvName	PI A
	9	N	Provider	PAU-2019-00015	PHYSICIAN 007855	39558480	PHYSICIAN 007855	
	10	N	Provider	PIU-2019-00022	Step 2 Case Name	STEP222222	Step 2 ProvName	PI A
	11	N	Provider	PIU-2019-00022	Step 2 Case Name	STEP222222	Step 2 ProvName	PI A
	12	N	Provider	PAU-2019-00003	Test Case 1_PHYSICIAN 9557_Kevin	14583089	PHYSICIAN 009557	Leg
	13	N	Provider	PAU-2019-00003	Test Case 1_PHYSICIAN 9557_Kevin	14583089	PHYSICIAN 009557	Leg
	14	N	Provider	PAU-2019-00003	Test Case 1_PHYSICIAN 9557_Kevin	14583089	PHYSICIAN 009557	Leg
	15	N	Provider	PIU-2019-00003	Test Case 3 - Physician 030434	86457357	PHYSICIAN 030434	

Figure 32: Case Tracking – Preliminary Case Browse & Search
A user can search, sort, filter, and group by any field in a Browse & Search report.

PI002	The solution should have the ability to associate providers with their members and members with their providers to view those relationships and to access all associated data including, but not limited to:

The FADS Browse & Search reports provide detailed claim, provider, and member information based on the tables found in the FADS data mart. This very useful and powerful tool may well be the most heavily used capability of FADS. The Browse & Search functionality enables users to view detailed information about claims, both headers and details of all claim types and related providers and members, without leaving the FADS software. This enables the research

necessary for fraud and abuse investigations to proceed much quicker; especially because many fields include hyperlinks to related detail information. The reports are created upon request and the data presented in the report is based on the most current claim information available in the FADS data mart. Report results are presented in a format that is easy to read and contain columns necessary for an investigation. The columns displayed on the report are configurable insuring that the column headings contain the customer's business terms, making it easier to see and recognize data. Several types of Browse & Search reports are used to group data by claim formats, provider, and member information.

PI003	Member records

The All Claims Browse & Search reports contain all claim formats and types that are available. With the functionality included on this report a user can quickly enter an individual member ID, include only paid claims, enter a custom data range and then group the results by the Billing/Pay To provider ID and Name. The filters applied to the report are shown on the report and highlighted by the red box. Once this information is retrieved from the database, the user can see all of the services rendered to this member as shown in Figure 33. What you cannot see in the image is the additional columns that are available from a member's category of eligibility to National Drug Codes and descriptions for pharmacy claims, revenue codes, and descriptions on facility claims, and procedure codes and descriptions on physician claims.

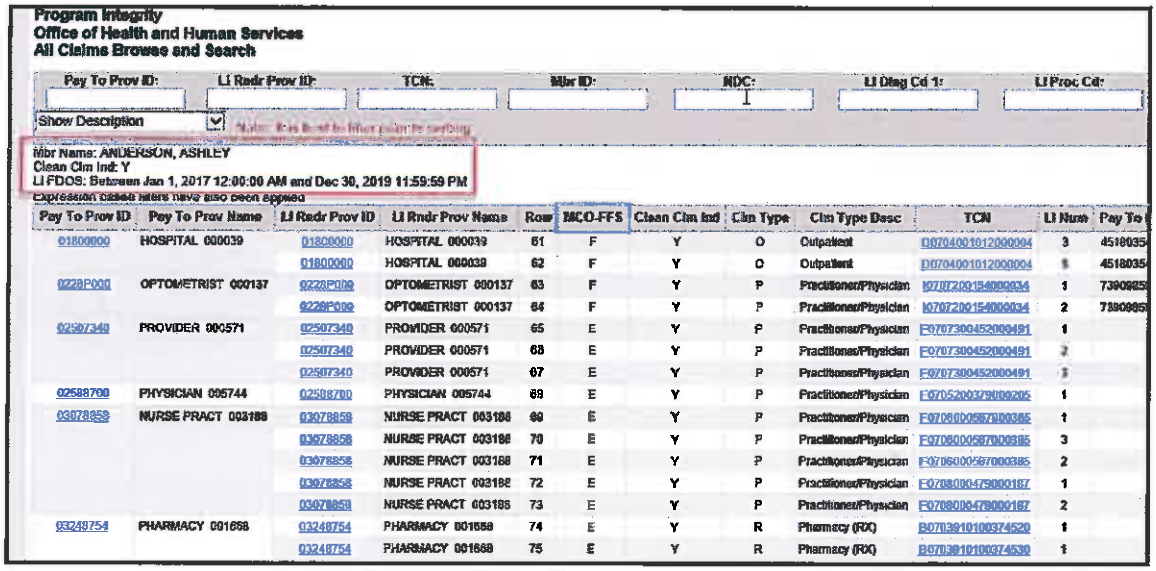
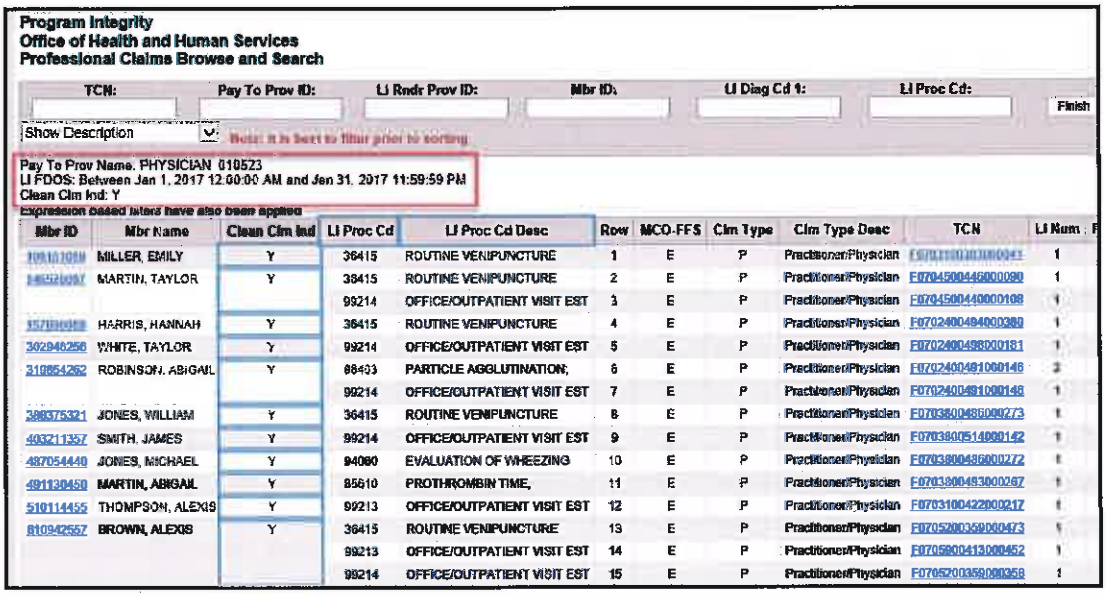


Figure 33: All Claims Browse and Search

This report shows the ability of the system to show all services provided to a member. You are able to filter the results to specific categories and ranges. The report window scrolls to the right to display additional data fields and results. Access to the detail information on any record is accessible by clicking the hyperlink in the report.

PI004	Provider records

Using the Professional Claims Browse & Search, and with the functionality included on all Browse & Search reports, a user can select an individual physician, include only paid claims, enter a custom data range and then group the results by member by procedure codes. The filters applied to the report are shown on the report and highlighted by the red box. As with the All Claims Browse & Search reports, additional fields to the right are not shown in Figure 34.



Program Integrity
Office of Health and Human Services
Professional Claims Browse and Search

TCN: | Pay To Prov ID: | LI Rndr Prov ID: | Mbr ID: | LI Diag Cd 1: | LI Proc Cd: | Finish

Show Description

Pay To Prov Name: PHYSICIAN 010523
LI FDOS: Between Jan 1, 2017 12:00:00 AM and Jan 31, 2017 11:59:59 PM
Clean Clm Ind: Y
Expression based filters have also been applied

Mbr ID	Mbr Name	Clean Clm Ind	LI Proc Cd	LI Proc Cd Desc	Row	MCO-FFS	Clm Type	Clm Type Desc	TCN	LI Num
109101019	MILLER, EMILY	Y	36415	ROUTINE VENIPUNCTURE	1	E	P	Practitioner/Physician	[illegible]	1
946320097	MARTIN, TAYLOR	Y	36415	ROUTINE VENIPUNCTURE	2	E	P	Practitioner/Physician	F07045004460000090	1
			99214	OFFICE/OUTPATIENT VISIT EST	3	E	P	Practitioner/Physician	F07045004460000108	1
157100018	HARRIS, HANNAH	Y	36415	ROUTINE VENIPUNCTURE	4	E	P	Practitioner/Physician	F07024004940000389	1
302946256	WHITE, TAYLOR	Y	99214	OFFICE/OUTPATIENT VISIT EST	5	E	P	Practitioner/Physician	F07024004980000181	1
310854262	ROBINSON, ABIGAIL	Y	85403	PARTICLE AGGLUTINATION;	6	E	P	Practitioner/Physician	F07024004810000146	2
			99214	OFFICE/OUTPATIENT VISIT EST	7	E	P	Practitioner/Physician	F07024004810000146	1
388375321	JONES, WILLIAM	Y	36415	ROUTINE VENIPUNCTURE	8	E	P	Practitioner/Physician	F07038004860000273	1
403211357	SMITH, JAMES	Y	99214	OFFICE/OUTPATIENT VISIT EST	9	E	P	Practitioner/Physician	F07038005140000142	1
487054440	JONES, MICHAEL	Y	94060	EVALUATION OF WHEEZING	10	E	P	Practitioner/Physician	F07038004860000272	1
491130450	MARTIN, ABIGAIL	Y	85610	PROTHROMBIN TIME,	11	E	P	Practitioner/Physician	F07038004830000267	1
510114455	THOMPSON, ALEXIS	Y	99213	OFFICE/OUTPATIENT VISIT EST	12	E	P	Practitioner/Physician	F07031004220000217	1
810942567	BROWN, ALEXIS	Y	36415	ROUTINE VENIPUNCTURE	13	E	P	Practitioner/Physician	F07052003590000473	1
			99213	OFFICE/OUTPATIENT VISIT EST	14	E	P	Practitioner/Physician	F07059004130000452	1
			99214	OFFICE/OUTPATIENT VISIT EST	15	E	P	Practitioner/Physician	F07052003590000358	1

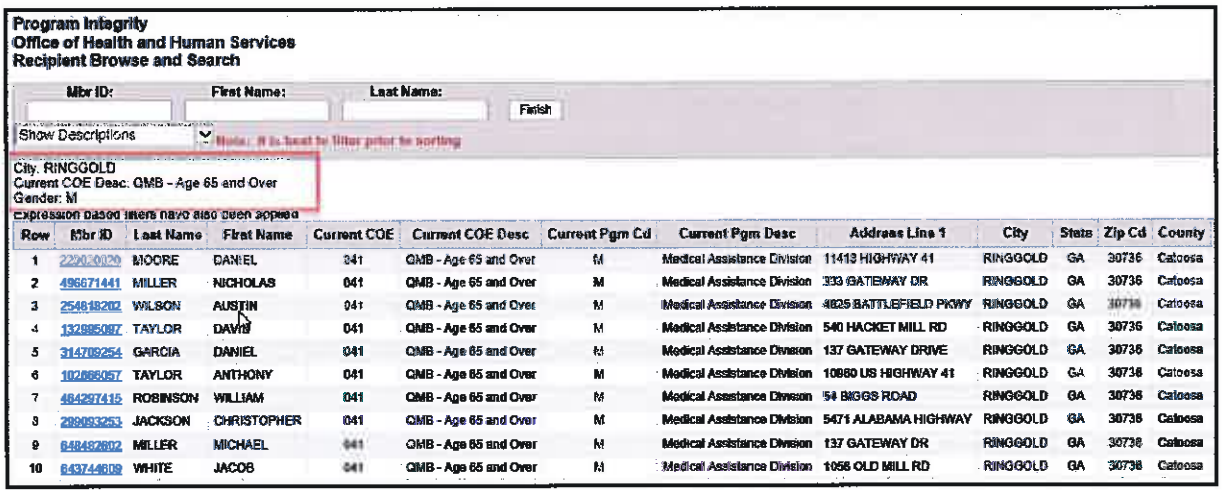
Figure 34: Professional Claims Browse and Search
As with member data, the system can also display claims information for providers filtered by user-defined parameters.

PI005	Prior authorizations

As long as the prior authorization is available on the claim, it can be included on the appropriate Browse & Search report. Once on the report, the functionality described for Browse & Search reports can be used.

PI006	Member case management data

A Member Browse & Search report is included. This report contains member eligibility, program, and demographic information. Figure 35 has been filtered on males, in Ringgold with a current category of eligibility of QMB. The filters applied to the report are shown on the report and highlighted by the red box.



Program Integrity
Office of Health and Human Services
Recipient Browse and Search

Mbr ID: | First Name: | Last Name: | Finish

Show Descriptions

City: RINGGOLD
Current COE Desc: QMB - Age 65 and Over
Gender: M
Expression based filters have also been applied

Row	Mbr ID	Last Name	First Name	Current COE	Current COE Desc	Current Pgm Cd	Current Pgm Desc	Address Line 1	City	State	Zip Cd	County
1	229030020	MOORE	DANIEL	041	QMB - Age 65 and Over	M	Medical Assistance Division	11413 HIGHWAY 41	RINGGOLD	GA	30736	Catoosa
2	496671441	MILLER	NICHOLAS	041	QMB - Age 65 and Over	M	Medical Assistance Division	333 GATEWAY DR	RINGGOLD	GA	30736	Catoosa
3	254618202	WILSON	AUSTIN	041	QMB - Age 65 and Over	M	Medical Assistance Division	4825 BATTLEFIELD PKWY	RINGGOLD	GA	30736	Catoosa
4	132885097	TAYLOR	DAVID	041	QMB - Age 65 and Over	M	Medical Assistance Division	540 HACKET MILL RD	RINGGOLD	GA	30736	Catoosa
5	314709254	GARCIA	DANIEL	041	QMB - Age 65 and Over	M	Medical Assistance Division	137 GATEWAY DRIVE	RINGGOLD	GA	30736	Catoosa
6	102666057	TAYLOR	ANTHONY	041	QMB - Age 65 and Over	M	Medical Assistance Division	10980 US HIGHWAY 41	RINGGOLD	GA	30736	Catoosa
7	484297415	ROBINSON	WILLIAM	041	QMB - Age 65 and Over	M	Medical Assistance Division	54 BIGGS ROAD	RINGGOLD	GA	30736	Catoosa
8	289093253	JACKSON	CHRISTOPHER	041	QMB - Age 65 and Over	M	Medical Assistance Division	5471 ALABAMA HIGHWAY	RINGGOLD	GA	30736	Catoosa
9	648482602	MILLER	MICHAEL	041	QMB - Age 65 and Over	M	Medical Assistance Division	137 GATEWAY DR	RINGGOLD	GA	30736	Catoosa
10	643744609	WHITE	JACOB	041	QMB - Age 65 and Over	M	Medical Assistance Division	1056 OLD MILL RD	RINGGOLD	GA	30736	Catoosa

Figure 35: Member Browse & Search for Case Management Data
Case management information on members can be retrieved through the Member Browse & Search function using filters.

PI007	Claim/encounter records when accessing any one of them in the solution

All of the Claims Browse & Search reports include FFS and encounter claims data within the same report. As shown in Figure 36, you can see all MCO-FFS claims data or filter on only service claims or filter on only managed care encounters. The MCO-FFS column is highlighted by the red box.

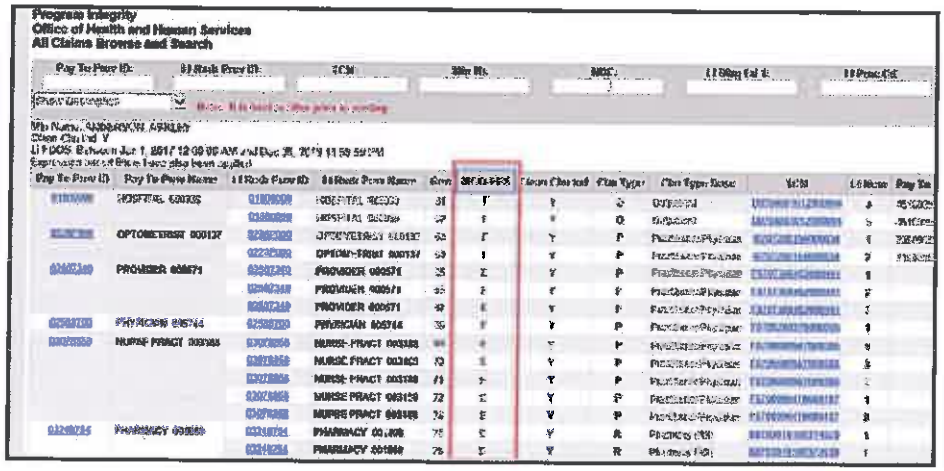


Figure 36: All Claims Browse and Search
The MCO-FFS column can be used to filter on managed care encounter claims or on FFS claims.

PI008	The solution should have the ability to associate providers to providers and providers to members to view those relationships and to access all associated data including, but not limited to:

The FADS Browse & Search reports provide detailed claim, provider, and member information based on the tables found in the FADS data mart. The Browse & Search functionality enables users to view detailed information about claims, both headers and details of all claim types and related providers and members, without leaving the FADS software. This enables the research necessary for fraud and abuse investigations to proceed much quicker; especially because many fields include hyperlinks to related detail information. The reports are created upon request and the data presented in the report is based on the most current claim information available in the FADS data mart. Report results are presented in a format that is easy to read and contain columns necessary for an investigation. The columns displayed on the report are configurable so that the column headings contain the customer's business terms, making it easier to see and recognize data. Several types of Browse & Search reports are used to group data by claim formats, provider, and member information.

PI009	Member records

As shown in Figure 37, a user can select the Pharmacy Browse & Search report to review the prescribing activity of six physicians for one pharmacy, down to the member and the drugs that were dispensed. The group by function applied to the report are shown on the report and highlighted by the red box. There are additional fields to the right, which are not shown in the image.

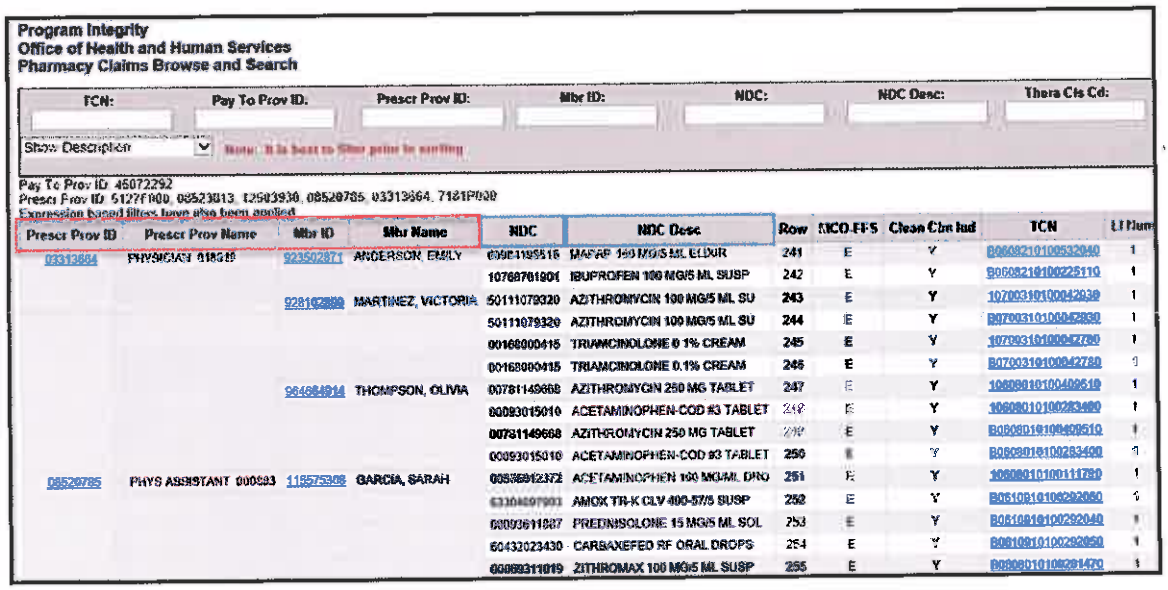


Figure 37: Associating Member Data
This report demonstrates the ability to associate member data to provider data.

PI010	Provider records

Using the Institutional Claims Browse & Search in Figure 38, a user can select an individual attending physician and group by the Billing/Pay To provider IDs/Names. The group by function applied to the report are shown on the report and highlighted by the red box. With the summarize function from the on-demand tool bar, the user can find the distinct number of facilities as well as the distinct number of members seen in each facility. For additional research, the details are also displayed to the right.

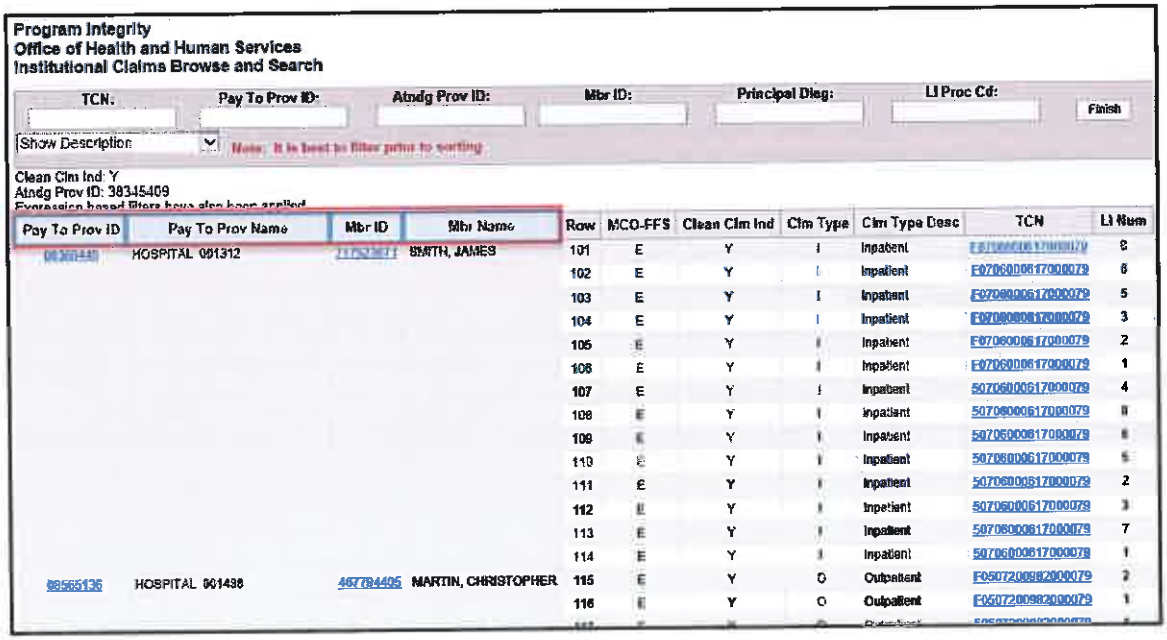


Figure 38: Associating Provider Data
This report demonstrates the ability to associate provider data to other provider data.

PI011	Prior authorizations

As long as the prior authorization is available on the claim, it can be included on the appropriate Browse & Search report. Once on the report, the functionality described earlier can be used.

PI012	Member case management data

A single member's medical services can be reviewed on the All Claims Browse & Search report. Figure 39 has been filtered to one individual member, between the dates of August 1, 2016 and August 15, 2016. The report is then grouped by the rendering provider and the procedure codes on the claims. The rendering provider by procedure code are highlighted by the red box.

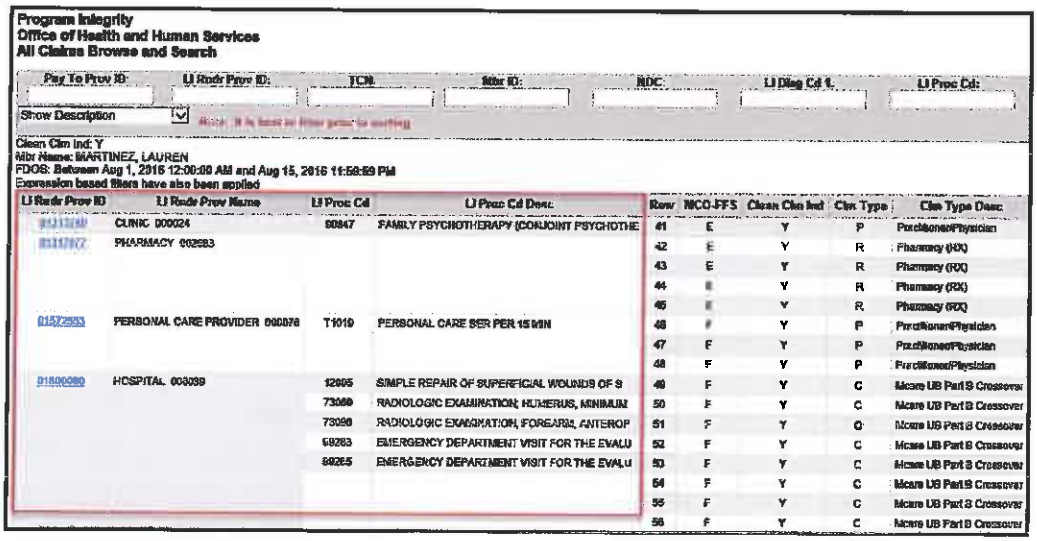


Figure 39: Associating Member Case Management Data
This report demonstrates the ability to associate member medical service data to a provider.

PI013	Claim/encounter records when accessing any one of them in the solution

All of the Claims Browse & Search reports include FFS and encounter claims data within the same report. You can see all MCO-FFS claims data or filter on only service claims or filter on only managed care encounters.

PI014	The solution should include an Investigative Case Management component with the ability to capture, store, track, and report on all actions, determinations, and resolutions through to final resolution including, but not limited to:

Our FADS Investigative Case Tracking module will meet your requirements to support fraud and abuse investigations by tracking fraud, waste and abuse cases from the time of referral or initial suspicion through the entire investigative process. Figure 40 shows the Case Tracking menu.

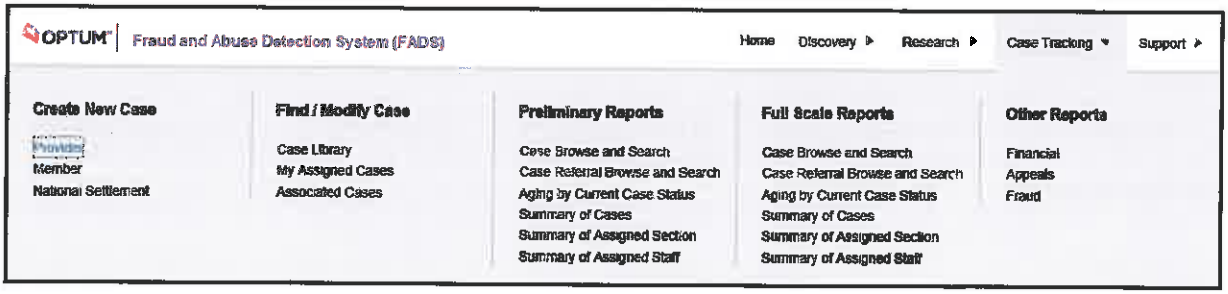


Figure 40: Investigative Case Tracking Menu.
The Case Tracking menu is for creating new cases, modifying cases, and reporting.

FADS Investigative Case Tracking overview:

- Captures referrals from various sources
- Establishes cases at both a preliminary and full scale investigation level
- Assigns cases to single or multiple users
- Records notes as a case progresses, and later searches through an unlimited number of notes
- Creates notices emails to be sent immediately or at future dates to other users, case managers, providers, attorneys, and others
- Records findings from an integrated list of FADS statistical and/or focused analytics
- Records financial agreements and manages recoveries
- Documents and tracks the appeal process
- Maintains a list of contacts related to a case (e.g., office manager, spouse, partner in the practice, attorney) for easy look up
- Manages the activities within the case and historically tracks and reports the investigative activities and results
- Refers a case to a user in another authorized group by creating a new case with data selected from an existing case and optionally notifies that user with an email
- Reviews case histories or audit data for updates made to the case
- Stores links to an active path or a storage system from which documents can be retrieved

Many of the Investigative Case Tracking pages contain various configurable fields for capturing, storing, tracking, and reporting on key information saved to each case, including all actions, determinations, and resolutions through to final resolution. The labels displayed on the pages for each field are determined by the user during design sessions. Each page has various available field types (e.g., text, numeric, date, and amount). Text fields can be defined as a dropdown with valid values or enterable text. Any fields not used are hidden.

The following pages include configurable fields: Preliminary Investigation, Full Scale Investigation, Financial, and Appeals. One page is completely configurable; if required, the page name and fields can be determined during design sessions.

PI015	Suspensions

A field can be configured with a label name of Suspensions to capture, store, track, and report on the appropriate Case Tracking page. The location will be determined during design sessions.

PI016	Terminations

A field can be configured with a label name of Terminations to capture, store, track, and report on the appropriate Case Tracking page. The location will be determined during design sessions.

PI017	Criminal/civil convictions

A field can be configured with a label name of Criminal/civil convictions to capture, store, track, and report on the appropriate Case Tracking page. The location will be determined during design sessions.

PI018	Recovered amounts from referrals of potential fraud, waste, and abuse

The Financial Terms section shown in Figure 41 of the financial page can be configured with the appropriate labels to capture the recovered amounts from referrals. The Financial page can also capture the Identified Amount Owed, Negotiated Reduced Amount, Total Amount Due, and if the Payment Ledger is used to track the Total Amount Paid and Outstanding Balance.

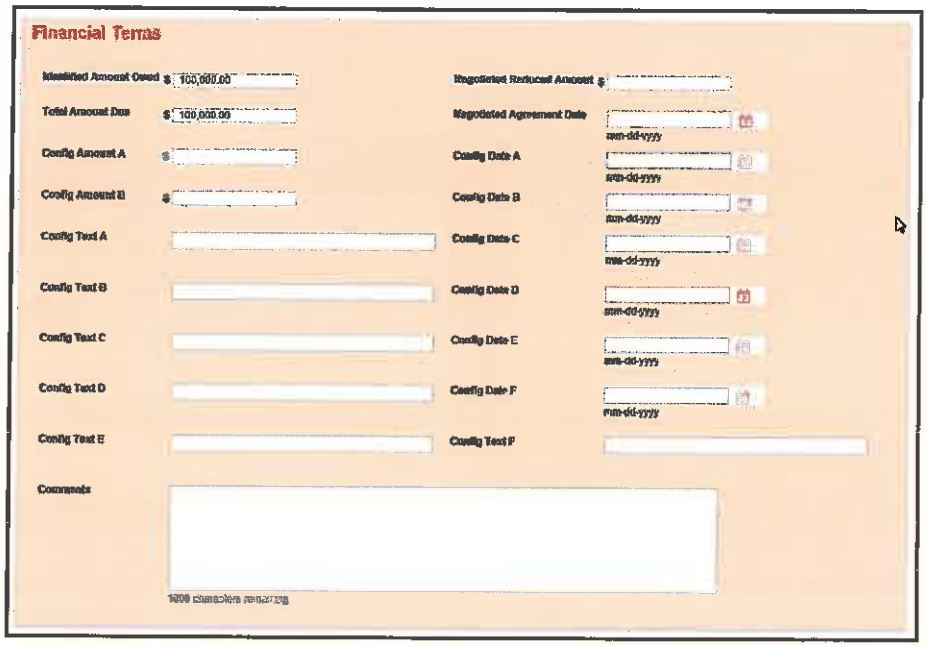


Figure 41: Investigative Case Tracking Financial Terms
There are five configurable amount fields, six configurable text fields, and seven configurable date fields available on the Financial Terms page.

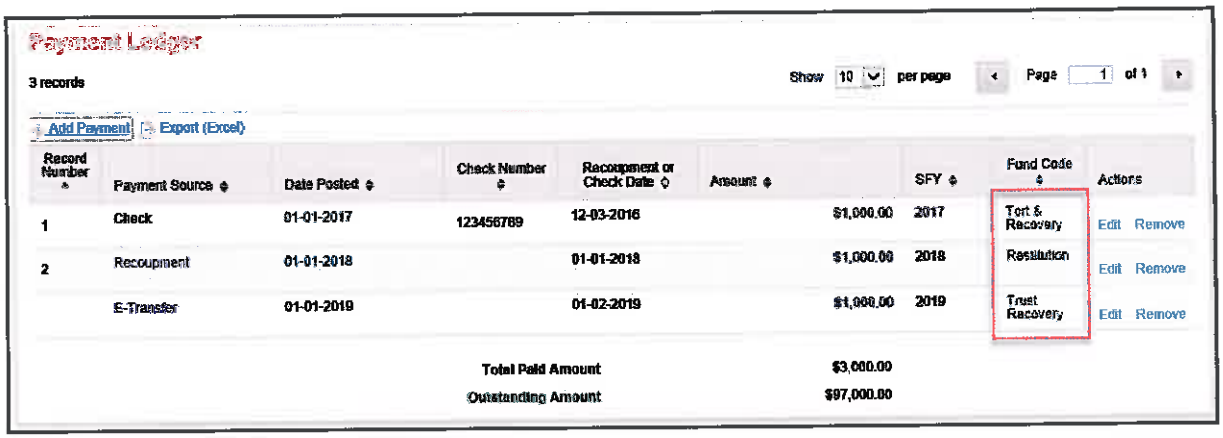
PI019	Recovered amounts from improper payment

Financial information (e.g., payment terms and payment history) can be entered into the financial page. Entries are maintained identifying any settlement terms and payments received as well as the outstanding balance. Eighteen fields are available in the Financial Terms section to meet user-specific needs, and business labels and field formats are configurable. Highlights of the financial page include:

- The terms of the provider's payment schedule are entered on this page for quick reference.
- Payments made to providers are calculated on demand based on current year to date plus the three prior years. You can refresh/replace the previous totals with the current totals at any time.
- Recoveries (payments by check, electronic transfers, or recoupments) can be manually entered into the Payment Ledger at the bottom of the page, In the event of an error; the payment ledger can be modified. Ledger columns can be sorted, and the ledger can be exported to Excel or in a PDF.

PI020	Recovered amounts from various third-party recoveries including, but not limited to:
PI021	Tort and casualty
PI022	Restitution
PI023	Trust and trust recoveries

All **recovered amounts** can be tracked on the Case Tracking Financial page within the Payment Ledger section of the page. The tracking of all recovery amounts is best suited for the Payment Ledger found on the financial page as shown in Figure 42, including **tort and casualty**, **restitution**, **trust, and trust recoveries**. If one case includes different recovery types, the recovery type can be added to the Payment Ledger.



Payment Ledger

3 records

Show 10 per page Page 1 of 1

Add Payment | Export (Excel)

Record Number	Payment Source	Date Posted	Check Number	Recoupment or Check Date	Amount	SFY	Fund Code	Actions
1	Check	01-01-2017	123456789	12-03-2016	$1,000.00	2017	Tort & Recovery	Edit Remove
2	Recoupment	01-01-2018		01-01-2018	$1,000.00	2018	Restitution	Edit Remove
	E-Transfer	01-01-2019		01-02-2019	$1,000.00	2019	Trust Recovery	Edit Remove
				Total Paid Amount	$3,000.00			
				Outstanding Amount	$97,000.00			

Figure 42: Investigative Case Tracking Financial Payment Ledger
The Payment Ledger is used to track provider payments.

PI024	The solution should include an Investigative Case Management component that manages recoveries including, but not limited to:

Financial information necessary to manage recoveries can be entered into the financial page. Entries are maintained identifying any settlement terms and payments received as well as the outstanding balance. Eighteen fields are available in the Financial Terms section to meet user-specific needs, and business labels and field formats are configurable. Highlights of the financial page include:

- The terms of the provider's payment schedule are entered on this page for quick reference.
- Payments made to providers are calculated on demand based on current year to date plus the three prior years. You can refresh/replace the previous totals with the current totals at any time.
- Recoveries (payments by check, electronic transfers, or recoupments) can be manually entered into the Payment Ledger at the bottom of the page, In the event of an error, the payment ledger can be modified. Ledger columns can be sorted, and the ledger can be exported to Excel or in a PDF.

A Financial Terms Browse & Search report is also included and shown in Figure 43. The term "Browse & Search" implies that the report will be in a list format and includes the on-demand toolbar as described in previous sections. All fields in the Financial Terms sections plus the total amount paid and outstanding balance are included in the report.

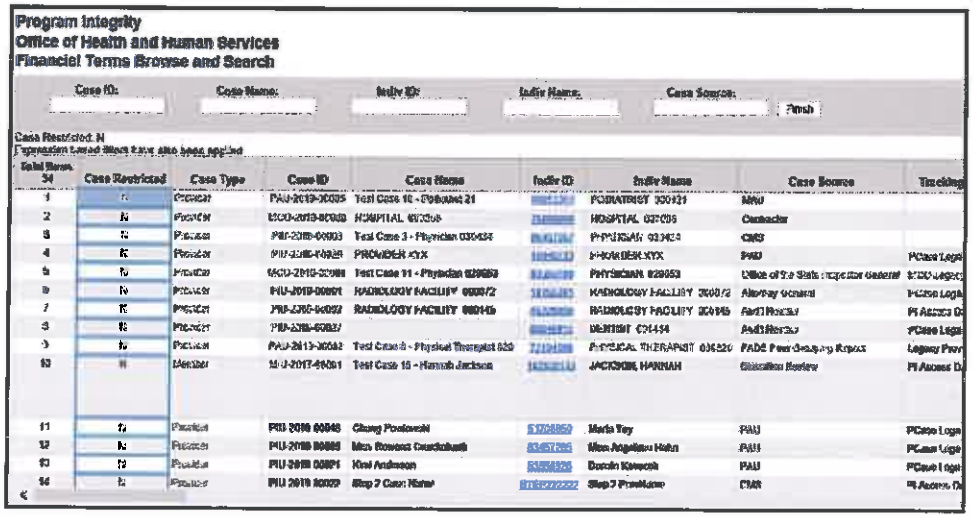


Figure 43: Investigative Case Tracking Financial Terms Browse & Search
If a case has data entered on the financial terms page, then the records will be displayed on the report.

PI025	Tracking payments received

The ability to track payment received is available with the Financial Payment Ledger.

PI026	Payment plans

The ability to track payment plans is available in the Financial Terms section of the financial page.

PI027	Offsets

The ability to track offsets is available in the Financial Terms section of the financial page.

PI028	Claim/encounter adjustments

Case Tracking will have the ability to track claim/encounter adjustments related to a case.

PI029	Settlements

The ability to track settlements is available in the Financial Terms section of the financial page.

PI030	Restitutions

The ability to track settlements is available in the Financial Terms section of the financial page.

PI031	Multiple payments and checks

The ability to document payments and checks is available in the Financial Payment Ledger as shown in Figure 44.

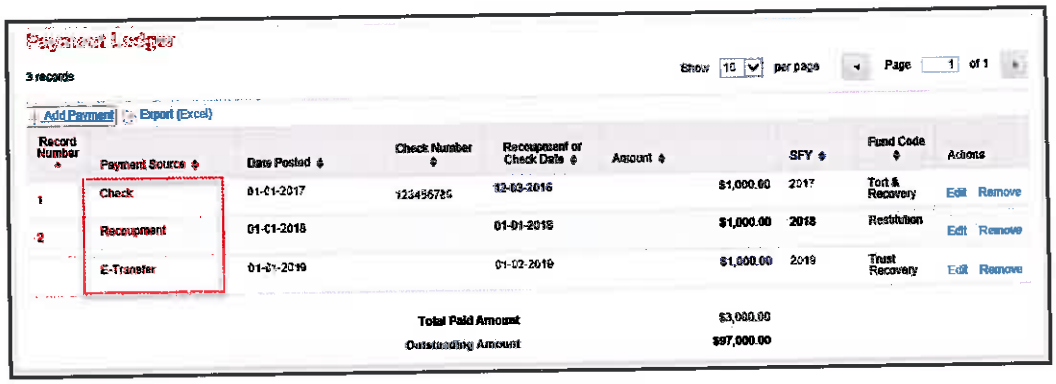


Figure 44: Tracking Multiple Payments and Checks
The Payment Ledger provides the ability to track multiple payments by payment type received from providers. The ledger also displays the balance remaining after all payments have been applied.

PI032	Amounts remaining due

The amount remaining due or outstanding amount is calculated with each entry into the Financial Payment Ledger.

PI033	Due dates

The ability to capture due dates is available across multiple pages.

PI034	Court case numbers and jurisdictions

The Appeals page tracks current and previous appeals. There is no limit to the number of appeals that can be stored. The fields shown in the Appeals page can be customized to your appeal process or policy. Business labels and the field format (i.e., date, dropdown selection, or keyed entry) can be configured. Initial entries and updates made to fields within the Appeals page are retained for audit purposes on an Appeals History page, along with the name of the field, the date, name of the user modifying the record, and the old and new values.

The ability to capture court case numbers and jurisdictions is found on the Appeals page. Figure 45 shows that multiple appeals can be created and tracked. Thirty-two fields are available with various field formats to be configured to meet user-specific needs.

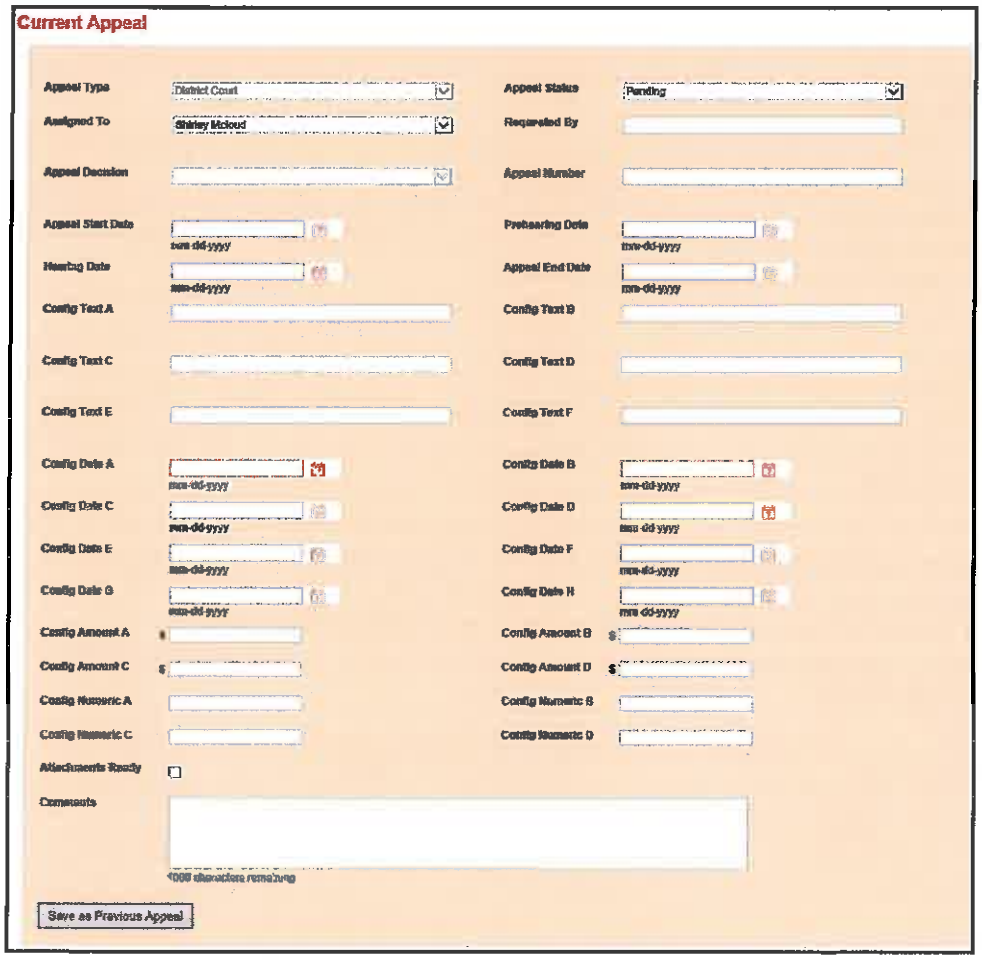


Figure 45: Investigative Case Tracking Appeals
The Appeals page is used to track all appeal activities, and is configurable to meet the specific needs of the State.

PI035	Defendant names

The ability to capture defendant names is available on the Contacts page.

PI036	Recovery supplier payments

The ability to capture all payment types is available in the Payment Ledger on the financial page.

PI037	Federal share calculations

The ability to track federal share calculations is available in the Financial Terms section of the financial page.

PI038	Bankruptcies

A bankruptcy status could be captured on the Financial Terms or on the Full Scale Investigation page. The best will be determined during design sessions.

PI039	Business status including out of business

Any business status can be captured on the Financial Terms page or on the Full Scale Investigation page. The best location will be determined during design sessions.

PI040	The solution should include an Investigative Case Management component that manages recoveries with the ability to link all claims associated with an investigation.

Our FADS Investigative Case Tracking module will have the ability to link all claims associated with an investigation.

PI041	The solution should include an Investigative Case Management component that manages recoveries including the stage of review with respect to:

Our FADS Investigative Case Tracking module will meet your requirements to support fraud and abuse investigations by tracking fraud, waste and abuse cases from the time of referral or initial suspicion through the entire investigative process.

PI042	Investigations

There are two separate pages are available for the entry of investigations: Preliminary and Full Scale. While both capture and track similar information, the Preliminary page is for tracking a possible fraud, waste and abuse while the Full Scale page is for tracking a conclusive case. Both track the case status, date, priority, issue, and period reviewed. Multiple individuals can be assigned to a case.

The Case Status valid values are configurable and determined by the user during design sessions. Both pages, Preliminary and Full Scale contain fields that are configurable. The business labels and the field format can be re-configured. The valid values for all fields with drop-down arrows are user-defined. Figure 46 shows Case Status History.

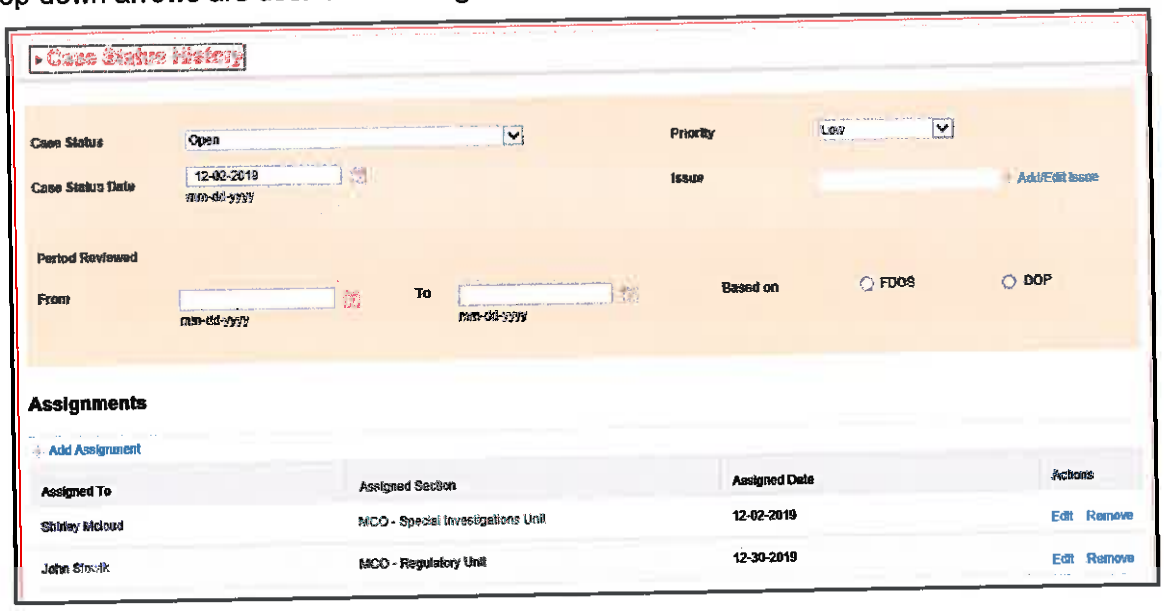


Figure 46: Preliminary or Full Scale Case Status and Assignments
The Case Status page documents status on preliminary or confirmed cases. Multiple investigators can be assigned to a case.

Initial entries and updates made to fields within the Preliminary and Full Scale Investigations pages are retained for audit purposes on a History page, along with the name of the field, the date, name of the user modifying the record, and the old and new values.

Browse & Search reports are available for each investigative page as well as summary reports.

PI043	Appeals

A configurable Appeal page is included. We provide users with the capability to enter data on the appeal currently in progress and to maintain records of past appeals.

PI044	Final dispositions

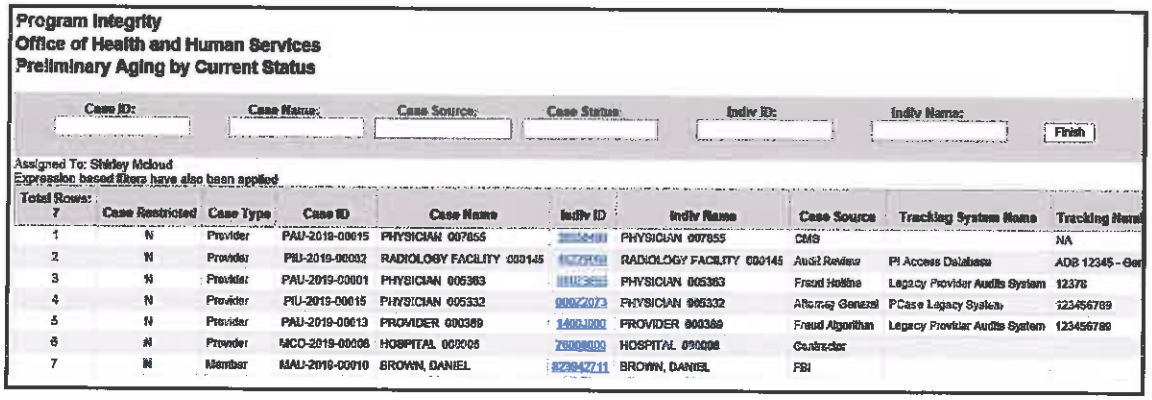
The case's final disposition is usually stored within one of the configurable fields located on the Full Scale Investigation page.

PI045	Referrals

Referrals may be recorded for both Preliminary and Full Scale Investigations. The Case Referral Browse & Search reports are available for each investigation type.

PI046	Active status

Along with the history of all statuses, the active status of the case is tracked as the Case Status. The Aging by Current Case Status report shown in Figure 47 tracks the age of a case by the investigator assigned to the case. Summary reports include the capability to group cases by status or by status and assigned staff.



Program Integrity
Office of Health and Human Services
Preliminary Aging by Current Status

Case ID: | Case Name: | Case Source: | Case Status: | Indiv ID: | Indiv Name: | Finish

Assigned To: Shirley Mcloud
Expression based filters have also been applied

Total Rows: 7

	Case Restricted	Case Type	Case ID	Case Name	Indiv ID	Indiv Name	Case Source	Tracking System Name	Tracking Numb
1	N	Provider	PAU-2019-00015	PHYSICIAN 007855	[redacted]	PHYSICIAN 007855	CMS		NA
2	N	Provider	PIU-2019-00002	RADIOLOGY FACILITY 000145	[redacted]	RADIOLOGY FACILITY 000145	Audit Review	PI Access Database	ADB 12345 - Ger
3	N	Provider	PAU-2019-00001	PHYSICIAN 005383	[redacted]	PHYSICIAN 005383	Fraud Hotline	Legacy Provider Audits System	12378
4	N	Provider	PIU-2019-00015	PHYSICIAN 005332	[redacted]	PHYSICIAN 005332	Attorney General	PCase Legacy System	123456789
5	N	Provider	PAU-2019-00013	PROVIDER 000389	[redacted]	PROVIDER 000389	Fraud Algorithm	Legacy Provider Audits System	123456789
6	N	Provider	MCO-2019-00006	HOSPITAL 000006	[redacted]	HOSPITAL 000006	Contractor		
7	N	Member	MAU-2019-00010	BROWN, DANIEL	[redacted]	BROWN, DANIEL	FBI		

Figure 47: Investigative Case Tracking Preliminary Aging by Current Status
This report provides details on the current status of cases assigned to a specific investigator.

PI047	Managed Care Organizations (MCOs)

We can track Managed Care Organizations in a variety of ways. One way is to use a configurable field as a drop-down list of possible MCO names.

PI048	Responsible parties

The capability to capture responsible parties is best handled with the Contacts page.

PI049	Linked investigation claims

To monitor recoveries, the claims included in an investigation will link to a case.

PI050	Others as defined by the Department

Other requirements defined by the Department in addition to the base FADS solution can be addressed through the EDS project change management process.

PI051	The solution should include an Investigative Case Management component that has an audit trail on each record including, but not limited to:

The overall system will include a database auditing functionality. This means that changes to any Case Tracking table will be captured and available for review. In addition, the system will include auditing (before and after records) of key fields. Within Case Tracking, these are called history pages. Users can view the history for the following pages: Preliminary Investigation, Full Scale Investigation, Config Page, Financial, and Appeals. The user, the date the change was made, and the changes are captured as shown in Figure 48.

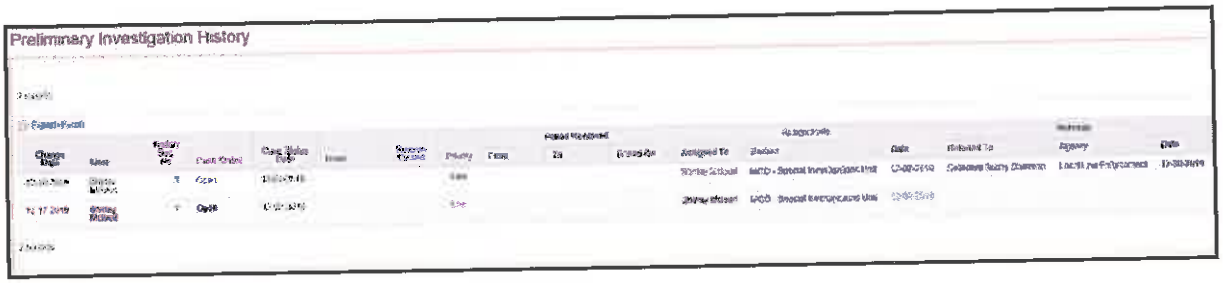


Figure 48: Case Tracking Preliminary Investigation History
Changes made on the Preliminary Investigation page are captured in history.

PI052	Notes

Within an investigation, the notes are extremely important and can become legal documentation. Because of this, notes entered and saved cannot be changed. Addendums can be entered as a new note, but changes to an existing note are not allowed.

PI053	Capturing changes by authorized solution user identification

The changes captured by the Case Tracking History pages include the name of the user who made the change.

PI054	Date and time of change

The changes captured by the Case Tracking History pages include the date of and time when the change was made.

PI055	The solution should have an Investigative Case Management component that supports multiple ongoing Department-specific reviews within a single case

FADS Investigative Case Tracking supports the option to assign multiple users to a single case. All assigned users have access to update the case based on their security and access rights to FADS and as provisioned for the overall EDS. Figure 49 shows case assignments.

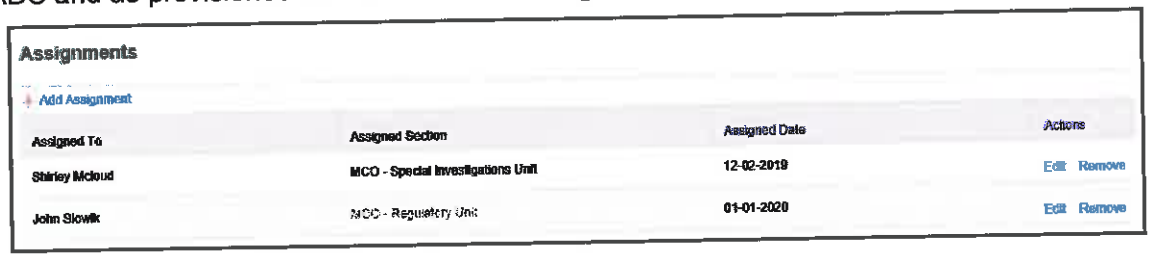


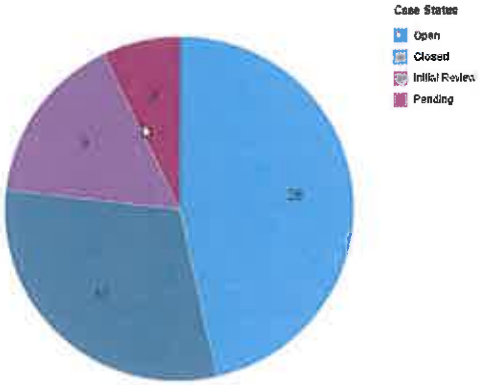
Figure 49: Investigative Case Tracking Preliminary or Full Scale Assignments
Multiple investigators can be assigned and have access to a single case.

PI056	The solution should have an Investigative Case Management component that supports reporting on all case information including, but not limited to:

Case Tracking reports are generated in real time, meaning that they are created based on current case tracking data. Each report is initially displayed for all groups (based on groups) that the user has been authorized to access. The reports can be filtered to display specific criteria applicable for a group, user, or any other variety of data. Reports are broken out into three categories: Browse & Search, Summary Reports, and Aging Reports.

PI057	Overall case status

The Preliminary or Full Scale Summary of Cases in Figure 50 contains overall case statuses. This report includes a pie chart and a list report. The value in the Number of Cases column is linked to the Browse & Search report, which contains the details for those specific cases.



Preliminary Cases

Case Status	Number of Cases	Percentage of Total Cases (Rounded)
Open	28	46%
Closed	17	30%
Initial Review	9	16%
Pending	4	7%
Total:	58	

Figure 50: Preliminary Summary of Cases
This report provides a summary of preliminary cases by case status.

PI058	Department-specific audit status

The summary reports include a set of prompts at the top of the report that enables the user to select the node/group, the year, and/or the case type (i.e., Provider, Member, and National Settlement) to apply to the report before execution. The Case Browse & Search reports are available if more detail or additional filtering/sorting are required.

PI059	The solution should include an Investigative Case Management component that includes automatic and scheduled notification of case status changes, and other criteria as defined by the Department.

With each case status change, email notifications are automatically forwarded to those assigned to the case. The E-mails page allows users to schedule emails to send at a future date to individuals related to the case, such as the AG's office, providers, or provider's attorney. This feature can also be used to remind you of tasks to perform or notify analysts of case assignments and so forth. As shown in Figure 51, all emails generated by the system are stored as in the exiting email file at the bottom of the E-mails page.

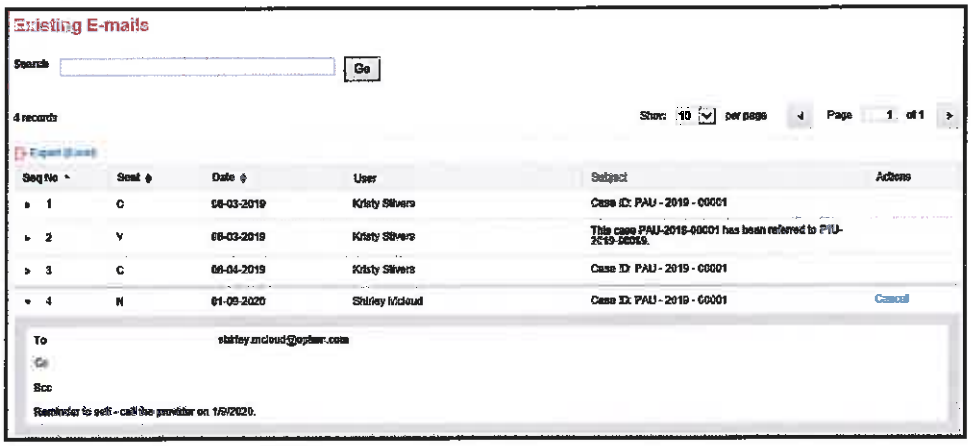


Figure 51: Investigative Case Tracking Existing Emails
Emails generated by the system are stored with the case.

PI060	The solution should include an Investigative Case Management component that allows claims and encounter data to be flagged to indicate the current audit process stage including, but not limited to:
PI061	Open
PI062	Under review
PI063	Finalized
PI064	Needs follow-up
PI065	Other statuses identified by the Department

The FADS **Investigative Case Tracking** component will allow claims and encounter data to be flagged to indicate the current audit process. Users will be able to select claims from the Case Tracking Claims browser page. The user will assign the current audit process stage to the claims such as **open**, **under review**, **finalized**, and **needs follow-up**.

Other requirements defined by the Department in addition to the base FADS solution can be addressed through the EDS project change management process.

PI066	The solution should have the ability to produce comprehensive statistical profiles of providers by peer groups for all categories of service authorized under the Medicaid program.

Our proposed Program Integrity solution includes the Peer Group Profiling (PGP) component in which users can produce comprehensive statistical profiles by provider and member peer groups using various criteria. For example, peer groups can be grouped by the traditional provider type or specialty or member category of service, race, gender, or age. They can also be grouped by other appropriate data element that the data contains, including Diagnosis Code, Place of Service, Procedure Code, Units of Service, Pharmacy-related elements, Revenue Code, Patient Status, Geographic indicators, and Level of Care. In Figure 52, a Data Rule defined by the category of service for EPSDT Screening can be selected to define a provider peer group.

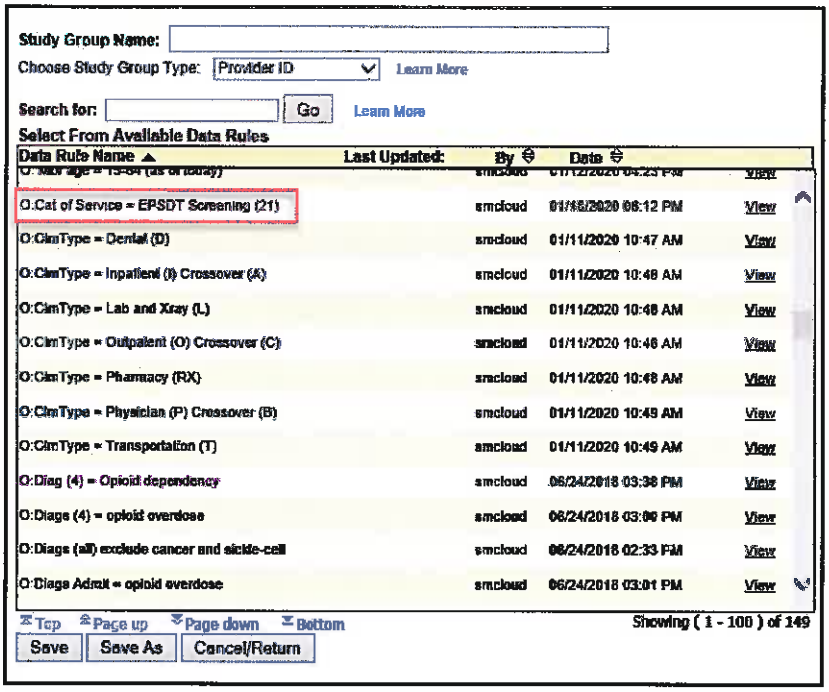


Figure 52: Peer Group Profiling Available Data Rules to Create Study Groups
Data Rules are used to define provider or member peer groups.

Our PGP tool is an easy-to-use module that analyzes historical data and develops profiles of health care delivery and service utilization patterns. PGP enables users to build their own

studies without technical help, on demand from their desktops, with results quickly available online. Users can quickly and easily build a simple study that they can later augment and fine-tune as an investigation processes. Modifications to the study, such as adding report items to the study, changing default processing options, or narrowing the definition of the study group are examples of fine-tuning. Users can also access stored templates to easily modify and/or quickly execute a study.

PGP provides an extensive complement of reports needed by investigators, including ranking, profiles, historical parameters, and peers. Drill-down capability is embedded in these reports, enabling users to navigate from a summary total in a profile to the underlying claim detail with the simple click of a mouse.

FADS PGP provides standard variance analysis and comparisons on each study that is run. These reports do not require any customization and include:

- Ranking reports
- Statistical profiles
- Individual profiles (providers or members)
- Frequency distribution histograms
- Summary reports
- Parameter reports
- Drilldown reports

PI067	The solution should have the ability to perform analyses and produce reports responsive to requests from the Department by means of computerized exception processing techniques.

Our PGP engine uses computerized exception processing techniques to determine the peer group average for a behavior, the variability within the population, the standard deviation, and therefore the upper and lower exception limits. The Study Profile report provides a means by which the statistical validity may be verified and by which realistic exception criteria may be established.

PI068	The solution should have the ability to suppress processing on a member within specified categories on a run-to-run basis.

The PGP component of the solution enables users to easily suppress processing on individual providers or members. Users can add, remove, or change that suppression from one study or run to the next. We also often design exclusions or suppression functions in the analytic logic of our focused analytics, so that individuals can be excluded overall or for a given run of the analytic. This can be a provider, provider type, member, program, geographic area, or any other attribute that can be found or derived from the claims, member, and provider data we receive from the State. FADS subject matter experts will work with you to update and maintain these exclusion lists.

PI069	The solution should provide access to all data elements outlined in the State Medicaid Manual (SMM) Part 11, section 11335, and all additional data required for appropriate analysis of the program.

FADS includes a data mart – a subset of data from the EDS used to focus on fraud, waste and abuse. Between the EDS and the FADS data mart, all of the data elements outlined in SMM Part 11, section 11335 are available to the user. Additional data, if necessary, can be addressed through the EDS project change management process.

PI070	The solution should have the ability to export claims-based class groupings such that data can be used within a spreadsheet or database software.

FADS allows authorized users to export the results of analytic outcomes into several file formats: PDF, CSV (comma delimited text file), and Excel with and without formatting.

PI071	The solution should include a process to weight and rank exception report items to facilitate identification of the highest deviators.

Our PGP component uses the traditional CMS-honored formula for exception processing to apply weighting to behaviors, and to identify the highest deviators based on descending total

exception weight. Various user configurable parameters can be used to influence the total exception weight per analytical study. The weighting can be applied to a single behavior or to a time period. The user can change the exception processing parameters used in an analytic by overriding the standard deviation used, or changing the percentile or the upper and lower limits that are used to calculate the exception limits.

PI072	The solution should have the ability to capture provider and member use of covered services and items including, but not limited to, prescribed drugs.

Our PGP component can develop profiles for all types of providers and members to provide specific information on the use of covered services. The behaviors profiled are user-defined per each study, so all types of covered services can be reviewed, including, but not limited to, prescribed drugs.

Our FADS product includes a group of Claim Browse and Search reports, which enables users to view claims details without the need to access a full ad hoc querying tool. Users can see the associated provider and member IDs and names, dates of service, procedure codes and modifiers, diagnoses, units of service, national drug codes, and many other data elements meeting the search criteria. The user can filter to display specific criteria that may indicate a policy violation, or they can manipulate the claims to easily detect patterns and anomalies.

PI073	The solution should have the ability to classify members into peer groups to develop peer group statistical profiles using criteria including, but not limited to:
PI074	Age
PI075	Gender
PI076	Race
PI077	Geographic region
PI078	Eligibility Category
PI079	Special programs code
PI080	Claims data elements
PI081	Other criteria defined by the Department

Our PGP component can be used to **classify members** into meaningful peer groups and create statistical profiles. The ability to classify or define the peer group is based on the data elements that are available for building data rules. A data rule is an individual data element, which includes available fields on the claim (header and line) and provider or member fields. Figure 53 is an example of data rules that can be used to define a member peer group.

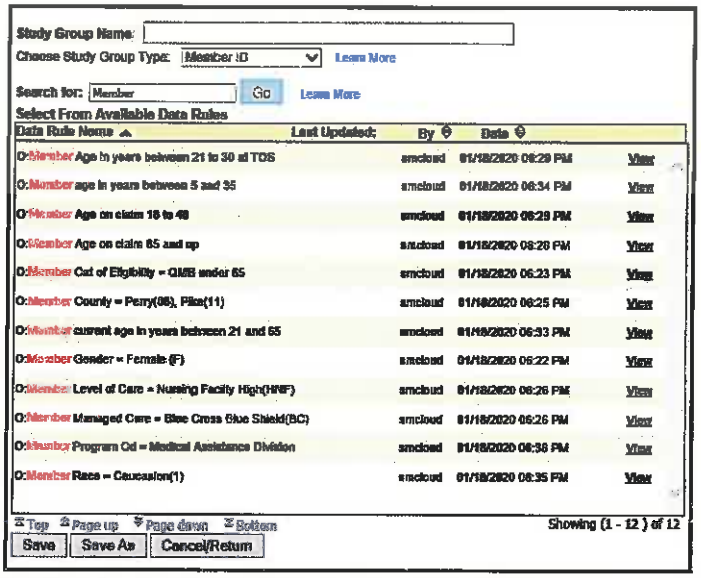


Figure 53: Peer Group Profiling Available Data Rules to Create Study Groups
This page shows an example of data rules that are used to define member peer groups.

Member peer groups and statistical profiles can be created based on members' **then current age**, or age at the time of service as well as **gender, race, geographic region, eligibility categories, special program codes**, and **data elements found on the claim** such as procedure codes, diagnosis codes, and national drug codes.

Other requirements defined by the Department in addition to the base FADS solution can be addressed through the EDS project change management process.

PI082	The solution should have the ability to classify providers into peer groups to develop peer group statistical profiles for comparative analyses using criteria including, but not limited to:
PI083	Category of service
PI084	Provider type
PI085	Provider specialty
PI086	Type of practice
PI087	Enrollment status
PI088	Facility type
PI089	Geographic region
PI090	Place of service
PI091	Billing versus rendering provider
PI092	Number of beds
PI093	Claim data elements
PI094	Provider ownership
PI095	Referring provider
PI096	Ordering provider
PI097	Prescribing provider
PI098	Individual providers within group practices
PI099	Other criteria defined by the Department

Our Peer Group Profiling component can be used to **classify providers** into meaningful peer groups and create statistical profiles. The ability to classify or define the peer group is based on the data elements that are available for building data rules.

A data rule is an individual data element, which includes available fields on the claim (header and line) and provider or member fields. Provider peer groups and statistical profiles can be created based on **category of service, provider type, provider specialty, type of practice,**

enrollment status, **facility type**, **geographic region**, **place of service**, **billing versus rendering provider**, **number of beds**, **claim data elements**, **provider ownership**, **referring provider**, **ordering provider**, **prescribing provider**, and **individual providers within group practices**. Figure 54 is an example of data rules that can be used to define provider peer groups.

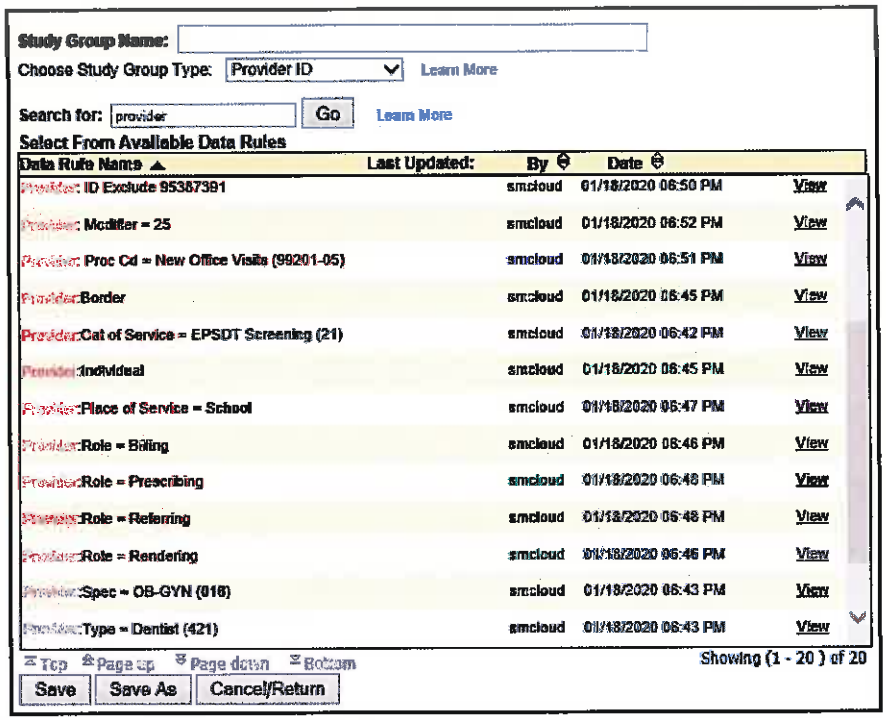
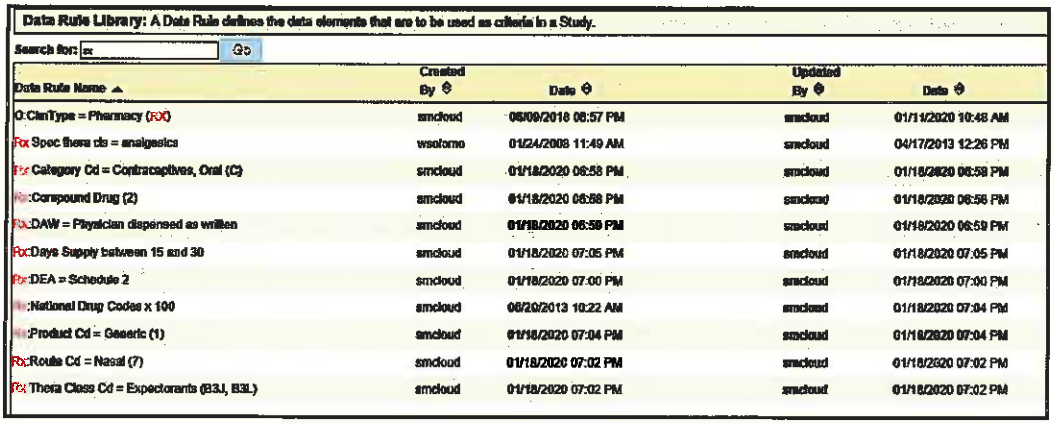


Figure 54: Peer Group Profiling Available Data Rules to Create Study Groups
As with member peer groups, data rules can be used to define provider peer groups.

Other requirements defined by the Department in addition to those available in the base FADS solution can be addressed through the EDS project change management process.

PI100	The solution should have the ability to develop provider and member profiles sufficient to provide specific information as to the use of covered types of services and items including, but not limited to prescribed drugs.

Our PGP component can develop profiles for all types of providers and members to provide specific information on the use of covered services. The behaviors profiled are user-defined per each study, so all types of covered services can be reviewed, including, but not limited to, prescribed drugs. Figure 55 is an example of data rules based on drug data elements that can be used to define a peer groups or used to define behaviors.



Data Rule Library: A Data Rule defines the data elements that are to be used as criteria in a Study.

Search for: [ ] Go

Data Rule Name	Created By	Date	Updated By	Date
O:ClmType = Pharmacy (RX)	smcloud	06/09/2016 08:57 PM	smcloud	01/11/2020 10:48 AM
Rx:Spec thera cls = analgesics	wsolomo	01/24/2008 11:49 AM	smcloud	04/17/2013 12:26 PM
Rx:Category Cd = Contraceptives, Oral (C)	smcloud	01/18/2020 06:58 PM	smcloud	01/18/2020 06:58 PM
Rx:Compound Drug (2)	smcloud	01/18/2020 06:58 PM	smcloud	01/18/2020 06:58 PM
Rx:DAW = Physician dispensed as written	smcloud	01/18/2020 06:59 PM	smcloud	01/18/2020 06:59 PM
Rx:Days Supply between 15 and 30	smcloud	01/18/2020 07:05 PM	smcloud	01/18/2020 07:05 PM
Rx:DEA = Schedule 2	smcloud	01/18/2020 07:00 PM	smcloud	01/18/2020 07:00 PM
Rx:National Drug Codes x 100	smcloud	06/20/2013 10:22 AM	smcloud	01/18/2020 07:04 PM
Rx:Product Cd = Generic (1)	smcloud	01/18/2020 07:04 PM	smcloud	01/18/2020 07:04 PM
Rx:Route Cd = Nasal (7)	smcloud	01/18/2020 07:02 PM	smcloud	01/18/2020 07:02 PM
Rx:Thera Class Cd = Expectorants (B3J, B3L)	smcloud	01/18/2020 07:02 PM	smcloud	01/18/2020 07:02 PM

Figure 55: Peer Group Profiling Data Rule Library
Data rules are used to define peer groups for specific covered services or behaviors. In this example, we show some existing rules for drug data elements.

PI101	The solution should have the ability to classify treatment to develop statistical profiles by diagnosis codes and/or diagnosis code ranges.

Users of the FADS PGP component can classify treatment by individual diagnosis codes or ranges of diagnosis codes into peer groups and/or behaviors to develop statistical profiles. Parameters known as data rules are used to extract and define the peer groups and behaviors in a statistical analytic. Diagnosis codes are available for building data rules.

PI102	The solution should have the ability to classify treatment to develop statistical profiles by procedure codes and/or procedure code ranges.

Data rules are also available in the system to develop statistical profiles by procedure codes and procedure code ranges.

PI103	The solution should have the ability to track readmissions for members readmitted to the same or different inpatient facility(ies).

Our FADS solution includes the development of Focused Analytics. These are comprehensive analytic strategies that detect suspect intra-claim and cross-claim situations and complex or collusive health care fraud, waste and abuse. With a focus on the member, the solution has the capability to track readmissions to the same or different facilities.

PI104	The solution should have the ability to analyze rendering, ordering, referring, prescribing, and billing provider practices to report atypical utilization and/or billing patterns.

Our PGP component can perform analysis of the provider role available on a claim (i.e., rendering, ordering, referring, billing, attending, prescribing practices) to discover aberrant utilization and billing patterns.

PI105	The solution should have the ability to provide statistically valid random samples as defined by the Department and extract data for provider audits, member utilization analysis, and recoupment of funds.

Our sampling function provides users with a statistically valid and court-tested capability to draw valid random samples based on the claims data. Users can enter the criteria to create a random sample from within our solution, eliminating the need for a third-party statistical application. Random samples can be based on either a stated sample size or a percentage of the universe.

PI106	The solution should have the ability to support analytics of service and billing practices to detect utilization and billing problems including, but not limited to:

Our FADS solution includes the development of Focused Analytics. These comprehensive analytic strategies detect suspect intra-claim and cross-claim situations and complex or collusive health care fraud, waste and abuse. The focused analytics of FADS employ intra-claim and cross-claim analysis to detect hidden, collusive, and more complicated fraud schemes.

FADS users can select which analytics to run and specify further customization to address your policies and program limits. Our focused analytics readily adapt as new fraud patterns or trends emerge. New analytics can be deployed and easily integrated without interrupting the existing workflow.

Our analytics are developed to target fraudulent or abusive practices that are not normally detectable using statistical methodologies. Implementing custom analytics that target specific and known problems, provide maximum return on investment, and cause a deterrent effect. This functional component is supported, executed, and maintained by Optum staff and does not rely upon your staff to learn complex query languages. This enables your program integrity staff to concentrate on discoveries identified by the analytics.

We will work closely with you during the analytics development process to identify which analytics will benefit you the most, thus enabling you to take advantage of timely and dynamic analytics. We will add additional pattern recognition analytics to the production schedule over time, including through the identification of successful peer group profiles that the Department would like to run automatically. Focused analytics selected can be implemented for automated deployment.

Analytics are executed on an agreed upon schedule depending on the purpose of the algorithm and your request. Historical results are retained and available online to users for research purposes. Figure 56 shows a small sample of the analytics contained in our algorithm library that we can deploy and configure for you. Other West Virginia-specific analytics in addition to the base FADS solution can be designed and built at your request through the EDS project change management process.

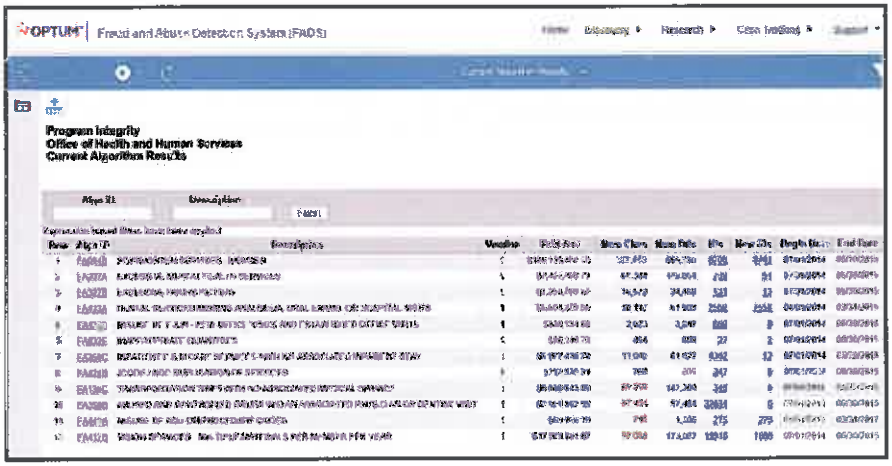


Figure 56: Current Analytic Results
The Current Analytics Results report is a list of the most recent runs of all deployed analytics.

PI107	Incidental procedures

Focused Analytics can identify two or more procedures that are carried out at the same time that should not be reimbursed separately based on DHHR-specific rules or published NCCI Incidental Procedure Edits.

PI108	Mutually exclusive procedures and/or procedure codes

Focused Analytics can identify procedure codes that cannot be reasonably done during the same visit/session. One or more of those procedures should not be reimbursed based on DHHR-specific rules or published NCCI Mutually Exclusive Edits.

PI109	Mutually required procedures and/or procedure codes

Focused Analytics can identify additional services provided at the same time as primary procedure code. These add-on procedure codes should not be billed alone based on DHHR-specific rules or published NCCI Add-on Code Edits.

PI110	Unbundling of procedure codes

Focused Analytics can identify when multiple procedure codes are billed when a single comprehensive code should have been billed. Unbundling may be defined with DHHR-specific rules or published NCCI Procedure to Procedure (PTP) Edits.

PI111	Bill splitting

Focused Analytics can look across multiple claims to determine if bill splitting has occurred.

PI112	Other fields identified by the Department

Other requirements defined by the Department in addition to the base FADS solution can be addressed through the EDS project change management process.

PI113	The solution should have the ability to create random sample reports that include appropriate universe and sample totals to support analyses at varying levels of confidence.

Our sampling function provides users with a statistically valid and court-tested capability to draw valid random samples based on the claims data. The results include the universe and sample totals to support analysis and levels of confidence.

PI114	The solution should maintain a date-driven parameter control file with online, real-time edit and update capability that allows the Department to specify criteria including, but not limited to:

Our PGP component is a dynamic application, comprising a hierarchy of reusable parameter library entities. The library entities are the building blocks of a statistical study. These library entities are dependent on each other and can be included in one or more studies and modified at any time. The parameters for building a statistical analytic can be created and/or modified online and occur in real time.

PI115	Data extraction criteria

Our PGP component includes a library of user-defined parameters. As discussed previously, parameters known as data Rules are used to extract and define the peer groups and behaviors in a statistical analytic.

PI116	Report content

Our PGP component uses the parameters defined and selected by the user for each statistical analytic. Reports include the names of the user-defined parameters. These parameters are called Report Items. These are the items on which exception processing is based.

PI117	Date parameters

On the General tab of a PGP study, users can define up to five time periods with date range parameters. Time Period ranges do not need to be chronologically consecutive. The ranges can overlap each other, and gaps between time periods are allowed.

PI118	Exception parameters

On the Exception Processing tab of a PGP study, users can set exception parameters using the default (e.g., 2.0 standard deviation for providers or 3.0 standard deviation for members), or quickly change the way the upper and lower exception limits are set for each aggregation within the profiles. The user can choose to:

- Use different values for the standard deviation (e.g., 1.8 or 2.1).
- Specify a percentile value, above which any provider or member who has a higher value for an aggregation will have exception weight applied. For example, if 95 is used, only those

providers or members in the top 5 percent, based on the value of the aggregation, will be accepted.

- Set a range of values that are acceptable, and those providers or members with values higher or lower will show as exceptions. For example, for an aggregation accumulating the number of prescriptions in a month, if zero to six is acceptable, then values higher than six will cause the member to except.

PI119	Others as defined by the Department

Other requirements defined by the Department in addition to the base FADS solution can be addressed through the EDS project change management process.

PI120	The solution should have the ability to generate frequency distributions and rankings for authorized solution user-selected report and statistical items.

Our PGP component generates frequency distribution histograms and a ranking report with every completed statistical analytic.

PI121	The solution should include all claims data elements.

Our FADS is a data mart – a subset of data from the EDS used to focus on fraud, waste and abuse. Between the EDS and the FADS data mart, all of the data elements found on a claim are available to the user. Additional data, if necessary, in addition to the base FADS solution can be addressed through the EDS project change management process.

PI122	The solution should have the ability to flag a claim's most recent iteration.

During the ETL process, the FADS data mart will flag the original and final claims to identify the most recent paid claims.

PI123	The solution should have the ability to review all iterations of claims in order to ensure claims are processed within Department policy guidelines, contractual requirements, and all applicable State and federal laws and requirements.

All claims, including paid, adjusted, and denied, will be available in the FADS data mart.

PI124	The solution should have the ability to review paid claims in order to:

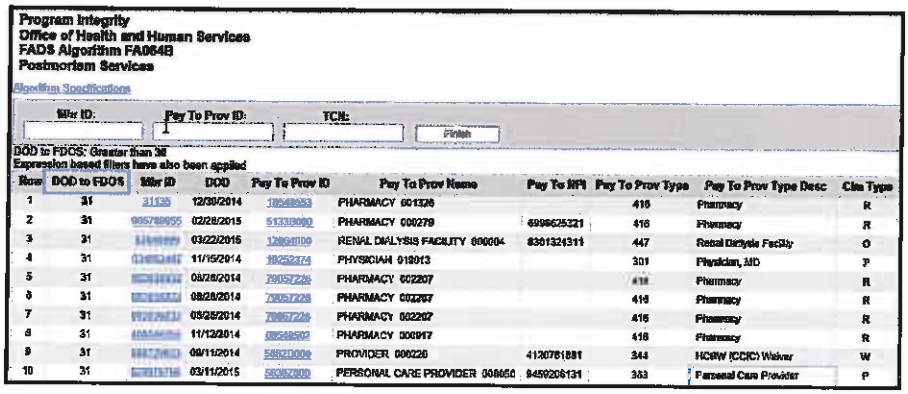
Our FADS product has a Browse and Search function, which enables users to view claims details without the need to access a full ad hoc querying tool. Users can see the associated provider and member IDs and names, dates of service, procedure codes and modifiers, diagnoses, units of service, and many other data elements meeting the search criteria. The user can filter to display specific criteria that may indicate a policy violation, or they can manipulate the claims to easily detect patterns and anomalies.

PI125	Ensure claims are paid within Department policy guidelines, contractual requirements, and all applicable State and federal laws and requirements

The FADS data mart includes an indicator to flag or identify the original and final paid claims. This indicator will display on all Claims Browse & Search reports. This field can then be used to filter the results on all paid claims. From there, the user's knowledge of policy guidelines, contractual requirements, and state and federal laws and requirements can be applied as filters and/or sorts to confirm that claims are paid correctly. Defining a Focused Analytic is an option for accuracy on a specific guideline or requirement.

PI126	Ensure accuracy

The Claims Browse & Search reports and a user's knowledge of policy guidelines, contractual requirements, and state and federal laws and requirements can be applied as filters and/or sorts to confirm payment accuracy. Focused analytics can be developed and defined to support payment accuracy concerns. For example, a focused analytic identifying paid claims after a member's date of death is effective for accuracy. Figure 57 is the Postmortem Services report filtered on claims paid with a date of service 31 days after the member's date of death.



Program Integrity
Office of Health and Human Services
FADS Algorithm FA064B
Postmortem Services

Algorithm Specifications

Mbr ID: Pay To Prov ID: TCN: Finish

DOD to FDOS: Greater than 30
Expression based filters have also been applied

Row	DOD to FDOS	Mbr ID	DOD	Pay To Prov ID	Pay To Prov Name	Pay To NPI	Pay To Prov Type	Pay To Prov Type Desc	Clm Type
1	31	31135	12/30/2014	78548553	PHARMACY 001326		416	Pharmacy	R
2	31	905780055	02/28/2015	51338080	PHARMACY 000279	4998625321	416	Pharmacy	R
3	31	[redacted]	03/22/2015	12868100	RENAL DIALYSIS FACILITY 000004	8301324311	447	Renal Dialysis Facility	O
4	31	[redacted]	11/15/2014	18252374	PHYSICIAN 019013		301	Physician, MD	P
5	31	[redacted]	08/28/2014	78057226	PHARMACY 002207		416	Pharmacy	R
6	31	[redacted]	08/28/2014	78057226	PHARMACY 002207		416	Pharmacy	R
7	31	[redacted]	08/28/2014	78057226	PHARMACY 002207		416	Pharmacy	R
8	31	[redacted]	11/12/2014	08548503	PHARMACY 000917		416	Pharmacy	R
9	31	[redacted]	09/11/2014	58620006	PROVIDER 000220	4120781881	344	HCBW (CCIC) Waiver	W
10	31	[redacted]	03/11/2015	56362000	PERSONAL CARE PROVIDER 000650	9459206131	353	Personal Care Provider	P

Figure 57: Focused Analytic FA064B Postmortem Services

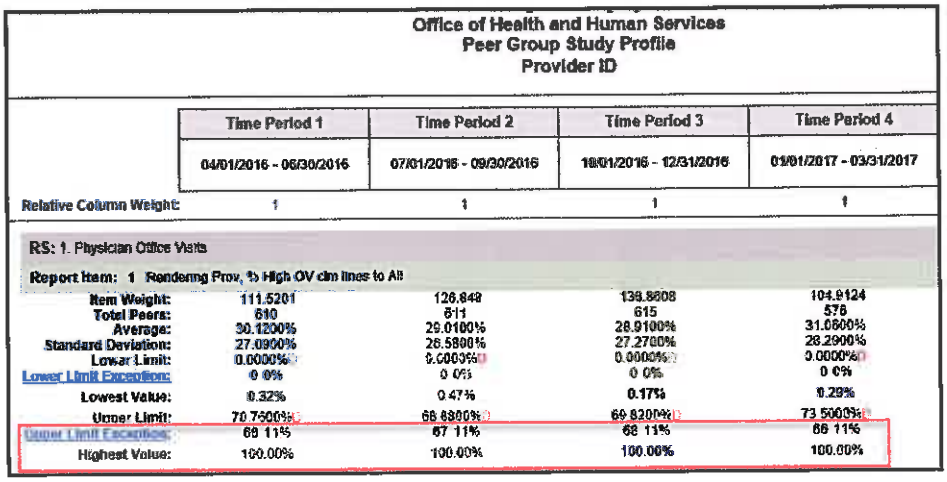
The purpose of this analytic is to identify paid claim details with a first date of service (FDOS) that is after the Date of Death (DOD) of the member.

PI127	Identify excessive quantities and/or duplicate billing for the same procedure and/or procedure code ranges

The Claims Browse & Search reports and a user's knowledge of policy guidelines, contractual requirements, and state and federal laws and requirements can be applied as filters and/or sorts to confirm excessive quantities, duplicate billing. A focused analytic can be developed and defined to identify excessive quantities and/or duplicate billing practices. For example, a focused analytic can be based on the department established limits for durable medical supplies such as diapers, under pads, gloves, and syringes.

PI128	Identify excessive use of Healthcare Common Procedure Coding System (HCPCS) codes, surgical codes and/or procedure code ranges and other codes identified by the Department

The statistical methodology of the FADS Peer Group Profiling module is a perfect choice for identifying excessive use of individual procedure codes, surgical codes, or ranges. It is easy for users to create peer grouping studies that will reveal excessive behaviors billed by a provider and/or used by a member. An example is a study set up to discovery physicians who excessively bill high-level office visits (99214 – 99215). Physicians can be grouped by specialties to provide a comparable peer group. However, it is not expected for any one specialty to bill high-level office visits 100 percent of the time. Figure 58 is the overall result of an excessive use of high-level office visits study based on a comparison of general practice specialties (e.g., family practice, general practice, and internal medicine). In each of the five time periods, the upper limit exception (highlighted by the red box) states that 66 to 68 physicians bill high-level office visits 100 percent of the time.



Office of Health and Human Services
Peer Group Study Profile
Provider ID

	Time Period 1	Time Period 2	Time Period 3	Time Period 4
	04/01/2016 - 06/30/2016	07/01/2016 - 09/30/2016	10/01/2016 - 12/31/2016	01/01/2017 - 03/31/2017
Relative Column Weight:	1	1	1	1
RS: 1. Physician Office Visits				
Report Item: 1 Rendering Prov, % High OV clm lines to All				
Item Weight:	111.5201	126.848	139.8608	104.9124
Total Peers:	610	611	615	576
Average:	30.1200%	29.0100%	28.9100%	31.0600%
Standard Deviation:	27.0900%	26.5800%	27.2700%	28.2900%
Lower Limit:	0.0000%	0.0000%	0.0000%	0.0000%
Lower Limit Exceptions:	0 0%	0 0%	0 0%	0 0%
Lowest Value:	0.32%	0.47%	0.17%	0.29%
Upper Limit:	70.7500%	68.8300%	69.8200%	73.5000%
Upper Limit Exceptions:	68 11%	67 11%	68 11%	66 11%
Highest Value:	100.00%	100.00%	100.00%	100.00%

Figure 58: Identification of Excessive Use

This peer group study shows the ability of the system to identify excessive use. The Upper Limit Exception represents the number of providers or members who exceeded the normal limits for the behavior being reviewed.

PI129	Identify claims paid above the quantity of claims, monetary, or other Department-specified limits.

The Claims Browse & Search reports and a user's knowledge of policy guidelines, contractual requirements, and state and federal laws and requirements can be applied as filters and/or sorts to confirm quantity or monetary overages based on Department-specified limits.

PI130	Other criteria defined by the Department

Other requirements defined by the Department in addition to the base FADS solution can be addressed through the EDS project change management process.

PI131	The Vendor should assist the Department staff in responding to any audit requests from federal and State agencies and external entities.

Optum can assist the Department staff in responding to audit requests that may be added at a later date. These will be prioritized by the Department through the EDS project change management process.

PI132	The solution should have the ability to use historical data to support types of investigations including, but not limited to:
PI133	Provider utilization review
PI134	Provider compliance review
PI135	Member compliance review
PI136	Member utilization review
PI137	Drug utilization review
PI138	Other as defined by the Department

The FADS data mart includes 36 months of claims (e.g., FFS, managed care, adjustments, denied and paid), provider demographic and enrollment data, member demographic and eligibility data, plus reference and valid values data to support DHHR investigations.

The **historical data** maintained in the FADS data mart is sufficient for supporting DHHR **provider utilization reviews**, **provider compliance reviews**, **member compliance reviews**, **member utilization reviews**, and **drug utilization reviews**. **Other** requirements defined by the Department in addition to what is available in the base FADS solution can be addressed through the EDS project change management process.

PI139	The solution should have the ability to interface with all Department-specified claims processing systems.

The EDS will receive claims from the Department-specified claims processing systems. FADS will interface with the EDS to bring the necessary claims into the FADS data mart.

PI140	The solution should have the ability to conduct surveillance and utilization review (SUR) across all Medicaid services and Social Services payments regardless of the service delivery method or financing mechanism.

FADS has the ability to review Medicaid services and Social Services payments as long as the data is available from the EDS. State-funded social service programs are included in other FADS implementations.

PI141	The solution should have the ability to link all services to a single member regardless of the number of historical changes in the member identification (ID) number.

The FADS data mart includes a member's current ID and original ID fields in order to link all services provided to a single member.

PI142	The solution should have the ability to maintain appropriate controls and audit trails to ensure that the most current surveillance and utilization review (SUR) data are used in all processes relying on the SUR data repository.

The weekly FADS ETL process includes balancing the current week of data loaded back to source and the full 36 months of claims in the data mart back to the data source.

PI143	The solution should have surveillance and utilization review (SUR) functions to produce management summary reports and to edit control files for inactive service codes including, but not limited to:

With every Peer Group Profiling study a Peer Group Study Parameters report is created to assists users in determining, in a concise and efficient format, the Study Group, Report Section, Report Item, Behavior Pattern, and Data Rule criteria that you established for a study at the time the study was submitted to run. This eliminates the need for you to access each entity individually through the appropriate browser pages to determine the criteria you specified, and which may have changed between the time the study began and the time that you are researching the results.

PI144	Procedure codes

The Peer Group Study Parameters report includes all parameters used in the study, even the Data Rule parameters defined as procedure codes.

PI145	Revenue codes

The Peer Group Study Parameters report includes all parameters used in the study, even the Data Rule parameters defined as revenue codes.

PI146	The solution should have the ability to track federally-assisted program participants separately from other categories of assistance.

Our PGP component provides the ability for a user to define, develop, and generate statistical analytics that review members based on their programs or assistance categories. Additional browse and search reports also enable the user to review member activity by program or category of assistance.

PI147	The solution should have the ability to identify members who exceed program norms, ranked by severity.

Our PGP component generates a ranking report that identifies members who meet the user established criteria for a peer group and whose behavior is outside of the norm determined for at least one behavior. This report aids the user in identifying members most likely to have aberrant behavior. The report ranks members in descending order of severity.

PI148	The solution should have the ability to identify services received by members who are enrolled in selected programs.

Our PGP component provides the ability for a user to define, develop, and generate statistical analytics of members based on enrollment in selected programs. Additional browse & search reports also enable the user to review member activity by program.

PI149	The solution should have the ability to identify services received by members who have specified diagnoses.

Our PGP component provides the ability for a user to define, develop, and generate statistical analytics of members with a specified diagnosis or range of diagnoses.

PI150	The solution should have the ability to profile all services provided to a member during a single episode of care.

The Symmetry episode of care groupers provide a condition classification methodology, which combines related services into medically relevant episodes of care. These episodes of care link inpatient, outpatient, professional, ancillary, and pharmaceutical claims together into related and mutually exclusive episodes. This capability will help you identify medical practice variations among your health care providers, geographic regions, and member sub-populations.

Our groupers use member eligibility to assess specific diagnoses and episode completeness. We enable client-defined configurations to address enrollment gaps that may skew care patterns. The process runs quarterly and redefines groupings based on new and changed services, along with members' eligibility. This enables ETGs to incorporate lagging claims that potentially represent multiple instances of the same condition (i.e., episode of care).

PI151	The solution should have the ability to generate reports of individual members by peer group.

Our PGP component generates a ranking report and individual profiles for every completed statistical analytic that identify members who meet user-established criteria for the peer group.

PI152	The solution should have the ability to select claims and encounter data dating back to whatever time period is appropriate for the specific research.

Both FFS and encounter claims are maintained in the FADS data mart and are available to be queried online or used as the subject of a Peer Group Profiling statistical or Focused Analytic. The most recent 36 months of claims data, based on paid date, are maintained in the data mart.

PI153	The solution should have the ability to produce claim and encounter detail and special reports by provider type and member classification including, but not limited to:
PI154	Category of service
PI155	Group practice
PI156	Case

If the **category of service**, **group practice**, or **case** (member case/household) is provided in the source data, it can be displayed on all claims browse and search reports. The FADS browse and search component enables users to view the **details of all claims** in the FADS data mart without the need to access the ad hoc query tool. Users can see provider and member IDs and names, dates of service, procedure codes and modifiers, diagnoses, units of service, and many other data elements for each claim line. The on-demand toolbar enables users to access additional report features within a list report. It provides the ability to perform filtering, sorting, calculations, sorting, and grouping when a user clicks within the body or column header of a list-based report.

PI157	The solution should have the ability to provide and store all utilization reports in the medium designated by the Department.

FADS provides and stores reports online within the data mart. These reports can be displayed on demand, online in html format, or exported in PDF, CSV, or XLS for storage on other media.

PI158	The solution should have the ability to provide standard Department and Centers for Medicare & Medicaid Services (CMS) program integrity reports in accordance with Department reporting standards.

FADS has been certified by CMS in six states, with the most recent certification in Arkansas in 2018. Certifications are currently in process in California and Virginia.

PI159	The solution should have the ability to provide the flexibility to vary time periods for reporting purposes and produce reports on a daily, monthly, quarterly, or other frequency as specified by the Department.

Our PGP component allows the user to define up to five time periods for each study. The time periods can be of varying length, overlap each other, be non-consecutive, and be defined out of chronological order, giving the user great flexibility for reporting purposes. Because the reports are produced on demand, the user controls the frequency upon which they are produced. Date fields displayed on list reports can be filtered by the user. The filter can be for one day or a date range.

PI160	The solution should have the ability to display all relevant data by National Provider Identifier (NPI) or by a subset of the provider's practice.

FADS has the ability to display relevant data by NPI. In more recent state implementations, the Medicaid provider identification number and NPI have been the same. A subset of the provider's practice may be displayed based on other available data (e.g., type, specialty, location).

PI161	The solution should have the ability to develop and implement technical and authorized solution user training programs.

The Optum FADS team will provide training programs to support the DHHR staff during the implementation and operational phases. In preparation for User Acceptance Testing (UAT), training materials will be created to assist DHHR staff in the acceptance of the FADS. The materials include the following:

- White papers detail complex studies that result in uncovering potential fraudulent behavior.
- Hands-on exercises are developed to demonstrate a wide range of FADS functionality and identify potential fraudulent behavior.
- A customized Training Guide provides instruction and exercises for each of the reports included in the FADS offering.

Because the program integrity department is a specialized department, requiring its members to possess an aptitude for identifying fraud, waste and abuse, the FADS team can provide one on-site training session per year.

PI162	The solution should have the ability to automatically identify exceptions to norms of utilization or quality of care standards established by the Department for any type of member covered by the Department plan.

Exceptions to normal utilization or quality of care standards can be identified with more than one FADS component. PGP provides user defined statistical profiling and reporting of delivery and utilization of services by provider, recipient, and plans for any specified time frame. The frequency distribution histograms inform the user that the standard deviation methodology used is valid, or alerts the investigator to an unusual population distribution suggesting that exception overrides should be employed. The frequency distribution histogram and other Peer Group Profiling reports are automatically created for any peer group study.

The FADS Long Term Care Review component discovers those LTC facilities that have had hospital claims for a high percentage of their residents, perhaps indicating a quality of care issue, abusive environment, lack of sufficient staff to adequately care for the residents, or routine overmedication/sedation.

PI163	The solution should have the ability to automatically identify deficiencies and generate reports on levels of care and quality of care by provider type.

The Symmetry episode groupers embed risk assessment and predictive modeling to give you a view toward future health care use. These components provide the enriched data required to measure risk and track the prevalence of disease conditions in the population, enabling reporting by level and/or quality of care. The groupers help to understand risk variation in a population and identify high-acuity patients for triaging attention. They group claims into homogenous condition episodes and give analysts and decision makers the information to understand the total cost of care for varying severities of disease conditions. Our solution also creates individual risk measures incorporating episodes of care methodology, medical and pharmacy claims data, and demographic variables.

PI164	The solution should have the ability to support pattern recognition and provide an automated fraud and abuse profiling system, that includes pre-built algorithms for the ongoing monitoring of provider and member claims to detect patterns of potential fraud, waste, and abuse, including excessive billing.

The FADS Provider Activity Spike Detection component surfaces providers who have had unusually large increases or decreases in billing activity since the last data load of paid claims. This algorithm takes a different view of the data than the other FADS components and compares a provider's individual activity to itself, by week, for the preceding 26 weeks. Provider Activity Spike Detection evaluates the entire provider population to identify those providers who have had large increases or decreases in billing activity, based on the number of claim lines paid, dollars paid, and/or recipients serviced.

A large increase is a configurable parameter and defined by the user, by provider type. You can define the percentage of increase or decrease you are willing to accept separately for each of the three factors. An example of a Provider Activity Spike Detection Report is shown in Figure 59.

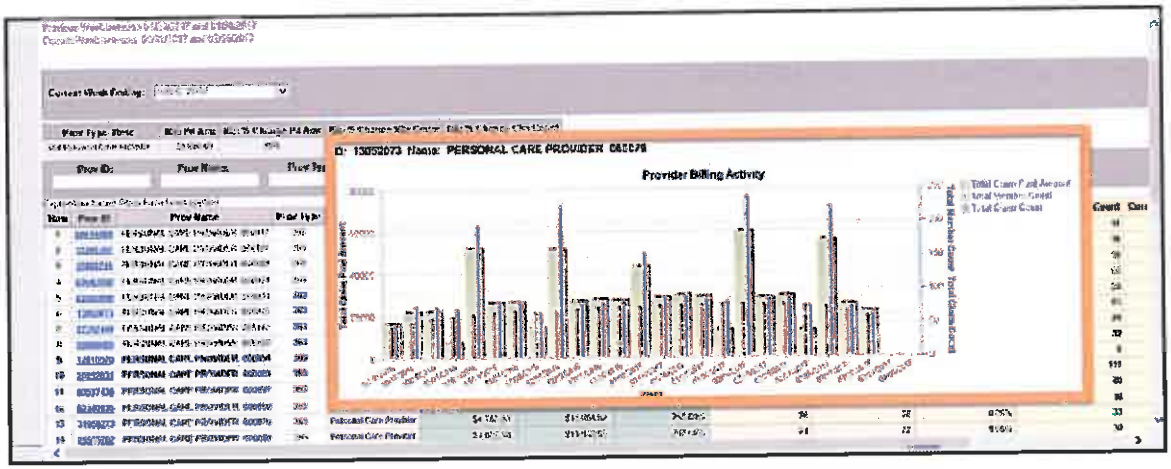


Figure 59: Provider Activity Spike Detection
This is an example of a graphical representation of an individual provider's details for the full 26 weeks. This view is achieved by clicking on the hyperlink in the summary report.

Provider Activity Spike Detection also produces a report of provider IDs that have not had previous activity. This gives investigators an early warning on provider IDs that should be monitored closely for the next few weeks to inhibit hit-and-run scams.

Pre-built reports are included in the FADS Analytical Library. The reports in this library are automatically refreshed after each data load of newly paid claims in order to quickly identify

program trends, patterns, and directions in provider, recipient, and service utilization and expenditure patterns. The library includes:

- Top N1 reports by diagnosis code, NDC, claim type, and procedure code to help the investigator detect high, sudden, or unexpected expenditures.
- Paid amount summaries by individual provider, totaled on year, quarter and month. There are two distinct sets of reports, one based on the provider's role as the billing provider on claims, and one based on the provider's role as the rendering provider on claims.
- Paid amount summaries by recipient, totaled on year, quarter, and month.
- Other drug-related reports based on pharmacy and prescriber behaviors focused on filling patterns for dispensed as written (DAW) and level of schedule drugs prescribed and dispensed.
- Provider Claims Analysis report, which details a provider's overall claims activity for a specific date range to discover and drill down to unexpected behavior found by ranking key indicators (e.g., diagnosis codes, procedure codes, recipients, recipient ages, recipient counties, and first date of services).
- Drug Density Report, based on county mapping. Users have the option to produce the maps based on NDC, NDC description (with wildcard capability), or therapeutic class code. The process produces maps by county based on pharmacies, prescribers, and recipients.

PI165	The solution should have the ability to automatically report on details of the practice of providers identified as exceptions or outliers.

FADS generates user-defined reports that enable users to view the provider demographics, as well as the claim details of all providers who appear in the report as exceptions or outliers. Here is an example of how to easily navigate from the Peer Group Ranking report to the details.

From the Peer Group Ranking report, click on a provider ID. The Individual Profile for that provider will display. The Individual Profile displays the summary of the utilization or behavior patterns for the provider established by the user for the statistical study. Click on the provider ID on the Individual Profile and the Provider Summary reports display. As shown in Figure 60, this is a group of reports accessed by clicking on the tabs.

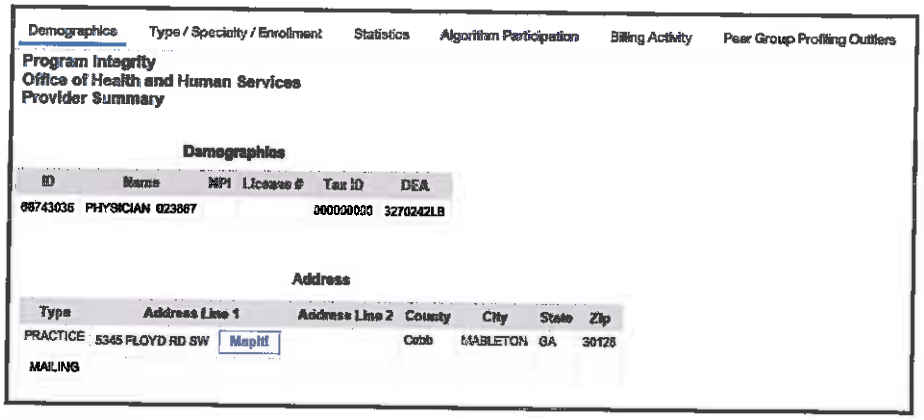


Figure 60: Provider Summary
The Provider Summary report includes demographics, enrollment, statistics, and other information on a single provider.

[1] N represents a user-defined number of providers included in the report.

At the bottom of each tab (not shown in the image) is a link to the All Claims Browse & Search report. When displayed, the All Claims Browse & Search is pre-filtered on the provider.

PI166	The solution should have the ability to identify misutilization of services by individual members and promote corrective actions.

With the ability to examine claim data with different methods, FADS reveals misutilization of the services by both providers and members. The discoveries, and often the combination of results from multiple components, promote a more focused corrective action plan.

PI167	The solution should have the ability to automatically identify exceptions to norms of practice established by the Department for any type of provider covered by the Department plan.

With our Peer Group Profiling component, a DHHR user can define any number of behaviors to include in statistical analysis. For each of these behaviors, the solution will calculate the norm of that behavior across the peer group, and then calculate the exception limits using either a standard default or a user-defined override. The solution determines those providers or members who are exceptions to those limits.

PI168	The solution should have the ability to apply clinically-approved guidelines against episodes of care to identify instances of treatment inconsistent with guidelines.

The Symmetry episode of care groupers provide a condition classification methodology, which combines related services into medically relevant episodes of care. These episodes of care link inpatient, outpatient, professional, ancillary, and pharmaceutical claims together into related and mutually exclusive episodes. This capability will help you identify medical practice variations among your health care providers, geographic regions, and member sub-populations. In particular, episode risk groupers provide basis for valid comparison of efficiency and quality of services provided to the patients. It helps in comparing provider performance despite population differences.

PI169	The solution should have the ability to generate early warning reports of high-cost services and service misutilization based on current payment data to quickly identify high-volume practices.

Our FADS solution contains a Provider Activity Spike Detection component that generates reports each weekend after the claims data is refreshed. These reports identify providers who, during the last payment cycle, exceeded user-defined thresholds for increases in paid amount, number of claims, or number of distinct providers.

PI170	The solution should have the ability to support provider performance reviews to determine the adequacy and extent of participation and service delivery.

The FADS Provider Summary can assist in the support of provider performance reviews. Not only does this report provide easy access to an individual provider's demographic and enrollment information, it also includes the following:

- **Statistics** per year as a billing or rendering provider: These include paid details, distinct members, number of days worked, total paid amount, average number of members per work day, and average number of claim details per work day.
- **Focused Analytic Participation:** If identified in a current of historical run of any Focused Analytics, a provider will have a record(s) on this report.
- **Billing Activity:** This is over the most recent 26 weeks of claims activity.
- **Peer Group Profiling Outlier:** If discovered in a final statistical study, a provider will have a record(s) on this report.

PI171	The solution should have the ability to review provider participation and analyze provider service capacity in terms of member access to health care.

Geographic data elements such as county, city, and ZIP code are included in the FADS data mart for members as well as providers. The analysis of provider service capacity could be as

simple as filtering for the provider on the All Claims Browse & Search report. If the analysis required a broader approach, a Focused Analytic could be developed.

PI172	The solution should have the ability to support report balancing and verification procedures.

The FADS Claims Browse & Search reports can be used to balance and verify simple counts and sums. Advanced techniques are available after exporting the report to Excel.

Assumptions for Program Integrity

- The FADS data mart will initially maintain three years of claims data.
- We have provided licensing for 15 internal state users with 10 percent growth each year.

ATTACHMENT H: TECHNICAL SPECIFICATIONS APPROACH

Instructions: Technical specifications include those that drive how systems should be designed and built in a way that provides for long-term use and reuse, in compliance with related standards (e.g., service-oriented architecture, State adopted standards, MITA, and the CMS Standards and Conditions), as well as defining the minimum set of technical capabilities expected from certain infrastructure components.

The Vendor should provide a narrative overview of how the proposed system will meet the specifications and narrative in this RFP. Use the response sections to provide specific details of the proposed approach to meeting the technical specifications in each subject matter area. Responses should reference specifications and relevant mandatory requirements using the appropriate IDs from ***Appendix 1: Detailed Specifications*** and ***Attachment F: Mandatory Requirements***. DHHR also expects the Vendor to propose its approach for meeting any narrative in ***Section 4: Project Specifications*** in this RFP.

Responses in this section should be highly focused on the State business processes and specifications. If the Vendor is proposing a phased implementation, it should indicate how that approach may or may not impact functionality. Additionally, the Vendor should indicate exception handling processes where appropriate and any dependencies on existing systems or components of the new system to provide the specified functionality. Please include one or more diagrams where necessary that detail the proposed design and the relationships between key technical components.

1. DATA SOURCES, DELIVERY, AND DISPLAY

Refer to the relevant technical specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Data Sources, Delivery, and Display below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Approach and Solution Capabilities to 4.5.2 Data Sources, Delivery and Display

Optum Response:

To meet the Department's current and future data management needs, we propose OPAHHS, an integrated commercial off the shelf (COTS)-based health care data warehouse and analytic platform. OPAHHS provides foundational tools for all major aspects of your required data source, delivery and display requirements. OPAHHS is a proven solution that provides a flexible and comprehensive platform, deployed in a cloud environment, for data foundation management, publication and analytics.

OPAHHS enables the development, testing and deployment of your EDS content in a phased manner. This is advantageous since the content you are integrating into the EDS will not all appear at once, but instead in the conversion of your existing warehouse, and the subsequent addition of other data sources across your Medicaid and social services enterprise.

Phased Implementation

We have designed our solution to be both logically and physically scalable and extensible. It will provide support for growing business processes and attendant data structures, as well as the future physical growth.

Flexible data warehouse process: One of the biggest challenges is the exacting work in identifying what data is relevant, followed by acquiring and conforming that data to a single enterprise data model. We create analysis-ready dimensional data models and maintain longitudinal data sets as new data arrives. The relational structured part of your data will stored be in a relational data warehouse service running MS SQL Server.

Cloud design and extensibility: Our solution will run in the Microsoft Azure Cloud, FedRAMP certified as FISMA moderate. This will provide unparalleled flexibility as the infrastructure can be resized and additional or unused capabilities can be turned on or off. This is a familiar and supported platform of WV OIT.

Exception Handling Process

In our many data warehouse engagements, we have encountered data source, delivery and display tasks that do not fit into a neat preconfigured box. We understand the importance of adaptability and flexibility in handling business processes, data and data consumption that present exceptions to standard use cases and the programmatic golden path. We prepare ahead of time with adaptable design processes and tools.

Receiving and Sending Data: Getting data into the warehouse is paramount to success. Our architecture involves three services:

- **ETL/ELT platform:** The market-leading Informatica suite of extract, transform and load tools is our primary toolkit for acquiring, transforming, loading and cleaning data. Whether we transform the data before loading it or not depends on the specific business problem – we can do either. This software runs on a virtual machines and is not a Microsoft managed service. Informatica has extensive logging and alerting processes, as well as multiple methods of handling exception data, ranging from manual intervention to on the fly correction and conformance. This approach works for both incoming and outgoing interfaces.
- **SFTP/EDI:** Secure file transfer protocols for moving files and electronic data interchange for X12 messages is accomplished by Informatica B2B. This capability will be installed in the cloud environment. We have provisioned capacity to meet your requirements, and will bring the capability to handle exceptions in file transfers and data ingestion.
- **Staging area:** As files and transactions arrive, they are stored as is in our landing zone. Both structured and unstructured data can be stored for any length of time in Azure blob storage. We store each distinct object and back them up to an alternative site. In the cases where we need to reprocess, we will have original files retained for an agreed to timeframe.

Nontraditional data support: We have a long history of providing program evaluation support that provides a common view of enterprise data in a relational data framework. In addition, we are proposing capabilities to deal with data that are exceptions to the Relational Database Management Systems (RDBMS) approach. To accomplish we will provide:

- **Unstructured data ready:** Our data warehouse directly supports most major types of unstructured data. SQL server supports XML, JSON, geospatial and graph data directly. Azure blob storage is available for all other types of data.
- **Big data ready:** Our solution includes the highly regarded and very mature RStudio Pro server. This in turn gives access to application libraries, as well as the thousands of packages in the Microsoft R and Anaconda Python environments. You will have access to text mining, data mining, predictive analytics, graph analysis, and exploratory data analysis. Because HDInsight is a managed service within Azure, if your needs change, additional services can be provisioned over time through the DHHR change request process.

- **Geospatial ready:** We support geospatial analysis in various ways. We calculate latitude and longitude for every address in the system and clean each address to conform to Postal Service standards. Our primary BI tool, Tableau, has built-in map-making capability that we use to add interactive maps to the solution. R, our primary statistical language, also has map-making capabilities. With R, for example, you can communicate with the Census and CDC data servers to retrieve public use data and shape files.

Handling Data Structures of ETL Processes

The OPAHHS data model is configured with the reporting and analytic dimensions and commonalities frequently used. Our solution provides DHHR with easy access to retrospective reporting while also facilitating proactive thinking to support the strategic planning efforts and your overall goals. This produces a feedback loop turns retrospective learning (of which exception handling is but one example) into forward planning and continuous improvement.

We have learned that data quality is the most likely source of errors. We provide strict data quality checks through rigorous validation during data intake. In the case of bad data quality, our data quality management tools and processes identify the root cause of data problems before they can affect the data warehouse and analytic results. At the most fundamental level, we work with you to set up thresholds to prevent out of balance data (e.g., record counts and dollars) from being loaded to the warehouse. As required we will work with you to develop and execute procedures to examine source systems and transit processes to identify and rectify such problems. Other data quality problems may be more subtle and/or may manifest themselves as a trend away from control values. This form of feedback will result from monitoring ongoing data quality reports and alerts.

For data conversion, our solution profiles and discovers data anomalies, structure, and overall suitability before any data migration effort begins. It matches records and identifies relationships across multiple members, providers, and other data domains. We score the perceived quality of data items and the relevance of business rules to gauge the overall health of data that feeds data quality metrics and key performance indicators. We apply reusable data quality rules and processes to master enterprise data across multiple sources, applications and systems in batch or by using Web services. Will use this information to provide feedback and improvements to the data conversion process over its multiple iterations in development, and then adapt these controls to ongoing incremental operational data loads. Overall, the cycle of data quality monitoring and improvement follows a familiar cycle.

Figure 61 shows the data quality continuous improvement cycle.

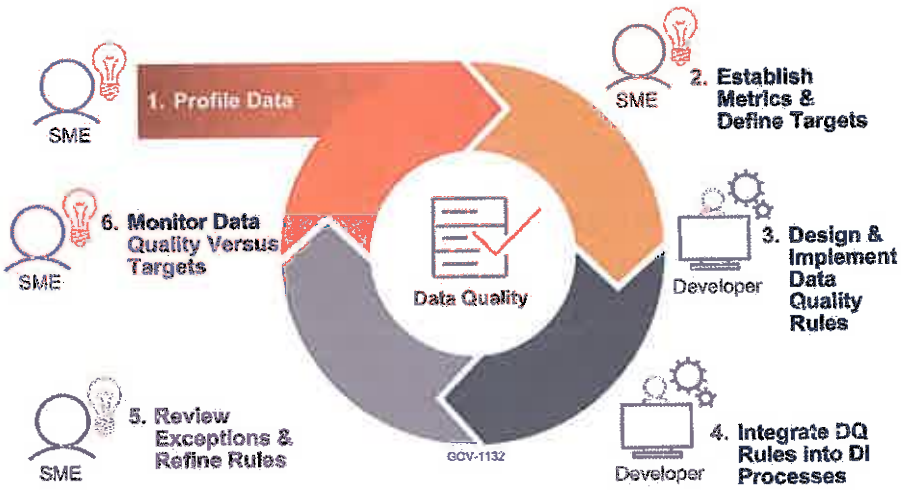


Figure 61: Data Quality Continuous Improvement Cycle
We apply proven ongoing processes to continually improve data quality.

We understand our role in data governance and will support you by proposing and implementing a mutually agreed upon Data Quality Plan. The plan includes data-based policy, data gathering and data harmonizing. It also provides information on policy components that we will configure to accommodate DHHR requirements discussed during JAD sessions. We will publish that information to the appropriate stakeholders in reports and other media used to consume performance metrics. In addition, we will perform data profiling and inform upstream systems about data quality issues.

Dependencies of Existing Systems

The EDS will be at the center of your Medicaid enterprise and will have many dependencies and in turn will present many dependencies to data consumers and subscribing systems. Instead of being a liability, these dependencies present an excellent opportunity to leverage and improve data governance, data quality and overall usage of metadata. This will improve the overall shared understanding of the meaning and use of your data. This shared understanding not only facilitates a common and efficient way of categorizing your data, but also uncovers efficiencies and opportunities to reuse data and system designs and interfaces. Two major examples are your master data management hub, and the eligibility system. Both offer business rules, design concepts and interfaces that will inform and enable the handling of associated data in the EDS.

Using this same approach, we will also carefully examine the existing DSS and MMIS dependencies for opportunities for low impact development of both inbound and outbound interfaces as required. Such reuse will advance your enterprise wide quality, uniformity and overall design control. It will improve the overall quality of the EDS and MES enterprise, and reduce risk and uncertainty in affected areas.

Data Quality and Synchronization: Using policies from your data governance program, we will build instrumentation for measuring the quality of data sources. These measurements, combined with the business goals embedded in your policy will inform the execution of concrete steps for its improvement. For example, if transitioning managed care along with direct transmission of encounter data is an issue, continuous improvement in integrity edits and constructive feedback to the source managed care entities will address the problem. Similarly, integrating physical and behavioral health data implies the development of appropriate measures of performance and a more holistic approach to identifying gaps in care. OPAHHS

delivers a unified data management platform, key performance indicator tracking, and data quality issue collaboration.

We are using Informatica Data Quality coupled with our extensive and proven data quality processes. Data validation occurs before and after data loading. We follow processes that count the records and fields in the input files. These record and field counts can then be balanced to verify that no data was excluded during the loading process. When the data is loaded, we perform further data integrity checks to validate that the newly loaded data displays correctly for the user. At each step in the ELT process, we conduct quality checks to validate the accuracy of converted data against source data and the transformation rules. In addition to statistically significant sample size audits to check for outcome violations on various data elements, we verify count balances at the file and table level and perform unit and system testing for migration and load programs.

Metadata management: Metadata management is key to uncovering patterns across your enterprise data management. As stated previously, in designing your system, we will leverage metadata from your master data management hub, the eligibility system as well as the existing MMIS to reuse data designs and interfaces where required. We use Informatica Axon and Enterprise Data Catalog (EDC) as our data dictionary tool. Axon and EDC provides direct connectivity to capture metadata from various data sources. For non-standard metadata sources (e.g., stationary documents), Axon and EDC also provides a customizable metadata integration capability to help create and edit custom meta-models. It is accessible through the Data Analytics and EDS portal. The tool contains table name, column descriptions, transformation rules, and the business usage of specific columns. It also records data lineage and mapping, and business rules applied to data in the migration and data conversion process. We keep the business glossary in Informatica current with data model changes. Axon and EDC is synchronized with Azure's data warehouse service. In addition to metadata, reporting metadata from various Informatica repositories will automatically synchronize with third-party metadata and business intelligence tools.

Using Axon and EDC, we store all the metadata contents in a centralized Metadata Repository. Axon and EDC can be used to maintain the custom models already created. It captures the data: title, category, objective, source, type, version, status, applicability, references and relations to other standards. The repository includes vocabularies (i.e., code sets). When we calculate new fields in BI tools, those definitions also import to Axon and EDC. The metadata repository holds all technical and business metadata content, such as documents, spreadsheets, and messages.

Figure 62 shows how metadata from various sources integrates with the centralized Axon and EDC repository. It also shows various applications from which Axon and EDC can directly exchange metadata using pre-built connectivity.

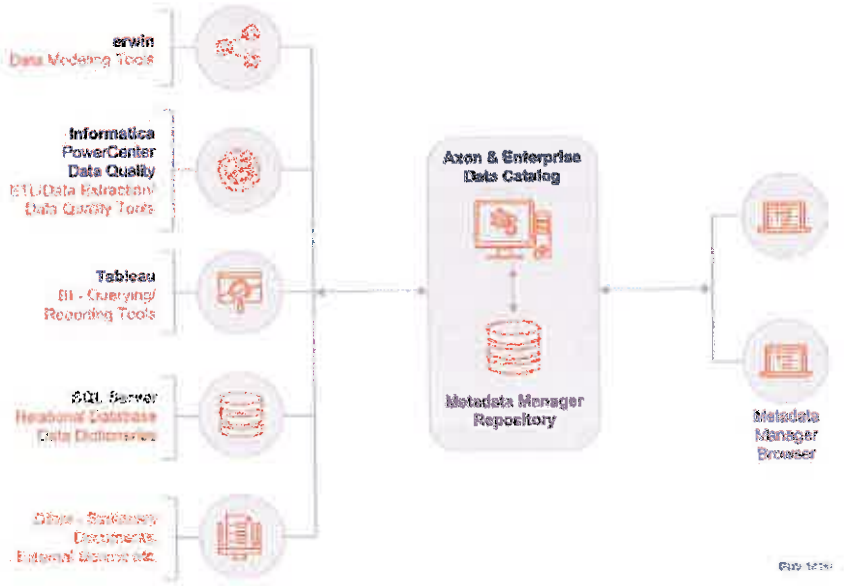


Figure 62: Relationship of Infrastructure and Data Modelling tools to the Axon and Enterprise Data Catalog
All components are integrated and feed Axon and the Enterprise Data Catalog.

Reference data management: We load needed reference data and ingest it into the data warehouse. We acknowledge that you are requiring ICD, CPT/HCPCS, and NCPDP codes needed with claims data. We can readily handle these code sets.

Reporting, BI analytics and visualization: We use Tableau both as our primary BI tool and as our primary visualization tool. OPAHHS reports are produced as Tableau workbooks. The workbooks contain a substantial amount of data and are in many ways the equivalent of a data mart. They are user-customizable through filters and selection mechanisms and you can easily change the data visualization and store it as a new report. Tableau also supports the ability to select points or regions in one pane and filter a tabular view in the other (i.e., brushing and linking).

In addition, Tableau provides an extensive array of business intelligence analytics. It is supplemented by statistics that are available in the R statistical language. Tableau has a mechanism for calling functions in R. We provide advanced analytics in our reports by calling functions written in the R statistical language, passing data from the Tableau workbook and returning the model result from R back to Tableau. You will benefit from the following features included in our solution:

- **RStudio Pro support:** We have included RStudio Pro, the leading integrated development environment for the R statistical language. RStudio Pro also can be used to code in Python. RStudio Pro supports version control and collaborative programming where group members can see each other's screens and code.
- **Notebook support:** OPAHHS incorporates notebook support. The notebook user interface approach has become very popular in the data science community. Notebooks allow the programming, configuration, inputs and results to be correlated into a single point of entry. This greatly increases the organization and transportability of the entirety of the thought process and outcome of the given project, giving your advanced users a greater opportunity to collaborate.
- **Diverse language and package support:** Your data scientists will have access to Microsoft R, and Anaconda Python. R and Python are the two most widely used open source

languages for statistical analysis. Microsoft and Anaconda support these languages. Together, they have more than 13,000 packages contributed to their publicly available archives. Using EDS solution will have access for text mining, data mining, predictive analytics, graph analytics, and exploratory data analysis.

OPAHHS provides the flexible and responsive data-driven framework needed for reacting to legislative and regulatory change. Our solution is aligned with the CMS Seven Conditions and Standards and meets applicable Medicaid Enterprise System (MES) checklist requirements. We successfully supported our clients in MMIS and MES certification activities in states such as Michigan, Indiana and California. In doing so, we have illustrated that the flexible and extensible architecture of our solution positions our clients to move to higher MITA maturity levels, and can be certified under new CMS outcomes-based certification models.

Appendix 1: Data Sources, Delivery and Display

Optum will meet the Data Sources, Delivery and Display requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

DD001	The solution should have the analytic ability to report benchmark dimensions and commonalities.

The OPAHHS data model is configured to meet your needs, beginning with the reporting and analytic dimensions and commonalities frequently used. Our solution provides easy access to retrospective reporting while also facilitating proactive thinking to support the strategic planning efforts and your overall goals. Our solution provides ability to use calculated variables to enable benchmarking from budget, historical data and external data. We will work with you to understand data source for the benchmarks and use those variables to calculate and make available the benchmark dimensions and commonalities.

DD002	The solution should provide documentation of all data objects and codes, abbreviations, and descriptions in logical and physical data models in a searchable, approved, current online data dictionary.

We use Informatica Enterprise Data Catalog (EDC) as the data dictionary tool. EDC provides direct connectivity to capture metadata from various data sources. For non-standard metadata sources (e.g., stationary documents), EDC also provides a customizable metadata integration capability to help create and edit custom meta-models. The tool stores data such as the table name, column descriptions, transformation rules, and the business usage of specific columns. It also records data lineage and mapping, and business rules applied to data in the migration and data conversion process. We keep the business glossary in Informatica current with data model changes. EDC is synchronized with Azure's data warehouse service. In addition to metadata, reporting metadata from various Informatica repositories will automatically synchronize with third-party metadata and business intelligence tools.

Using EDC, we store all the metadata contents in a centralized Metadata Repository. EDC can be used to maintain the custom models already created. It captures the data: title, category, objective, source, type, version, status, applicability, references and relations to other standards. The repository includes vocabularies (i.e., code sets). When we calculate new fields in BI tools, those definitions also import to EDC. The metadata repository holds all technical and business metadata content, such as documents, spreadsheets, and messages.

DD003	The solution should provide documentation of all data objects and codes, abbreviations, and descriptions in logical and physical data models in a searchable, approved, current online entity relationship (ER) diagram.

Data modeling is a fundamental step in correctly capturing business and information management concepts. Optum has a well-established and repeatable process for data modeling and is successful with clients, including Michigan, Arkansas, Indiana, and New York. We will produce data models at the conceptual, logical, and physical level and document and publish

them in discrete design packages for your approval and maintain them cumulatively in your deliverables.

Erwin is our entity relation modeling and the primary documentation tool for ER modeling. Using erwin, we will deliver entity relation diagrams that graphically depict entities and relations and reports that document entities, entity descriptions, and relationships. We will publish the models both in erwin format and as PDFs to our document management site so you can review the database design. Additionally, we will manage changes to the model throughout the project lifecycle, treat the changes as delta scripts with dependency on the base deployment package. This will help us make sure that changed and approved items will be physically instantiated in the database and tested through the promotion lifecycle and that the data model solution documents and ER diagrams are current.

DD004	The solution's data modeling tool should have current and historical versions available upon request.

Erwin is our entity relation modeling and the primary documentation tool for ER modeling. Using erwin we will publish the current models while maintaining the historical versions available. We will manage changes to the model throughout the project lifecycle. This will help us with version control through the promotion lifecycle and maintaining the current and historical data model solution documents and ER diagrams.

DD005	The solution should have the ability to detect, maintain, and analyze both predetermined and authorized solution user -created relationships among claims, persons, providers, and other entities.

Using Tableau's graphical data modeling capability in OPAHHS users can detect, maintain and analyze the key relationship among claims, persons, providers, and other entities. Figure 63 shows the data modeling capability in Tableau.

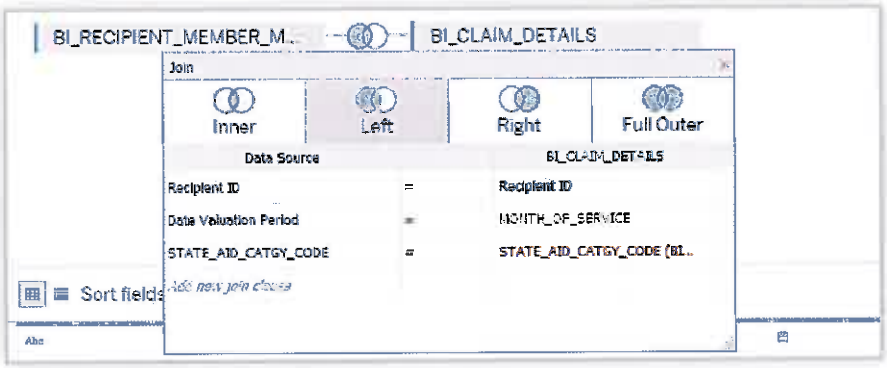


Figure 63: Tableau graphical data modeling
This is a snapshot of Tableau graphical interface for a table join.

DD006	The Vendor should maintain synchronization of claims and encounter record dates with provider and member record dates (a claim or encounter is always linked to the provider status and member status segments associated with the date of service).

The OPAHHS data model, installed and at work in nine states, is purpose built to capture the member, provider and other attributes as they appeared at key claims dates, such as date of service, adjudication and payment as necessary. In some cases, we accomplish this by putting the key attribute on the claim record for performance reasons such as financial reporting. In all cases we store the desired attribution in slowly changing dimension tables for flexible retrieval using any date column in another table. We will work with you in requirements and design processes to identify the methods for storing the required member and provider attribution based upon the projected use of the claims and required member and provider attributes.

DD007	The solution should have the ability to produce multi-dimensional data objects including, but not limited to:
DD008	Data cubes
DD009	Customized tables
DD010	Data marts
DD011	Materialized views

We will configure our dimensional models to enable effective analysis of identified business areas and functions using operational, derived, and aggregated data. We have the ability to produce multi-dimensional data objects within various layers of our OPAHHS solution. At the analytics layer, Tableau is a pivot table centric BI tool that emulates multi-dimensional objects. We also provide this capability at our solution data warehouse and database layer.

Tableau has pivot table centric capabilities and Azure Synapse Data warehouse can produce **data cubes and customized tables.** Users can sort and filter in Tableau and other SQL query tools. You can create calculated fields based on available data.

OPAHHS provides the capability to create and maintain large data marts in Azure Synapse Data warehouse. Additionally, tableau workbooks provide the ability to create and maintain smaller **data marts** at the BI layer. As part of our solution, Azure SQL server supports **materialized views.**

DD012	And to develop, implement, and maintain both derived and aggregated data including, but not limited to:
DD013	Total claim costs
DD014	Unique member counts
DD015	Units of service
DD016	Benchmarks

OPAHSS develop, implement, and maintains views which are predefined queries derived from calculated field functions and aggregated data, such as calculating **total claim costs** using sum function and distinct function in SQL.

We will work with you to analyze the method to identify **unique member counts** and the **units of service** for each provider type and we can help implement the SQL query to calculate it.

Our solution provides ability to use calculated variables to enable Benchmarking from budget, historical data and external data. We will work with you to understand data source for the benchmarks and use those variables to calculate and make available the **benchmark**.

DD017	The solution should maintain current and historical data.

We keep your data until the end of its retention period. We have an elaborate Business Continuity process to maintain your current and historical data. Using Azure blob backup capabilities, we will maintain backup and archival with efficiency and geo-replicated resiliency.

If there is a change in code set we develop a crosswalk for comparability of data. We will provide, implement, and maintain the data transformation catalogue/index/metadata based on Department approved requirements for the solution, including mechanisms and methodologies for each. We will do this by using Informatica PowerCenter, complete with its Axon and EDC components. Leveraging the power of Informatica EDC, the solution will retain all present and previous data objects and their lineage, and will translate objects and executions into a form accessible by other tools. This results in a comprehensive store and access point for present and historical metadata.

DD018	The solution should maintain current and historical claim data including, but not limited to:
DD019	Date of payment
DD020	Date of adjudication
DD021	Prescription date

DD022	Date of service

Our OPAHHS solution will maintain current and historical data currently within your DW/DSS. Claims data will be refreshed on 30 day cycle as part of EDS implementation. We keep all data until end of its retention period.

EDS data model will contain **date of payment, date of adjudication, prescription date, and date of service** and will be part of current and historical data that is maintained in OPAHHS solution.

DD023	The solution should develop and maintain standard table joins that allow linkages among member records, provider records, claim/encounter records, and all other solution data to enhance querying, reporting, and analytics.

We use entity relationship modeling. Erwin is our data modeling tool to develop and maintain linkage between tables such as member records, provider records, claim/encounter records, and all other solution data. We then use the ER to implement the tables and relationships in our data warehouse and databases to enhance querying, reporting and analytics.

We will develop efficient table joins using various techniques to encapsulate the complexity of data computation while enhancing the query and analytic execution. Using capabilities in our OPAHHS solution, we can automatically synchronize table join refreshes. Additionally, we can detect and create statistics on columns and in turn optimize query plans based on the available statistics and keep the linkages up do date at all times.

DD024	The solution should have the ability to receive and accept interfaces and exchange data with government agencies, data vendors, industry groups, providers, insurers, and health information exchanges as designated by the Department.

Using our Informatica interface libraries our solution has native capabilities for accepting and interfacing with data form external agencies in EDI X12, NCPDP, HL7 and XML.

OPAHHS has the capability to retrieve data from any EDS table through the Open Database Connectivity (ODBC), as well as other database interfaces. OPAHHS has the ability to receive and accept interfaces and exchange data with government agencies, data vendors, industry groups, providers, insurers, and health information exchanges. In addition to the base OPAHHS solution interfaces can be addressed through the EDS project change management process.

DD025	The solution should have the ability to assign a single unique identifier to all members, providers, and claims received from all data sources.

We will interface with the State Master Data Management system and tag the member, provider and claims received form the State MDM with the unique ID.

DD026	The solution should have the ability to automatically identify duplicative members, providers, and/or claims- related information received from a single or multiple source(s), and merge that information into a single record.

We will interface with State Master Data Management system to identify duplicative members, providers, and/or claims-related information received from a single or multiple source(s), and merge that information into a single record and tag the member, provider and claims received form the State MDM with the unique ID.

DD027	The solution should have the ability to schedule interfaces and data exchanges.	

Our solution has the ability to schedule interfaces and data exchanges through Informatica PowerCenter. We will work with you to identify and establish schedule for the data exchanges and interfaces for the solution. We will collaborate with you and your trading partners to develop or modify Interface Control Documents (ICDs) for each data exchange and interface. The ICDs and DUAs will document our shared understanding of the associated interface files, their data elements and their business and technical attributes and schedules.

DD028	The solution's interface processing should not adversely affect other activities, such as regular operations, other jobs, reporting, queries, analytics, research, and extract, transform, load (ETL).

Our OPAHHS is comprised of market-leading data base and management applications which are built for high-volume data management. With a modular design and architecture, our solution utilizes discrete system functions that are independently evolved without impact to the rest of the system. Our system architecture leverages the latest cloud processor technologies to gain maximum CPU and system performance. We can achieve linear scalability against data and work-load demands with consistent performance.

DD029	The solution should have the ability to validate that all files meet the extract, transform, load (ETL) edit standards prior to entering the production database, such that any files or content failing to meet standards are returned to the originator and flagged for review.

The market-leading Informatica suite of extract, transform and load (ETL) tools is our primary toolkit for acquiring, transforming, loading and cleaning data prior to entering the production database. Whether we transform the data before loading it or not depends on the specific business problem – we can do either. We will use Informatica exception reports, logging and alerting processes. We can then review and fix exception records in the Analyst tool.

DD030	The solution interface design and Interface Control Document should be extensible, scalable, and adjustable to work with business and technology changes.

We will collaborate with you to develop or modify ICDs and Data Use Agreements (DUAs) for each data exchange and interface. The ICDs and DUAs will document our shared understanding of the associated interface files, their data elements and their business and technical attributes. We will use the ICDs to guide the development of the interfaces. Our COTS-based OPAHHS solution will accelerate interface development. After we develop the data exchange or interface, we will coordinate testing with you and your stakeholders to make certain the mechanisms and methodologies are effective and optimal for the solution.

We will develop, implement, and maintain a catalog of ICDs by developing a report that shows all the approved ICDs stored in our shared document repository on Liferay or share with you to store on the State document repository. The shared document archive where we house the ICDs will index them and make them searchable. This will give you complete visibility into our interface control process.

Our use of COTS data integration tools and libraries combined with our experience of integrating successively larger areas of Medicaid and social services data make our solution very nimble. This flexibility will in turn make the solution extensible, scalable, and easy to maintain and adjust as the business and technology change.

DD031	The solution should have the ability to incorporate new data sources and changes to existing data sources as part of routine maintenance.

The OPAHHS solution allows for incorporation of new data sources and changes to existing data sources as part of routine maintenance as prioritized by DHHR with the existing Optum staff. Both erwin and Azure SQL components of OPAHHS allow the addition of new data elements. Our data model is designed to allow for changes. We have cases where our State customers started with a small set of data files and their data model now includes hundreds and thousands of data files. These can be addressed through the EDS project change management process.

DD032	The solution should have the ability to ensure the data conversion and extract, transform, load (ETL) processes adhere to the standards and guidelines of the Health Insurance Portability and Accountability Act (HIPAA), Centers for Medicare & Medicaid Services (CMS), Medicaid Information Technology Architecture (MITA), National Institute of Standards and Technology (NIST), and other government and industry standards guiding secure, consistent, accurate, and efficient data exchange.

We embrace industry standards, such as HIPAA and other nationally recognized standards, for the exchange of information. OPAHHS will support industry data standards for data conversion and ETL processes. Our solution adheres to government and industry standards from CMS, MITA, and NIST for consistent, accurate and secure exchange of information and health care reference data sets such as HIPAA, NDC, HCPCS, CPT, and ICD-10. We will work with you to define common data access mechanisms and data consistency during discovery and requirements validation activities and in our ongoing data governance process.

We have significant experience and success in furthering data governance by standardizing data quality among various plans and programs. This includes the Medicaid program and numerous state family and human services programs. We will support your established data conversion protocols and business rules. Ideally, we would be able to leverage existing Informatica ETL processes of the current system.

DD033	The Vendor should coordinate with the Department and maintain a schedule that documents when data is expected, when it is received, when it is processed by extract, transform, load (ETL), and when it is loaded to the data warehouse tables and database objects.

Part of our process is the development of ICDs, which, among other things, define the schedule for receiving new data from source systems. Ideally, we would update the ICDs that currently exist. We will coordinate with the Department and maintain a schedule that documents when data is expected, when it is received, when it is processed by extract, transform, load (ETL), and when it is loaded to the data warehouse tables and database objects.

We will develop a comprehensive schedule of expected batch data exchanges, under our span of control, which will be the union of the schedules in the interface control documents. We have procedures in place to check that such transfers take place on schedule and to perform appropriate follow up to request a resend if they do not happen or the transmitted data fails fatal error checks. Transmission methods that occur unscheduled and unattended, such as web services and EDI transactions, will be monitored by software with procedures in place. This monitoring will check transmission logs on a regular basis and follow up with senders if log analysis shows a systemic problem.

DD034	The Vendor should ensure the solution components that are web based have cross-browser compatibility over the life of the contract and support software utilization in the current version and two (2) prior versions at a minimum for the following browsers including, but not limited to:
DD035	Microsoft
DD036	Apple products
DD037	Google Chrome
DD038	Firefox
DD039	Internet Explorer (IE 7 or greater)

OPAHHS users will interact with the solution through their Web browsers. Our solution supports Internet-compliant browsers, including **Internet Explorer (IE), Firefox, Google Chrome, Microsoft** IE and Edge and Apple Safari, and support software utilization in the current version and two (2) prior versions at a minimum. We do not require any browser extensions.

DD040	Other browsers as requested by the Department

Our solution supports Internet-compliant browsers, including Internet Explorer, Firefox, and Chrome. We will work with you to identify your user base browser needs and if additional browsers are required, we can addressed through the EDS project change management process

DD041	The solution should support non-linear "undo" ability to ensure any action performed at any time in a single work session within a given component can be reverted to a former state.

Our solution supports non-linear undo action according to security and compliance standards required within a single work session. End user actions within a single session can undo using actions keys within standard undo capabilities within COTS tools.

DD042	The solution should have the ability to support Windows-based or similar shortcuts including, but not limited to:
DD043	Ctrl+c for copy
DD044	Ctrl+v for paste
DD045	Ctrl+z for undo

The OPAHHS user interface provides Windows-based or similar short cuts in accordance with security and technology compliance standards. These capabilities are operating system level.

Windows has common user interface standards, such as **Ctrl+c for copy, Ctrl+v for paste**, and **Ctrl+z for undo**. OPAHHS products use and comply with those standards.

DD046	The solution should provide electronic audit trails for every interface file input when received, when processed by extract, transform, load (ETL), and when loaded to table(s).

Informatica has extensive logging capabilities to record audit trails for every interface file input when received, when processed by ETL, and when loaded to table(s). We take those logs and import them to our Security Incident and Event Monitor (SIEM) tool for further analysis.

Our solution will be compliant with NIST 800-53 R4 Moderate audit trail requirements; and, it will also include any additional logging requirements established by Department policies and contractual agreement.

DD047	The solution should have the ability to revert to a previous version when an implemented change causes an undesirable solution impact, within a timeframe determined by the Department.

Our Software Lifecycle Management and Testing process will allow us to prevent unintentional code deployment but we have the capabilities to do so in case it is required. Additionally our change control process includes a back-out plan and timeline and decision points to start the back-out plan in the change window to prevent any unintentional code deployment.

We will use version control software to maintain copies of all of our code in various environments and working branches and roll back to any prior version required.

DD048	The solution should have the ability to associate clinical data with the claim record.

Our solution can store both structured and unstructured data. We can associate claims and clinical data using fields common to both. Our EDI support enables extracting claims attachments from 837 transactions. The Healthcare Information Exchange maintains Master Person Index (MPI). We will rely on MPI to associate the member with their claims. We can validate MPI by using highly distinguishing fields such as member social security number and address.

DD049	The solution should have the ability to view activities during integration such as job schedules, job times and load processing.

We use Informatica which has extensive logging capabilities to view activities during integration such as job schedules, job times and load processing. Those logs are viewable with the OPAHHS log analysis tool. Figure 64 shows an analysis of the ETL jobs our staff produces regularly.

Subject Area	Table Name	File Count	Staging Count	Difference	Root cause
Reference	Audit for 59 Tables are failed and this is a known issue				
Managed Care	T_MC_RCP_REVIEW	89823	88383	1440	HPE is sending wrong audit count
TPL	T_CAS_CASE_TYPE	0	5	5	Audit record missing in Source
TPL	T_HMO_INDICATOR	0	3	3	Audit record missing in Source
TPL	T_BILLILNG_MEDIA	0	2	2	Audit record missing in Source
TPL	T_POLICY_HOLDER	1121372	1121371	1	This is consistent across all weeks loads
PriorAuth	T_PA_APPEAL_INFO	35704	35791	-87	Consistently failing for all weeks, Needs detailed analysis
PriorAuth	A_T_PA_AUTH	973881	973805	76	Consistently failing for all weeks, Needs detailed analysis
PriorAuth	A_T_PA_LINE_ITEM	652191	652151	40	Consistently failing for all weeks, Needs detailed analysis
Recipient	T_RE_ADDRESS	18888838	18888762	76	Invalid characters in the source, will update the ETL to capture them
REcipient	T_RE_PREM_BASE	414890	414888	2	Duplicates issue, consistent across all weeeks

Figure 64: Informatica ETL Jobs Audit Issue Analysis

We proactively analyze all issues that arise from ETL operations.

DD050	The solution should have the ability to store and analyze semi-structured and unstructured data, such as case notes.

OPAHHS has the ability to store and analyze semi-structured and unstructured data, such as case notes. We can extract semi-structured data in a medical record and store it in a relational table just like any other structured data. The data warehouse can store unstructured data in XML documents native format. Unstructured data needs to be extracted and subjected to natural language processing to identify keywords, topics, and concepts. As part of OPAHSS, Both R and Python have packages that can perform a wide range of natural language processing functions.

DD051	The solution should have the ability to analyze and report on data integration audit logs.

Informatica has fine-grained logging capabilities, which we will use to create and maintain audit logs from data integration activities. In addition to the audit logging capabilities of Informatica, we provide an extensive reporting solution that supports analytics and standard reporting on data integration activities.

DD052	The solution should define a hierarchy to resolve conflicts between the same data elements from different sources.

Informatica supports the creation and execution of rules to resolve conflicts between the same data elements from different sources. Figure 65 shows the import wizard screenshot for conflict resolution in Informatica.

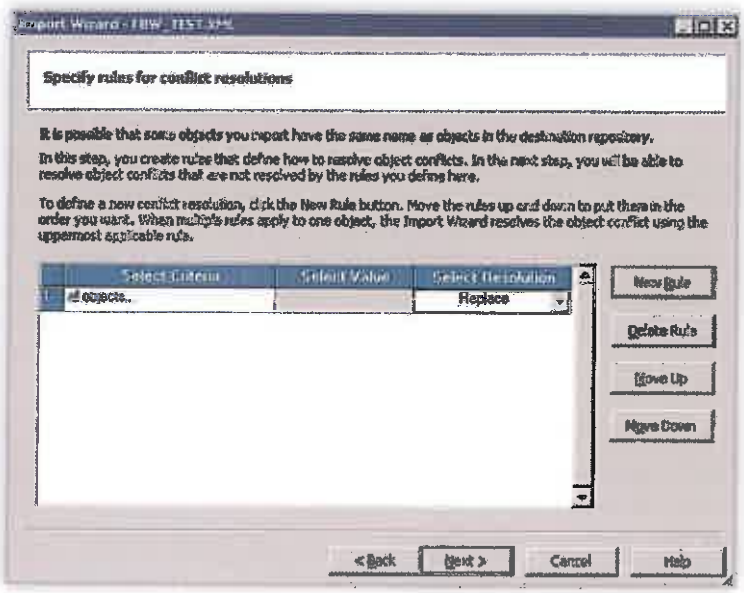


Figure 65: Import wizard screenshot for Conflict resolution in Informatica
Using Informatica Import Conflict resolution we can create rules to resolve conflicts between various data sources.

DD053	The solution should have the ability to accept data in a variety of formats from different sources and standardize.

OPAHHS has the ability to accept data in a variety of formats from different sources and standardize in the data warehouse through the Extract, Transform, and Load (ETL) process provided by Informatica Powercenter. We will also make a maximum effort to conform to your naming scheme and change or alias field names to the standardized terminology.

DD054	The solution should have the ability to identify, correct, and report data quality/defect issues.

We are using Informatica Data Quality coupled with our data quality processes to identify, correct, and report data quality/defect issues. Data validation occurs before and after loading. We follow processes that count the records and fields in the input files. These record and field counts can then be balanced to verify that no data was excluded during the loading process. When the data is loaded, we perform further data integrity checks to validate that the newly loaded data displays correctly for the user. At each step in the ELT process, we conduct quality checks to validate the accuracy of converted data against source data and the transformation rules. In addition to statistically significant sample size audits to check for outcome violations on various data elements, we verify count balances at the file and table level and perform unit and system testing for migration and load programs.

DD055	The solution's development environment should have the capacity to support all components of the solution.

We will provision environments as required by RFP to establish the full System Development Life Cycle (SDLC). We will design, provide and maintain all environments in our proposed solution with capacity to support all components of the solution. Our solution development environment will have the full set of EDS solution capability.

DD056	The solution's environments should have the ability to handle scheduled or on-demand requests to refresh data with a referentially intact subset of data.

Refreshing, replacing, and archiving data will be performed according to the timelines and processes approved by the Department. Our solution has the capability to handle scheduled or on-demand requests to refresh data with a referentially intact subset of data.

DD057	The solution should have a production environment that is used to deploy the solution.

Our approach to environment and structure requirements includes deployment of adaptable and extensible technologies that align with industry best practices and meet the goals of DHHR. We will design, provision and maintain your EDS production environment that is used to deploy the solution to meet your functional and non-functional requirements of the solution. To protect your data and resource usage isolation, Optum separates the production and non-production environments. Our SDLC and operational procedures leverage this separation to provide the best overall and environment-by-environment system performance.

DD058	The solution's production environment should have the ability to support all components of the solution.

We will design, provision and maintain your EDS production environment to supports all components of the solution and meet your functional and non-functional requirements. This will provide users a production environment with all production source system data defined for inclusion in the EDS as part of the scope of work for this RFP. We will provision environments as required by RFP to establish the full SDLC.

DD059	The solution should contain a data access component that serves as a central access point for authorized solution users.

OPAHHS portal provides the central access point for tools and methods that provides users the analytic capabilities required to make informed, data-driven decisions. We will work with you to develop comprehensive role-based access control (RBAC) and implement it throughout our solution.

We will consult with you and deliver the mechanisms and methodologies that will allow authorized users access to all required reports or data associated with the solution. Roles and stakeholders for both the Department and Optum will be established to make certain that data partners are documented, authorized, and that their access is strictly controlled and monitored. Our approach is to function as the gate-keeper, making certain that privileged users have access to the data or reports that they need without undue restraints or barriers, yet also safe-guarding the data from unwarranted access.

DD060	The solution's data model component should be maintained in an open systems modeling tool that can generate reports.

One of our solution's core strengths is its ability to connect data from the data warehouse, to enrichment and modeling tools, all the way to end-user reporting elements.

Erwin is our primary data modeling tool. In addition, we use Informatica Axon, EDC and Business Glossary. Erwin can share information with other tools through a meta integration model bridge, which supports exchanging information with other tools and allows easily editing models with different types and properties.

Your data model reporting needs could vary from a simple report on a logical model to a complex report on the model metadata. Regardless of your needs, erwin provides easy options to generate and view reports on models and metadata of models. Erwin Report Designer lets you generate a wide variety of reports on the most recent data. You can use the Filter By option to drill-down reports to the object level. If you want a standard report, you can use the predefined (or Pinned) reports. If you want a specific report customized to your needs, you

generate a custom report. In addition, any ODBC compliant BI tool can access erwin data and report on data such as:

- Objects and properties in your models
- Metadata defining model objects and properties
- Action log that records the changes made to a model during a session

Informatica Axon and EDC features an intuitive well-designed user interface and creates strong documentation available online.

DD061	The solution's data model component should be maintained in an open systems modeling tool that can enforce object-naming standards.

Using the solution's data modeling editor tool we can create naming standards objects that enforce object-naming standards for logical and physical model object and the glossary. As part of our best practices we then apply them to each data model.

DD062	The solution's data model component should be maintained in an open systems modeling tool that can import and export metadata.

We use Informatica Axon and EDC as our data dictionary tool. Axon and EDC provides direct connectivity to capture metadata from various data sources. It is in open systems modeling tool that can import and export metadata. For non-standard metadata sources (e.g., stationary documents), Axon and EDC also provides a configurable metadata integration capability to help create and edit custom meta-models. It is accessible through the Data Analytics and EDS portal. The tool contains table name, column descriptions, transformation rules, and the business usage of specific columns. It also records data lineage and mapping, and business rules applied to data in the migration and data conversion process. We keep the business glossary in Informatica current with data model changes. Axon and Enterprise Data Catalog is synchronized with Azure's data warehouse service. In addition to metadata, reporting metadata from various Informatica repositories will automatically synchronize with third-party metadata and business intelligence tools.

Using Axon and EDC, we store all the metadata contents in a centralized Metadata Repository. Axon and EDC can be used to maintain the custom models already created. It captures the data: title, category, objective, source, type, version, status, applicability, references and relations to other standards. The repository includes vocabularies (i.e., code sets). When we calculate new fields in the Business Intelligence (BI) tools, those definitions also import to Axon and Enterprise Data Catalog. The metadata repository holds all technical and business metadata content, such as documents, spreadsheets, and messages.

DD063	The solution's data model component should be maintained in an open systems modeling tool that can provide version control of logical and physical data models.

The erwin Workgroup software is highly suitable for data modeler collaboration as it supports version control for the data models. It is in an open systems modeling tool that can provide version control of logical and physical data models. It is stable, flexible to changing business practices and business needs, and handle variety of medical, clinical, and other sources of data across data marts with ease of use and performance for data accessibility.

DD064	The solution's data model component should be maintained in an open systems modeling tool that can provide forward-engineering abilities.

Our data modeling tool includes forward-engineering capabilities including schema generation and alter script.

DD065	The solution's data model component should be maintained in an open systems modeling tool that can provide reverse-engineering abilities.

Our open systems modeling tool provides the capability to reverse engineer databases or models. The modeling tool creates a physical or logical graphical representation of the selected database objects and the relationships between the objects.

DD066	The solution's data model component should be maintained in an open systems modeling tool that can support volumetric calculation abilities.

As part of our use of erwin as the open systems data modeling tool, we will leverage its volumetric capabilities to estimate table and database size as well as the anticipated growth of the database over time. The volumetric information will be a function of not only the specifics of the physical data model, but the actual and anticipated number of rows in each table. As well as augmenting the Database and Design Document and Model deliverable, these volumetric figures will also provide accurate predictions for the Capacity Plan deliverable.

DD067	The solution's data model component should be maintained in an open systems modeling tool that can support comparison abilities for different logical and physical data model versions.

We use erwin for our open systems data modeling. This tool provides the capability to compare objects and properties at the model and database level. We can compare the models at the logical, physical, or logical and physical levels.

DD068	The solution's data delivery component should maintain the following information related to the authorized solution user: acknowledgement of data extraction.

During the Information Security design phase, we will identify actions/events that warrant logging for later review or triggering forensic processes. The solution will log and maintain data queried by authorized user.

Through active monitoring and assessments, comprehensive audit logging, and effective reporting, we will enable your authorized users to validate solution security at any time and track user activities throughout the system.

Logs are aggregated into a central source and alerts are reviewed by monitoring teams responsible for a particular platform or application. Security events sent from the auditing and logging solution are based upon appropriate thresholds, and other parameters, that identify events of interest such as usage anomalies or misuse of the system. User accounts are captured in auditing and logging information of data access to confirm accountability.

Based on our experience, large data extracts are generally for a select group of user and follow strict rule and process subject to CMS rules regarding the use constraints. The extract review process will validate PHI/PII was not extracted but only summarized information. We log the data as it is extracted and the purpose for the data extraction. We create and determine a data extraction procedures with the client to help with the process trail of when an extract occurs.

We design OPAHHS native and third-party security controls for your EDS solution based on applicable regulations and standards and your RFP requirements. We protect data using administrative, technical and physical controls. We will protect data delivery using advanced data protection, auditing and logging, encryption, identity and access management, infrastructure security, security incident management, threat and vulnerability management, and physical security solutions. Our security design model is illustrated in Figure 66.

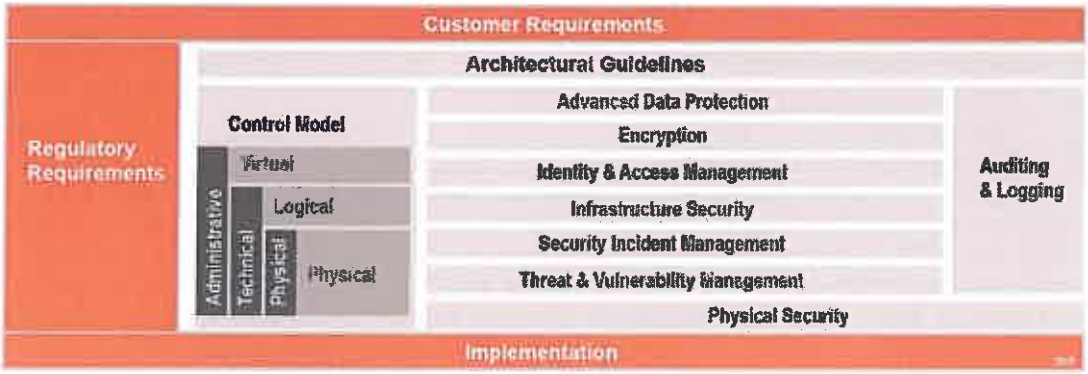


Figure 66: Security Design Methodology
We design security controls for your EDS solution following a proven security design methodology.

Our team brings added value through extensive experience in healthcare, state government Medicaid and other Health and Human Services programs and data warehousing. While privacy, security, and confidentiality are supported by best practices, they rely on implementation by individuals who must know, understand, and comply with those regulations and best practices.

DD069	The solution's data delivery component should maintain the following information related to the authorized solution user:
DD070	Receipt of data
DD071	Data elements requested
DD072	Selection criteria for extraction
DD073	Method of export
DD074	Others as defined by the Department

As indicated previously in our response to Requirement DD068, our solution includes comprehensive audit trails and reporting capabilities. We have a holistic approach to role-based security with both access to applications and data. We implement security controls using a blend of native functionality and prevailing COTS software.

During the Information Security design phase, we will identify actions/events that warrant logging for later review or triggering forensic processes. The solution will log and maintain extensive information of the authorized user.

Data can be delivered to authorized users using various components of OPAHHS solution. Depending on the portal data is received, all of our systems data delivery components including Tableau, Azure Synapse DW and SQL database and Informatica have extensive capabilities to log and save audit trails for authorized users on **receipt of data, data elements requested, selection criteria for extraction, and method of export information.**

If **others are defined by the department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DD075	The solution's data delivery component should have the ability to extract the data in all industry-accepted formats including, but not limited to:
DD076	Excel
DD077	Joint Photographic Experts Group (JPEG)
DD078	Others as requested by the Department
DD079	Word
DD080	Hyper Text Markup Language (HTML)
DD081	Software and Services (SAS)
DD082	Graphical User Interface (GUI)

DD083	Extensible Markup Language (XML)
DD084	Application Programming Interface (API)
DD085	Text
DD086	Comma-Separated Value (CSV)
DD087	Delimited text
DD088	Portable Document Format (PDF)

As per Addendum 4, Q263, we can extract data and reports in a wide range of formats, including, but not limited to, **Excel, JPEG, MS Word, HTML, SAS, GUI, XML, API, Text, CSV, delimited text, PDF**. For instance Tableau can export individual sheets as cvs, individual images as bit maps and use printer driver to export into PDF. R can export to an extensive range of formats. SQL server provide export capability to XML and JSON formats through SQL client tools while Informatica has export capability to an extensive set of formats. R and Informatica can export to delimited text format.

If **others are requested by the department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DD089	The solution's data delivery component should maintain details of requests, including time stamp, duration, and volume of data extracted.

OPAHSS administrators use session metrics to monitor user sessions. This is useful for monitoring system trends such as usage patterns time stamp by time of day and day of week. Administrators can also use request metrics to monitor volume of requests, operational status of services, response times, duration, volume of data extract and processing times. Audit trails and logs will be stored in the solution and will be visible to authorized users through a user friendly interface.

DD090	The solution should have the ability to schedule data extraction based on time or occurrence of events.

We can easily schedule data extract jobs from the solution Informatica ETL scheduling tool and Tableau workbook refreshes. We follow established procedures to accomplish this and will schedule the data extracts in alignment with Department specifications and timelines or occurrence of events.

DD091	The solution should have the ability to delete/clean up extracted data sets.

We can delete/clean up extracted data set, however we have found that our clients prefer to mark the data as "deleted" as oppose to actually deleting the data. We do maintain an archival process where we archive historical data in archival storage and delete it from active storage. Refreshing, replacing, and archiving data will be performed according to the timelines and processes approved by the Department.

DD092	The solution should have the ability to extract proportionally large volumes of data based on specified selection criteria.

We can easily extract data from the solution using a number of differing tools and approaches (e.g., Tableau extract, SQL extract, Informatica extract). We follow established procedures to accomplish this and will produce the data extracts in alignment with the Department's specifications and selection criteria.

DD093	The solution should have the ability to monitor and control data extraction requests.

We understand that your data is a key strategic asset that may need to be securely shared with customers and partners. Our solution provides the controls and security measures to monitor and control data extraction requests including type of access and frequency of data extracts. We based our native and third party security controls on applicable state and federal regulations and standards, and they will align with your specific organizational requirements. A combination of advanced data protection, logging and monitoring, encryption, identity and access management, infrastructure security, security incident management, threat and vulnerability

management, and physical security solutions will protect EDS assets against unauthorized access.

During the Information Security design phase, we will implement NIST data security principals to establish the data security plan. This includes:

- Discovery and Classification of Sensitive Data
  - Locate and secure all sensitive data
  - Classify data based on business policy
- Mapping Data and Permissions
  - Identify users, groups, folder and file permissions
  - Determine who has access to what data
- Managing Access Control
  - Identify and deactivate stale users
  - Manage user and group memberships
  - Remove Global Access Groups
  - Implement a least privilege model
- Monitoring Data, File Activity, and User Behavior
  - Audit and report on file and event activity
  - Monitor for insider threats, malware, misconfigurations and security breaches
  - Detect security vulnerabilities and remediate

Through active monitoring and assessments, comprehensive audit logging, and effective reporting, we will enable your authorized users to validate the solution security at any time and track user activities, including data extraction requests, throughout the system.

We will employ security information event monitoring integrated with security analytical services. Our flexible and comprehensive security management solution enables us to maintain compliance with any future change requirements from DHHR security and access management policies.

DD094	The solution should have the ability to send automatic alerts to authorized solution users when errors occur during the data delivery process and other user interaction processes.

Our data sharing solution is flexible to configure a variety of real-time automated alerts and notifications to be sent out to authorized users when errors occur during the data delivery process and other user interaction processes. Informatica, Tableau and Azure Sentinel (our solution SIEM tool) are capable of sending alerts through a variety of methods including text message and email.

DD095	The solution should have the ability to notify the authorized solution user as to the details of the extract, including estimated duration and size.

For production extracts that have gone through our SDLC, we will provide notification of job details both before and after the extract occurs. These details will include estimates of extract begin data and time as well as size and duration of the output. After job completion, the system will notify the user of the actual date and time of job initiation and termination as well as actual row counts and file size (and additional information as agreed to).

DD096	The solution should have the ability to generate reports with summary and detail information on data delivery requests, executions, and other authorized solution user interaction processes.

Optum will monitor and provide DHHR-approved metrics, summary and detail reporting on data delivery requests, executions, system security, privacy, confidentiality, accessibility, and

integrity on a weekly and monthly basis. Our SIEM tool produces four sets of reports based on access logs. The Overall Volume Report displays total amount of traffic delivered over the course of whatever period specified. The Object Popularity Report shows how many times each customer object is requested. The Client IP report shows the traffic from each different Client IP that made a request for content. The Edge Location Report shows the total number of traffic delivered through each edge location. Each report measures traffic in three ways: the total number of requests, the total number of bytes transferred, and the number of request broken down by HTTP response code.

DD097	The solution should have the ability for authorized solution users to request, develop, and/or schedule dataset creation and monitor the status.

Authorized users have the capability to request, develop, test and schedule the creation of datasets. These capabilities are delivered through Informatica or Tableau desktop capabilities. Additionally, our tools allow for proactive monitoring of the status of these activities.

DD098	The solution should have the ability to perform structural transformations against source data including, but not limited to:
DD099	Summarization
DD100	Partitioning
DD101	Normalization
DD102	Consolidation
DD103	Filtering
DD104	Derivation
DD105	Others as defined by the Department

The Optum approach to meeting ETL expectations is built on more than 20 years of ETL experience driven by a close partnership with Informatica. We employ the full range of Informatica ETL tools and Azure Data Warehouse capabilities to provide DHHR with a premium solution to meet your ETL needs. OPAHHS advances the architecture ETL requirements by providing enterprise-quality ETL tools, which are not only capable of processing a high volume of data, but also handling a diverse number of data types and conditions accurately. The same is true for our data management tools. Azure Data Warehouse is ideal to accommodate very large data volumes. Data is easily made available to our business intelligence tools for user consumption. The components support the secure dissemination of data to a wide variety of devices, formats, and delivery technologies.

We will meet your Data Integration requirements through the functions of the OPAHHS Integration Layer. We load your data into staging tables and use intermediary tables to perform integration (most often surrounding like entities and/or source systems).

We use Azure Blob Storage as the landing zone for data integration services. The relational data warehouse layer provides the support for business rules, the security model, and governance. The applications and services are configurable through business rules and designed to scale as data demands increase. The Integration Layer enables us to centralize processes and manage multi-sourced health care data with a cost-effective and highly extensible architecture comprising following key capabilities:

- Data Modeling
- ETL Services (data ingestion framework)
- Data Enrichment Services (e.g., geocoding and episode of care grouping)

The Data Integration Framework enables data modeling, **consolidation**, **normalization**, Creating tables, Developing extract, **transform**, **filtering**, **summarization**, **derivation** and load (ETL)/ELT scripts, scheduling ETL/ELT jobs, Partitioning, loading historical data, managing

metadata, establishing data quality monitoring and data profiling process, and setting up user roles and database management tasks.

Our SQL compliant tools such as Informatica and Azure Synapse and SQL database provide capabilities as available in ETL transformational and SQL standards. For instance Mapping and transformation capabilities in Informatica or standards SQL clause/operator such as "Alter Table".

If **others are defined by the department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DD106	The solution should have the ability to provide a development environment in which the logic for slowly-changing entity relationships can be quickly and accurately written.

The OPAHHS data model contains many examples of slowly changing dimension and entity relationships for member, provider and many other entities. In the event that one of these constructs is not suitable, we will develop the functionality in our development environment. In that event, we will use the accelerators available in erwin and Informatica to build the data model and ETL constructs to quickly and accurately support the longitudinal data capture requirements for the given entity.

DD107	The solution should have the ability for authorized solution users to quickly and accurately write query logic for complex entity relationships.

The EDS solution will be equipped with R and R Studio available to authorized power users. R is an extremely versatile statistical analysis platform design to perform complex entity relationships and statistical calculations. R includes a number of packages that can perform complex queries in a concise, clear and simple manner. Using RStudio makes it easier to use R packages and use databases with R.

DD108	The solution should have the ability to create interactive reports and maps.

We calculate latitude and longitude for every member and provider address in the system. SQL Server, Tableau, and R all support geospatial analysis and map-making. This gives the solution the capability to create interactive maps, reports, and visualizations.

DD109	The solution should have the ability to produce maps with both cartographic representation and global satellite imagery.

We support geospatial maps in various ways with both cartographic representation and global satellite imagery. We calculate latitude and longitude for every address in the system and clean them to conform to Postal Service standards. Our primary BI tool, Tableau, has built in map-making capability that we use to add interactive maps to the solution. R, our primary statistical language, also has map-making capability that can communicate with the Census and CDC data servers to retrieve public use data and shape files. It explicitly supports raster files including satellite imagery.

DD110	The solution should have the ability to allow authorized solution users to create and/or select the type of map image they prefer to view, print or edit.

Tableau makes it easy to place markers on a base map provided by the tool. There is explicit support for fill maps (choropleths). Those markers are defined by a dataset with location information. Our data science tool allows for the creation of a wider range of map types such as State and County.

DD111	The solution should have the ability to permit an authorized solution user to select and navigate information to be displayed on maps in a pop-up to highlight information about a location, including charts and graphs, photos, and other information as requested by the Department.

Tableau and R allow for popups which display information about the selected point/marker. OPAHHS permits an authorized solution user to select and navigate information to be displayed

on maps in a pop-up to highlight information about a location, including charts and graphs, photos, and other information.

DD112	The solution should have the ability to resize and print all reports and maps within the solution.

Users have the ability to resize and print reports and maps directly from their workstation. The solution also supports printing, emailing and extracting reports.

DD113	The solution should have the ability to create and display legends, documentation, and data on reports and maps.

All OPAHHS reports and tools with map, including Tableau and R, have capability to create and display data, documentation and legends.

DD114	The solution should support a query editor that provides editing, execution, and debugging functionality.

We will provide RStudio Pro Server integrated development environment (IDE) to authorized power users and will install current versions of Microsoft R Open and Anaconda Python. RStudio comes with source code query editor that provides editing, execution, and debugging functionality.

Our solution also provides bring-your-own-license support for GUI query tools. We will create virtual desktops where we install such tools as Tableau Creator and a Bring-Your-Own-Licenses of your choice SQL query tool. These will enable you to retrieve data retrieval without having to write SQL. Users will also be able to define custom KPIs out of data in the BI model beyond those available in our pre-defined reports. We also offer authorized users access to the EDS through any client that supports Open Database Connectivity (ODBC) or Java Database Connectivity (JDBC) according to their role.

DD115	The solution should have the ability to access external plan data via the Application Programming Interface (API).

Using our Informatica API management and Azure native services we can provide access to external apps and data, including external plan data. We will work with you during the design sessions to understand the specific need and take advantage of the most efficient method to access external plan data.

DD116	The solution should provide a rules engine that utilizes technical call-level interface using the Application Programming Interface (API) standard.

As part of our OPAHHS solution data management layer, Informatica provides the rule based capabilities that utilize API standard interface. We will work with you in the requirements phase to identify the list of software packages and how the EDS needs to communicate with them. The Azure environment has various means of both ingesting files and using APIs from external systems.

DD117	The solution should have the ability to add, test, and implement new source-to-target mappings at the Department's request.

Our solution provides ability to add, test, and implement new source-to-target mappings at any time and at the Department's request. During configuration, our team will work with you to make modifications according to the Department's requirements if gaps are identified. We will document the mapping required from the source system to OPAHHS using the erwin data modeling and Informatica tools. These tools help identify the data relationships that are part of data lineage analysis.

Any approved data cleansing rules will be invoked as OPAHHS performs data mapping. Data mapping activities will result in the Data Conversion Specifications and Data Conversion Mapping documents, which will provide overall technical coordination of the data conversion functions and specific maps used for each source to target mapping area. These documents will

emphasize shared components, out-of-the-box transformation routines, and existing designs that we bring to the engagement. We write the documents to serve all audiences. Business and project management readers and technical metadata experts can use these documents as the authoritative and up-to-date source of data conversion and transformation knowledge for the Department's EDS.

DD118	The solution should have an extract, transform, load (ETL) data acquisition component with a development environment that has the ability to build and deploy new source/target combinations within the solution.

As mentioned earlier our development environment support all capabilities for the solution. This includes ETL component in Development environment as well as data warehouse and data mart components to be able to build and deploy new source/target data source/store within the solution.

DD119	The solution should have an extract, transform, load (ETL) data acquisition component that supports automated impact analyses against the ETL code base.

Informatica Axon and Enterprise Data Catalog provides automated impact analysis with lineage and impact diagram view capabilities against the ETL code base.

DD120	The solution should have an extract, transform, load (ETL) data acquisition component that supports the versioning of ETL modules.

We will provide, implement, and maintain a mechanism to facilitate transformation of data by mapping between business areas, terms, attributes, and physical data element names, including business glossary and synonym support. OPAHHS has an extract, transform, load (ETL) data acquisition component that supports the versioning of ETL modules. We will do this using Informatica application tools that employ a codeless data mapping and conversion environment. We will build and make dynamic modifications to this mapping using an object-based visual development environment. This team-based environment supplies built-in modules for performing many common ETL operations and also has the ability to incorporate custom procedures.

DD121	The solution should have an extract, transform, load (ETL) data acquisition component that has the ability to create ETL functions using pre-packaged transformation objects.

As part of the existing data modeling and ETL capabilities of OPAHHS, we will bring many data acquisition constructs to the EDS. We will adapt them to meet your requirements. In the event that none of the existing OPAHHS data acquisition constructs is suitable to meet a given requirement, we will develop that ETL capability using the pre-packaged transformation objects available in Informatica PowerCenter.

DD122	The solution should have an extract, transform, load (ETL) data acquisition component that has the ability to design, develop, and implement reusable ETL processes for transformation, exception/error handling, audit and control, and balancing.

We will use Informatica Axon and EDC as the EDS data dictionary tool. EDC supports documenting source system, transformations, latency, and business definitions we will define during JADs. Informatica has the ability to design, develop, and implement reusable ETL processes for transformation, exception/error handling, audit and control, and balancing.

DD123	The solution should have an extract, transform, load (ETL) data acquisition component that has the ability to enter documentation from system level down to individual code line and includes a run-time debugger.

Informatica PowerCenter debugger, provides capability for configuring session types and run-time debugging. The tool also supports entering documentation descriptions and comments at each code object level.

DD124	The solution should have an extract, transform, load (ETL) data acquisition component that has the ability to provide automatic and manual caching control to balance quick response with scalability.

Informatica PowerCenter Integration Service provides manual and automated caching. Based on our DevOps best practices expertise and your EDS requirements and analyzing the session log we will determine and configure the optimal cache sizes.

DD125	The solution's extract, transform, load (ETL) data acquisition component should populate summarized, aggregated structures based on detail data changes in the timeframe of the detail refresh window using both set-based and procedural constructs.

OPAHHS data delivery components are fully integrated. The solution data management and delivery orchestration updates summary and aggregate structures based on changes in source data in the timeframe of the detail refresh window using both set-based and procedural constructs.

DD126	The solution's extract, transform, load (ETL) data acquisition component should have the ability to acquire, transform, and load proportionally large data volumes to obtain the current volume of source data.

Our OPAHHS ETL process employs Informatica Data Profiling. This tool provides profile of the data volume and the ability to analyze large volumes of source data and load large data volumes. Informatica has no inherent limits of extracting file of any size and we have carefully sized your solution so it has the adequate capacity to load your current volume of source data.

DD127	The solution's extract, transform, load (ETL) tool should have a data acquisition component that performs a timely data refresh from sources outlined in the Enterprise Data Solution (EDS) Request for Proposal (RFP) for each development phase indicated.

Part of our process is the development of interface control documents, which, among other things, define the schedule for receiving new data from source systems. We are able to ingest this data from primary source solutions outlined in your RFP, MMIS, PEIA and HSC and maintain the ability to refresh all data when necessary.

DD128	The solution's extract, transform, load (ETL) data acquisition component should populate internal analytic applications that are specifically required or proposed as part of the solution.

We use Informatica PowerCenter to provide the capability for you to access any data required in your EDS analytic application, when desired, in defined formats and structures regardless of its source. With PowerCenter, we can synchronize EDS data from operational and transactional systems with consistent and accurate information. This will drive better, timelier analytics and business decisions. We propose accepting files of various formats in batch mode.

DD129	The solution's extract, transform, load (ETL) data acquisition component should have the ability for multiple authorized solution users to work on single or multiple tasks, reports, and/or projects concurrently.

Informatica PowerCenter provides ability for multiple authorized solution users to work on single or multiple tasks, reports, and/or projects concurrently.

DD130	The solution's extract, transform, load (ETL) data acquisition component should support ease in promotion of code from one environment to another.

Informatica PowerCenter provides a collaborative development environment were our team of ETL specialists has command of the data and its attributes. PowerCenter allows for manual and automated code deployment, for easier promotion, from one environment to another.

DD131	The solution's extract, transform, load (ETL) data acquisition component should have the ability for high-speed movement of data between source and target systems located on the network.

We use Informatica PowerCenter as our solution ETL and data Integration a leading Data Integration Product with ability to perform high-speed data loads. For example, in our many customer EDS solutions, we support high performing multi-billion-row claims and encounter data warehouses with actively maintained adjustment history.

DD132	The solution's extract, transform, load (ETL) tool should have extraction functionalities that can unload, select, or filter data from source systems including the application of remote filters against the source.

Using filter transformation capability in our OPAHHS ETL tool, Informatica PowerCenter, we can filter out rows in a mapping in an active transformation including the application of remote filters against the source.

DD133	The solution's extract, transform, load (ETL) tool should have extraction functionalities that can deliver transparent, cross-platform access to remote data sources.

OPAHHS advances the architecture ETL requirements by providing enterprise-quality ETL tools, using Informatica PowerCenter, which are not only capable of processing a high volume of data, but also handling a diverse number of data types, conditions and sources accurately.

Our ETL tool data extraction functionality provides a comprehensive hybrid Data Management capability which can deliver transparent, cross-platform access to remote data sources.

DD134	The solution's extract, transform, load (ETL) tool should have extraction functionalities that can efficiently process varying arrays and repeating groups.

Our ETL tool, Informatica Powercenter, extraction functionalities can efficiently process all data models including varying arrays and repeating groups.

DD135	The solution's extract, transform, load (ETL) tool should have extraction functionalities that can receive data from a variety of source systems and formats of source data.

OPAHHS advances the architecture ETL requirements by providing enterprise-quality ETL tools, using Informatica PowerCenter, which are capable of connecting and fetching data from a diverse number of sources and in different formats.

DD136	The solution's extract, transform, load (ETL) tool should have data checks and edit procedures in response to data quality issues identified in source systems and internal analytic applications.

Our solution uses Informatica Powercenter and Data Quality components. We have a comprehensive validation and data quality process including set of pre-built business rules and accelerators and common data quality rules across any data from any source. This allows us to confirm that the database reconciles with source system data.

We will monitor and review ETL logs after each job completion for data quality issues and notify and work with the external entities for resolution on a timely manner according to severity.

DD137	The solution's extract, transform, load (ETL) tool should have the ability to perform both set-based and procedural checks and edit procedures based on the Department's data quality objectives.

We conform all data to the enterprise data model. Ingested data goes through a rigorous quality control process before it is added to the data warehouse. This gives you correct and consistent data to be used in all reports. The Department's data quality objectives to perform set-based, procedural checks and edit procedures will be automated using the Informatica PowerCenter ETL and Data Quality tool.

DD138	The solution's extract, transform, load (ETL) tool should have the ability to perform all demographic field check and edit procedures.

Data quality validation occurs at each step of the process. Using Address Verification in Informatica Address Doctor, we can verify address data with geocodes and demographics data field check and edit procedures and make correction or standardization.

DD139	The solution's extract, transform, load (ETL) tool should have the ability to apply complex data mapping and domain value conversions against source data.

Using Informatica PowerCenter as our solution ETL tool, we are able to apply complex data mapping with complex business restriction and domain value conversions with complex data types against source data.

Data mapping activities will result in the Data Conversion Specifications and Data Conversion Mapping documents, which will provide overall technical coordination of the data conversion functions and specific maps used for each source to target mapping area. These documents will emphasize shared components, out-of-the-box transformation routines, and existing designs that we bring to the engagement. We write the documents to serve all audiences. Business and project management readers and technical metadata experts can use these documents as the authoritative and up-to-date source of data conversion and transformation knowledge for the Department EDS.

DD140	The solution's extract, transform, load (ETL) tool should have the ability to perform an initial one-time data load from sources outlined in the Enterprise Data Solution (EDS) Request for Proposal (RFP) for each indicated development environment.

Using Informatica PowerCenter as our solution ETL tool, we are able to perform an initial one-time data load from sources outlined in the EDS RFP, which are MMIS, PEIA and HSC for each development environment.

DD141	The solution's extract, transform, load (ETL) tool should have the ability to geocode subject area addresses.

Using Informatica Address Geo Coding, we geocode every address in the system and store the latitude and longitude along with the address. We also validate and repair addresses to conform to postal service rules, including full nine-digit ZIP codes. We can map those addresses into regions using rules you specify. R includes a package that does density mapping.

DD142	The solution's extract, transform, load (ETL) tool should have the ability for high-speed movement of data between source and target systems on the network.

We use Informatica PowerCenter as our solution ETL and data Integration, a leading Data Integration Product with ability to perform high-speed data movement between source and target system on the network. Additionally, ETL mappings are designed with transformations that allow Pushdown optimization (PDO) for loading history tables. This transfers resource usage from ETL processes to the RDBMS. Using PDO increases load performance up to 150 percent.

DD143	The solution's extract, transform, load (ETL) tool should have the ability to efficiently load proportionally large data volumes.

As described in response to requirement DD089, OPAHHS advances the architecture ETL requirements by providing enterprise-quality ETL tools, which are capable of loading and processing a high volume of data. We provide Data Warehousing solution for the states of New York and California and have supported their very large ETL data loads. Additionally, Azure data warehouse is ideal to accommodate very large data volumes and load.

DD144	The solution's extract, transform, load (ETL) tool should have the ability to schedule and monitor transformation jobs/sessions to populate internal analytic applications.

Informatica PowerCenter and its underlying operating system support job scheduling. We will execute ETL jobs according to a schedule you approve. Our Application Performance Monitoring and Reporting will track performance of these jobs, database, exceptions, and more at the time of transforming and loading the data set. Optum will work in conjunction with DHHR to report results based on the job schedule and document any relevant information. To confirm that integration of data is complete a performance monitoring report will be available to DHHR designated resources on an agreed upon schedule and frequency. This will include instrumentation that verifies that our jobs have loaded all data from DHHR-approved sources into OPAHHS, as defined by source.

DD145	The solution's extract, transform, load (ETL) tool should have the ability to create complex job streams with interdependencies.

With OPAHHS ETL capabilities, provide advanced scheduling functionality to create and manage complex custom schedules and jobs with interdependencies. We will use this capability to create multiple breakpoints to facilitate modularity and restartability. This will enhance the availability and extensibility of the ETL solution.

DD146	The solution's extract, transform, load (ETL) tool should have the ability to re-route error or exception records to a separate target for future interrogation.

Informatica PowerCenter provides a range of responses to data outside of tolerances, ranging from the rejection of entire files, individual records, or conforming fields. We will set up automatic processes that back out errors, alert responsible individuals so they can take remedial action and restart jobs. In other cases, bad records will be routed to an area for less urgent manual work. Informatica enables complete data management and data exception handling, making it easy to navigate multiple hierarchies among various master data entities. Most importantly, we will publish data only after it has been remediated, in a manner that preserves their ties to DHHR external benchmarks (e.g., payment amount balancing).

DD147	The solution's extract, transform, load (ETL) tool should have the ability to correct data and subsequently re-submit corrected data to the ETL process.

We confirm that our solution ETL component has the ability to correct data and re-submit to the ETL process. In the case of bad data, our data quality management tools and processes handle the root cause of data problems before they can infect the data warehouse and analytic results. Our solution profiles and discovers data anomalies, structure and overall suitability before any data migration effort begins. It matches records and identifies relationships across multiple members, providers and other data domains. We will apply reusable data quality rules and processes to master enterprise data across multiple sources, applications, and systems in batch or by using Web services. OPAHHS corrects misplaced, misspelled, and misfielded data to capture valuable information that would otherwise be lost.

DD148	The solution's extract, transform, load (ETL) tool should have the ability to reports results of an ETL session, including automatic notification of normal processing and failures, descriptions, and counts of exceptions.

Using Informatica PowerCenter ETL tool we have the ability to report results of ETL sessions, including automatic notification of normal processing and failures, descriptions, and counts of exceptions. We define ETL exception reports using Informatica and the log analysis tool and we will make these reports available to you.

DD149	The solution's extract, transform, load (ETL) tool should have the ability to generate and manage notifications and alerts, including how the alerts are registered, logged, and to whom they were posted.

Informatica has extensive logging and alerting processes including how the alerts are registered, logged, and to whom they were posted. Informatica can be configured to send text messages and emails to specific person or email box triggered according to rules specified. For instance emails will be sent to specified mail box when ETL job is completed successfully.

DD150	The solution's extract, transform, load (ETL) tool should have the ability to tune ETL process steps.

ETL Performance tuning requires tool tuning capabilities and subject matter expertise. We combine more than 20 years of ETL experience driven by a close partnership with Informatica, with our full range of Informatica ETL tools and Data Management capabilities to provide DHHR with a premium solution to meet your ETL SLAs.

Informatica has a variety of tools to tune ETL processes, such as isolate and optimize source, target and eliminate bottlenecks, improve PowerCenter mappings, optimize session-level memory and transformation caching, optimize integration services and sizing. Optum follows various data architecture best practices to provide consistency, efficiency and performance. We

collect data on measures, and optimize system and application performance to validate consistent and superior response time, enhanced stability, and required scalability. Our ETL specialists executes performance tuning and load balancing to maximize throughput and minimize runtime.

DD151	The solution's extract, transform, load (ETL) tool should have the ability to load-balance ETL jobs or process steps.

Our solution ETL tool, Informatica PowerCenter, has the ability to load-balance ETL jobs and process steps. During the requirements phase we will specify control totals and other balancing mechanisms to meet your need and in ongoing reporting.

Balancing updates using control totals is an industry best practice that we follow and report on.

DD152	The solution's extract, transform, load (ETL) tool should have the ability to recover from the abnormal ending of a job and restart or rollback.

OPAHHS takes two complementary approaches to ETL abnormal job endings. One is the modularity of our routines with well-defined breakpoints, and another is the inherent capability of Informatica to rollback incomplete transactions. In the first case, we design our ETL jobs so that they will not propagate data from an abnormally terminating job to a successive module. Instead, Informatica will wait at the breakpoint for root cause analysis and remediation. After the root cause is identified and fixed, the restart procedures will take care of rollback and recovery.

If on the other hand, Informatica detects an error in a related set of steps, the Transaction Commit Control (TCC) capability provides control to commit or rollback transactions. In the event of error, Informatica will rollback a set of transactions instead of leaving data in an inconsistent state. This is particularly useful in cases where data in multiple tables (such as claims, members and provider) are being updated in tandem, and an incomplete update would result in inconsistent. TCC is also useful when multiple related updates must occur in the same table, such as posting adjustments where credits and debits are inserted, and originals and uncredited debits are marked as adjusted. In this case it is critical that all aspects of the transaction are successfully completed, or in the event of error, rolled back and reported in the job status and/or alerts.

DD153	The solution's extract, transform, load (ETL) tool should have the ability to create complex job schedules with both serial and parallel streams.

We confirm that OPAHHS ETL capabilities, available through Informatica PowerCenter, provide advanced scheduling functionality to create and manage complex custom schedules and jobs with in both serial and parallel processing modes. Each workflow in Informatica has an associated scheduler with ability to create complex schedules to run in serial or parallel, continuously, repeat at a specified time or interval, or you can manually start a workflow.

DD154	The solution's extract, transform, load (ETL) tool should have the ability to initiate jobs based on time or occurrence of events.

Our solution advanced ETL tool built-in scheduler in Informatica PowerCenter, provides ability add Dependencies on Time, File and Job. With this feature we are able to initiate jobs based on various data triggers including date/time, and other data related events.

DD155	The solution's extract, transform, load (ETL) tool should have the ability to create log files that are detailed enough to debug issues.

Our solution ETL tool log all events to the log file detailed enough to debug issues. These include events for the application services, users, sessions and workflows, and all jobs that the Data Integration Service runs with details required to triage issues. For instance workflow log events include information about workflow processing, workflow errors, and tasks that the PowerCenter Integration Service performs. Session log events include information about the

tasks performed by the PowerCenter Integration Service, session errors, and load summary and transformation statistics for the session.

DD156	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including source definitions.
DD157	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including target definitions.
DD158	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including database mapping(s).
DD159	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including data lineage.
DD160	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including transformations.
DD161	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including data dependency analysis.
DD162	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including process flows.
DD163	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including operational statistics.

In response to hiearachy 1 headings DD156 – 163 we provide the following response.

We use Informatica Axon and EDC as the EDS data governance and metadata management tools. Axon and EDC provide direct connectivity to capture metadata from various data sources including **source definitions, target definitions, database mappings, data lineage, transformations, data dependency analysis, process flows, operational statistics** and other attributes when available. For non-standard metadata sources (e.g., stationary documents), these tools also provide a customizable metadata integration capability to help create and edit custom meta-models. These tools link metadata such as table name, column descriptions, transformation rules, data dependencies and the business usage of specific columns. These tools also record database mapping, data lineage and mapping, process flows, and business rules applied to data in the migration and data conversion process. Using Informatica provided metadata exchange connectors, we keep the business glossary in Informatica current with data model changes. Axon and EDC are also synchronized with Azure's data warehouse service, and other technical, physical, operational and operational statistics metadata. Metadata exchange connectors also automatically synchronize reporting metadata with third-party metadata sources and business intelligence tools.

Using Axon and EDC, we store all the metadata contents in a centralized metadata repository, capturing data such as title, category, objective, source, type, version, status, applicability, references and relations to other standards. The repository includes vocabularies (i.e., code sets). When we calculate new fields in BI tools, those definitions also import to the metadata repository. The metadata repository holds all technical and business glossary content, such as documents, spreadsheets, and messages.

DD164	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, and store metadata in an open format.

In Informatica data integration service has the ability to generate, store, search, report, import, export, and document ETL-generated, we can use control files to store metadata flat file data object, resulting in open format.

DD165	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that versions the stored metadata content.

Informatica Axon and EDC is the mobility management entity (MME) data content component that enables managing metadata and versioning of metadata content. When the definition of metadata is changed, EDC stores it as old version and not current.

DD166	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that includes the technical infrastructure to capture, store, and report the various forms of metadata.

OPAHHS data integration framework, supports capture, store and reporting on various forms of metadata through Informatica Axon and EDC as the mobility management entity (MME) data content component.

DD167	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that accommodates a sufficient, as defined by the Department, volume of metadata content for the proposed solution.

Informatica Axon and EDC is the mobility management entity (MME) data content component accommodates a sufficient volume of metadata content for the proposed solution. We will work with the Department during JAD sessions to determine the metadata definitions. Our ETL solution metadata management component is able to synchronize data objects to the data source metadata, including column profiles, enterprise discovery profiles, and scorecards. When we calculate new fields in BI tools, those definitions also import to EDC. The metadata repository holds all technical and business metadata content, such as documents, spreadsheets, and messages.

DD168	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that accommodates, at a minimum:
DD169	75 active users
DD170	40 concurrent users
DD171	Allows for 10% growth per year spread across all user levels

Our proposed Metadata Management solution is sized to support the state current and future number of active and concurrent users. We have sized the Informatica Axon and EDC components to support **75 users, 40 concurrent users and support 10 percent growth per year spread across all user levels.**

DD172	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that has the ability to capture and synchronize metadata.

We will use Informatica Axon and EDC as the EDS metadata mobility management entity (MME) data content component. EDC provides direct connectivity to capture and synchronize metadata from various data sources including available source system, transformation lineage as well as RDBMS and BI tool semantics. Using these tools, we store all the metadata contents in a centralized Metadata Repository. These tools capture and correlate entity and attributes such as title, category, objective, source, type, version, status, applicability, references and relations to other standards.

DD173	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that provides wild card (SQL-LIKE), keyword- and attribute-based search abilities to locate the required metadata.

We use Informatica Axon and EDC as the EDS metadata mobility management entity (MME) data content component. EDC Metadata management provides search capability for data assets through powerful Google-like semantic search that has wild card (SQL-LIKE , keyword and attribute-based search abilities to find the required metadata.

DD174	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that provides a central interface to manage and maintain the MME.

Our solution metadata management interface in Informatica Axon and EDC as the EDS metadata mobility management entity (MME) data content component, provides a central environment for users to work with resources, models, and user permissions in different ways through the EDC tabs and menus, based on their access privileges.

DD175	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that has an extraction capability to allow metadata to be exported and distributed in open and non-proprietary formats by authorized solution users.

We use Informatica Axon and EDC as the EDS metadata mobility management entity (MME) data content component. It provides export and distribution of metadata in open and non-proprietary formats by authorized solution users.

DD176	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that provides a relational database repository for persistent storage of metadata content (if centralized) or for registry (if decentralized approach).

Axon and EDC metadata mobility management entity (MME) data content component uses models to define the classes and relationships that represent the metadata in metadata sources. The models include packaged models and optional custom models. The Axon and EDC repository is stored as a set of tables and views in a relational database for persistent storage of metadata content (if centralized) or for registry (if decentralized approach).

DD177	The solution should provide a Database Management System and support physical database administration.

The EDS solution Database Management System is a managed service that runs in the Azure environment using the current version SQL Server relational database management systems (RDBMS) running on a data warehouse appliance. We configure the data warehouse size and capacity through Azure portal.

DD178	The solution should provide a Database Management System that maintains all databases used in the proposed solution including, but not limited to:
DD179	Installation
DD180	Configuration
DD181	Updates
DD182	Patch fixes

The primary data warehouse for your EDS will be implemented using Azure Synapse and Azure SQL Server. This is a platform-as-a-service (PaaS) solution.

For your Data Analytics and EDS solution, we are leveraging Microsoft Azure® operational support services. Additionally, we have extended Microsoft's support services with Optum best practices for security and operations controls.

We manage the services required to support our PaaS solution as well as provision and maintain sufficient system resources to deliver those services. We will incorporate your support requirements in setting the periodic maintenance schedules.

Our solution Database Management System will provide **installation** and **configuration** of all data warehouse and data marts. We install Azure data warehouse through Azure portal. We will provide Update services of all data warehouse and data marts. As this capability is a Managed Service, Microsoft is responsible for all **updates** and **patch fixes** to the underlying DBMS software.

Our dedicated account team will be responsible for patching the OPAHHS application software installed on Azure VMs, which includes Oracle database. When Optum-installed applications require patching, we will notify you to determine a minimally invasive schedule.

DD183	The solution should provide a Database Management System that provides day-to-day database operational support.

We will apply our operational processes best practices to all aspects of our OPAHHS solution, including Database Management System. The primary data warehouse for your EDS will be implemented using Azure Synapse and Azure SQL Server. For your Data Analytics and EDS solution, we are leveraging Microsoft Azure operational support services. Additionally, we have extended Microsoft's support services and we are following Optum best practices for security and operations controls.

This day-to-day database operating procedures and the supporting operations phase plans and schedules will help the operations staff provide a stable system including databases and manage changes and maintenance activities. It will also support accurate and timely reporting and oversight.

We will provide all system and application availability according to mutually agreed-upon Service Level Agreements (SLAs) as identified in this RFP. During the early stages of DDI, we will work with you to identify the SLAs that are the most meaningful and critical to your business operations. We will develop performance measures linked to achieving your business objectives and maintaining mission-critical services.

DD184	The solution should provide a Database Management System that identifies and resolves problems/issues.

Our solution Database Management System for is a managed service on Azure Synapse and SQL Server. All system health and performance status will be monitored using Azure Sentinel services that will track, monitor, operate, and maintain OPAHHS according to our service delivery model and the procedures documented in the operating procedures.

For your Data Analytics and EDS solution, we are leveraging Microsoft Azure operational support services. Additionally, we have extended Microsoft's support services and we are following Optum best practices for security and operations controls.

Optum Help desk team receives tickets and automated monitoring alerts. When an issue is identified, the help desk team investigates the issue. We will prioritize and classify tickets based on agreed-upon impact severity and urgency as determined by the business needs. Our support team will use the documented process for assessing issues and classifying and routing them appropriately. Issues become tickets in our ServiceNow system for tracking, monitoring, resolution, and reporting.

DD185	The solution should provide a Database Management System that can define and activate new environments.

Using Azure Synapse for your EDS solution, we can define and activate new database environments. We will design your EDS per the environment requirements in this RFP. The additional environments in addition to the base OPAHHS solution can be provision through the EDS project change management process on an as needed basis.

DD186	The solution should provide a Database Management System that monitors and synchronizes such that all environments operate efficiently, and data quality and validation is ensured with additional indexing as needed.

We have selected Azure Synapse and Azure SQL server, as a market-leading DBMS, for your EDS Database Management System to provide efficiency in operation environments, effective data quality and speed. With Azure Synapse we can monitor and synchronize the performance of all queries with intelligent workload management, workload isolation, and limitless concurrency. Data quality and validation is optimized with additional indexing as needed.

DD187	The solution should provide a Database Management System that runs on open systems platforms.

Our Database Management System on Azure SQL database, runs on open platform and its REST API includes operations for managing Azure SQL Database resources.

DD188	The solution should provide a Database Management System that has all related cache entries on a single cache partition.

Our Solution Database Management System on Azure is a managed service. We provision Azure Synapse and Azure SQL database Platform as a Service (PaaS) with fully automated cache management services for large data. The internal cache management such as partitions and thread optimizations is handled by Azure Synapse or Azure SQL DB managed services. These PaaS services are built for optimum performance and reduced manual DBMS management. They provide accelerated data access and query performance through real-time utilization and intelligent caching algorithms, that can scale in multi-petabyte workloads.

DD189	The solution should provide a Database Management System that supports at a minimum Extensible Markup Language (XML).

Our Solution Database Management System on Azure SQL database, supports the use of a variety of non-relational formats that are tightly integrated into the relational model including XML, JSON, Key-value pairs multi-model features.

DD190	The Vendor should assess the Department's reporting needs to inform development of reporting and dashboarding abilities in support of the Department.

OPAHHS has the ability to generate dashboards and provide system operational reporting. We have developed many dashboards and provide operational system benchmarking for DHHR for the WV PATH project. We will assess the department's specific reporting needs at the beginning of the project to determine what those needs are for programmatic reporting, to monitor system performance, and service level agreements (SLAs).

DD191	The solution should have the ability to export data and query results directly from the solution into the user-specified format including, but not limited to:
DD192	Excel
DD193	Word
DD194	Hyper Text Markup Language (HTML)
DD195	Access
DD196	Software and Services (SAS)
DD197	Graphical User Interface (GUI)
DD198	Extensible Markup Language (XML)
DD199	Application Programming Interface (API)
DD200	Text
DD201	Comma-Separated Value (CSV)
DD202	Delimited text
DD203	Portable Document Format (PDF)
DD204	Joint Photographic Experts Group (JPEG)
DD205	Others as requested by the Department

As per Addendum 4, Q263, we can export data and reports in a wide range of formats, including, but not limited to, **Excel, MS Word, HTML, Access, SAS, GUI, XML, API, Text, CSV, Delimited text, PDF, JPEG** using various tools of our OPAHHS solution. For instance Tableau can export individual sheets as CSV, individual images as bit maps and use printer driver to export into PDF. R can export to an extensive range of formats. SQL server provide export capability to XML and JSON formats through SQL client tools and Informatica has export capability to an extensive set of formats.

If **other as requested by the department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DD206	The solution should have the ability to provide dashboards specific to Service Level Agreements (SLA) and Key Performance Indicators (KPI).

We will use DevSuite and ServiceNow as part of our solution to provide effective defect tracking throughout the SDLC. We extract KPIs from multiple data sources and tools to display KPIs in a simple and actionable dashboard. This will help us identify trends that may result in a SLA deficiency. Our team will use the automated tools and the reporting dashboard to route and report on issues to the appropriate groups based on system component, severity and timeliness.

DD207	The solution should provide an interactive, summary-level dashboard without the need for authorized solution user programming or extensive training.

Our solution supports various interactive, summary-level dashboards. The flexibility of the platform allows for easy customization including visualizations, presentation, and display preferences with no need for authorized user programming and minimal training.

DD208	The solution's data access component should support the needs of authorized solution users to execute basic canned queries and canned reports via a dashboard.

We will provide numerous pre-built analytic reports that authorized users can access through the OPAHHS navigation view. Our approach to these types of descriptive analytics includes allowing users to create and save their own personal dashboards of specific BI analytics that they frequently monitor and access. Tableau makes it easy to combine additional charts together to create dashboards that render basic canned queries and canned reports.

DD209	The solution should provide a suite of high-level and/or general-level reports designed to provide indicators and general trends within and across the member population.

OPAHHS has many pre-defined reports that already do so and are designed to provide indicators and general trends within and across member populations. For example, enrollment overview shown in Figure 67. These reports provide drill-down capability into specific categories to provide a more detailed understanding of which cohort may be driving patterns.

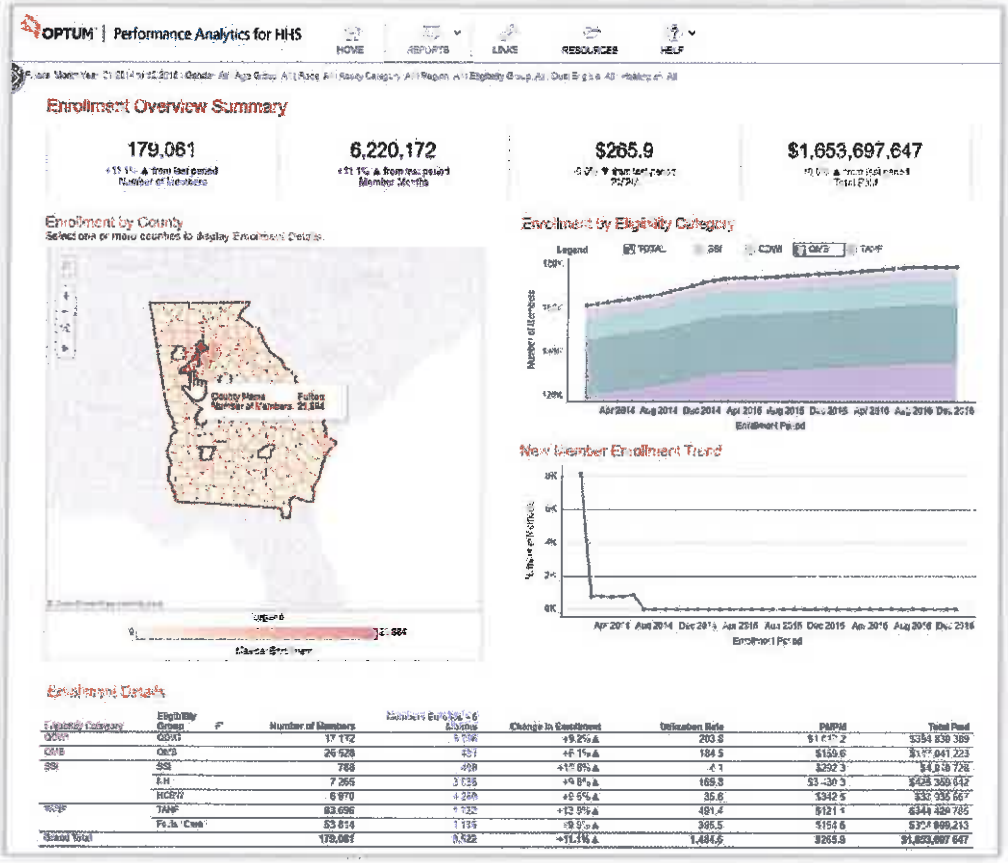


Figure 67: Enrollment Overview

In this report, the user is presented with enrollment trends over time, variation analysis, and year-over-year metrics to track enrollment by many different characteristics as well as sub-groups.

DD210	The solution should provide a mature, intuitive, easy-to-use, web-based Commercial-Off-The-Shelf (COTS) tool that addresses the data access requirements in this Request for Proposal (RFP) with an integrated comprehensive tool suite.

To meet the department's current and future EDS needs, we propose OPAHHS, an integrated COTS-based health care data warehouse and innovative analytic platform, to be the foundational tool for all aspects of analytics. OPAHHS is a proven solution that incorporates a managed data warehouse, state of the art ETL and intuitive BI and data science tools and capabilities. It provides a flexible and comprehensive data access platform in a cloud environment for data analytics.

DD211	The solution's data access component should have the ability to perform impact analyses due to proposed changes of the solution.

The lineage feature in Tableau Catalog provides ability to perform impact analysis to proposed changes. Figure 68 shows the Tableau interface for impact analysis.

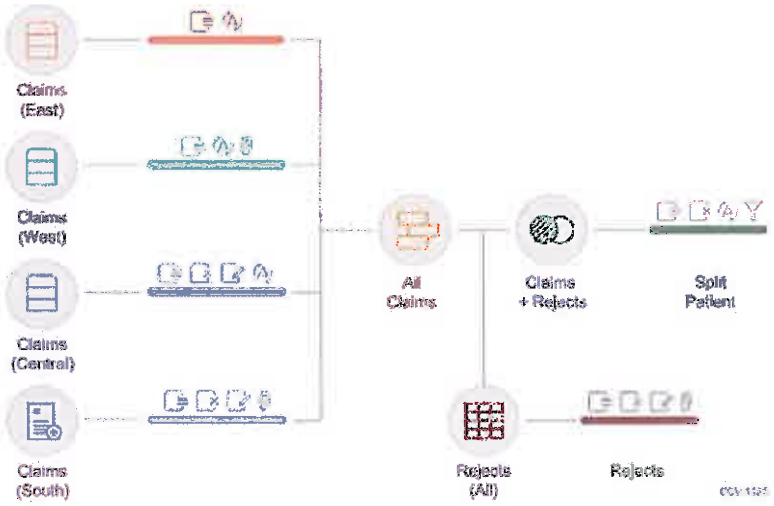


Figure 68: Tableau Prep Interface
Data Prep interface showing Data Impact Analysis.

DD212	The solution's data access component should have the ability for authorized solution users to create their own static or dynamic joins between tables.

We publish the OPAHHS workbooks to the Tableau server, where they are available to authorized users. In essence, the workbooks are data marts where reports and data are combined. Users can drill down, using the logical drill-down dimensions we populate, and sort and filter data through the Tableau interface. They can also clone workbooks to store in their personal space, which will be especially useful for power users who have Tableau Creator (formerly Desktop) or RStudio Pro.

These power users will be able to combine subsets of OPAHHS-provided data with their own data sandbox environments, with ability to create static or dynamic joins between tables, and publish the combined data set to the Tableau server for others to use following an appropriate governance process.

DD213	The solution's data access component should have the ability for query editing to support authorized solution users with query development and modification.

As described in response to previous requirement DD212, authorized power users with access to Tableau Creator, RStudio Pro, or a Bring-Your-Own-Licenses of their choice SQL query editing tool can use their personal space and develop and modify queries and combine subsets of OPAHHS-provided data with their own data sandbox environments.

DD214	The solution's data access component should have the ability to sort, filter, and find data in query results.

The Tableau component of our solution has easy-to-use, spreadsheet-like features for selecting data records and creating new calculated fields. Users can easily sort, filter, and find data in query results and configure a report for other needs. Figure 69 shows the basic Tableau interface.

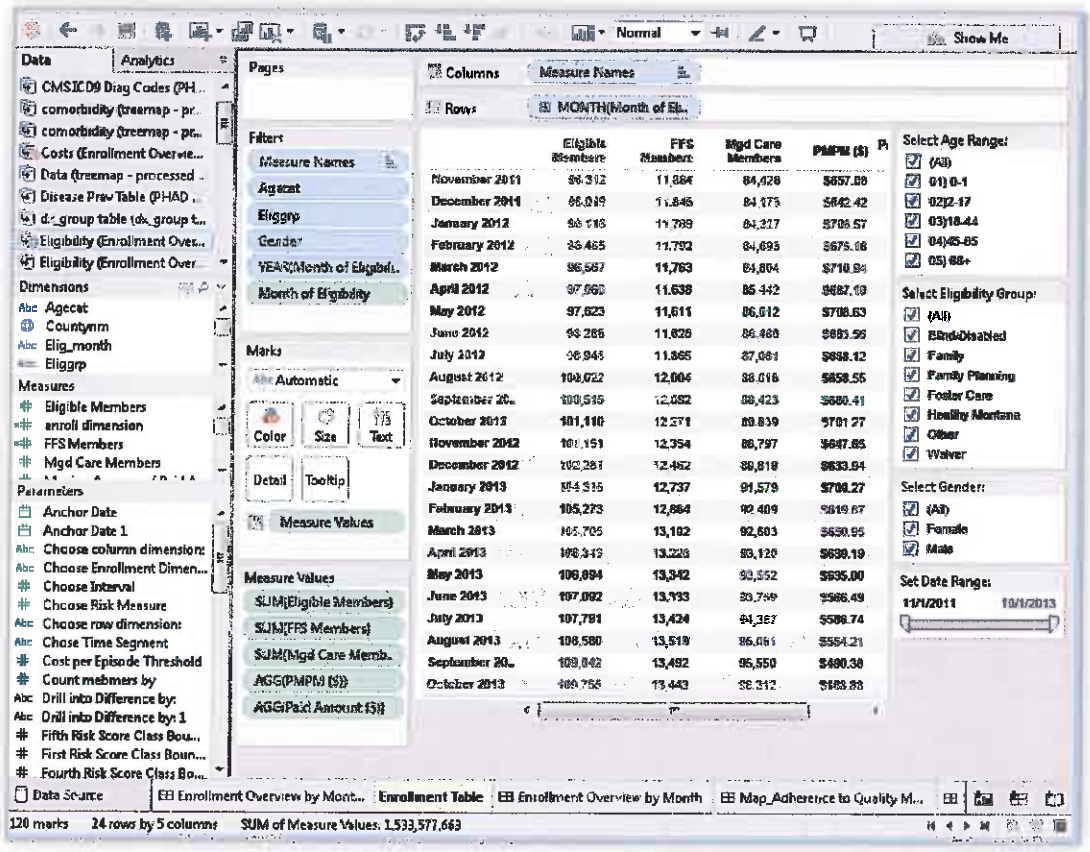


Figure 69: Tableau Interface

Tableau's intuitive interface lets users drag and drop values into columns and rows to configure charts and tables. Note, all data included in this figure has been de-identified.

Additionally, authorized power users with have access to Tableau Creator, Excel, or RStudio Pro. They can use their personal space to develop queries and result sets with ability to sort, filter, and find data in query results.

DD215	The solution's data access component should have the ability to show table structure, relationships, and built-in expression-builders, or a natural-language interface in which the authorized solution user can enter a query and the system converts it into Structured Query Language (SQL) or other code.

Our solution's BI layer provides an intuitive interface that has the ability to show table structure, relationships, and built-in expression-builders, or a natural-language interface. The interface allows authorized users to enter a query and the system converts it into SQL or other code.

DD216	The solution's data access component should have the ability to support, at a minimum, complex "and/or/not" logic.

Data can be delivered to authorized users using various components of OPAHHS solution. Depending on the portal data is received, all of our systems data delivery components including Tableau, Azure Synapse, SQL database and Informatica have extensive capabilities to support complex search query logic, including "and/or/not", filtering and wildcard.

DD217	The solution's data access component should have the ability to calculate unduplicated counts of, at a minimum, members, providers, claims, claim lines, and services.
DD218	Members
DD219	Providers
DD220	Claim lines
DD221	Services
DD222	Others as defined by the Department

OPAHHS data access layer provides a variety of tools and calculations capabilities including, but not limited to, SQL "distinct" command to retrieve unduplicated count of any data available in database. Using SQL "distinct" command provided through various tools available within OPAHHS data access layer, we can retrieve unduplicated count of **members, providers, claim lines and services.** We can retrieve unduplicated count of any data available in database.

If **others are defined by the departement** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DD223	The solution's data access component should have the ability to support parameter-based queries.

Parameter based queries are standard SQL query capability, supported by all RDBMS, including Azure Synapse and Azure SQL server in your EDS Database Management System. All OPAHHS data access components support parameter-based queries.

DD224	The solution's data access component should have the ability to support including, but not limited to:
DD225	Inner joins
DD226	Outer joins
DD227	Unions
DD228	Claims
DD229	Intersections
DD230	Minus operations of multiple datasets
DD231	Others as defined by the Department

All OPAHHS data access components support standards SQL clause/operator. Users and Optum developers can use data access layer components in OPAHHS to write and execute SQL queries commands. Standard SQL commands includes **inner joins, outer joins, and unions.** Users can also write and execute SQL queries commands to select **claims** and can use **intersections. Minus operations of multiple datasets** are supported SQL query operator/clause in Azure SQL server.

If **others are defined by the department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DD232	The solution's data access component should have the ability to support correlated sub-queries.

All OPAHHS data access components support SQL clause/operator. Users and Optum developers can use data access components in OPAHHS to write and execute SQL queries and correlated sub-queries.

DD233	The solution's data access component should have the ability to support current American National Standards Institute's (ANSI) Structured Query Language (SQL) standards.

All OPAHHS data access components support ANSI SQL standards.

DD234	The solution's data access component should have the ability to apply, at a minimum, weighting and ranking in analyses.

All OPAHHS data access components support SQL clause/operator. Users and Optum developers can use data access components in OPAHHS to write and execute SQL queries and extensive mathematical statistics and criteria analysis including ranking and weighting.

DD235	The solution's data access component should have the ability for linear programming.

OPAHHS statistical tools in the solution, including Tableau Creator and RStudio Pro support standard SQL operators. Users and Optum developers can use data OPAHHS statistical tools to write and execute SQL queries and constructs to make declarative querying and ability for linear programming functions.

DD236	The solution's data access component should provide predictive modeling capabilities.

Both the business intelligence and the statistical tools in the solution can support predictive analytics. Our primary BI tool has built in support for forecasting. Simply selecting forecasting from the analytics tab will project future periods using an exponential smoothing algorithm. For more sophisticated hands-on forecasting, there are a wide range of freely available R packages including an ARIMA package that automatically selects an optimal model and a robust implementation of generalized least squares.

DD237	The solution's data access component should support random number assignment of members and providers.

The statistical tools in the solution support random number generator and assignment.

DD238	The solution's data access component should provide multi-dimensional reporting abilities that would include slice and dice, drill down, drill up, drill across, and pivot result.

Our workbooks and dashboards include easy to use quick-filters that bring in dimensions from multiple data sources to allow users to slice, dice, drill down, drill up, drill across, pivot result, and build connections between any relevant elements in the data. As shown previously in Figure 69, the Tableau interface can filter on data from multiple dimensions.

DD239	The solution's data access component should have the ability to provide pre-defined logical drill paths such that the authorized solution user can move up or down in levels without defining a new query.

We publish the OPAHHS workbooks to the Tableau server, where they are available to authorized users. In essence, the workbooks are data marts where reports and data are combined. Users can drill down, using the logical drill-down dimensions we populate, and sort and filter data through the Tableau interface without defining a new query.

DD240	The solution's data access component should have the ability to summarize grouping functions.

The statistical tools in our solution support summarize results by group function. Our solution data warehouse, the BI tool, and the statistical tool all support robust grouping capability. This allows the calculation of any available aggregate function grouped by any field in any data set.

For example, in the data warehouse, the following will calculate the number of payments, the average payment, and the standard deviation of payments in the dataset containing city and payment fields.

- SELECT count(payment), avg(payment), stdev(payment)
- FROM dataset
- GROUP BY city

DD241	The solution's data access component should support stratified random sampling with appropriate statistics and generate random sampling with associated statistics.

We will support this requirement to provide simple random sampling and extrapolation compliant with accepted statistical audit and governmental standards with the Microsoft R Open statistical programming language and the RStudio integrated development environment, running on a dedicated virtual machine. Having R available gives you access to the Comprehensive R Archive Network (CRAN) which contains over 7,000 packages extending base R's functionality, including a number of packages for advanced sampling techniques. R is a widely used statistical programming language whose built-in sample function will take a random sample from a dataset. Extrapolation can be done with a wide range of statistical techniques. Through the

CRAN, R has extensive facilities for sampling, including drawing and calibrating survey samples, and for bootstrapping.

DD242	The solution's data access component should have the ability to build custom formulas and derivations.

Authorize power users who have Tableau Creator (formerly Desktop) or Excel or RStudio will be able to combine OPAHHS-provided data with their own data and enhance Tableau-based reporting with statistical capabilities, build custom formulas and derivations.

DD243	The solution's data access component should support what-if and reverse analyses.

We confirm OPAHHS business intelligent and analytics supports what-if or predictive, and reverse or descriptive/diagnostic analysis. The tools we provide you with spreadsheet-like functionality where you can change the input data and see the results in the output. Similarly the reverse analysis can be achieved by reviewing the output and analyzing the input. Additionally, R has extensive packages that provide capabilities to run various predictive and descriptive models.

DD244	The solution's data access component should have the ability to aggregate or summarize rules based on pre-defined, static reports and data filters.

The Tableau component of our solution has easy-to-use, spreadsheet-like features with ability to aggregate or summarize rules based on pre-defined, static reports and data filters.

Additionally, authorized power users with have access to Tableau Creator, RStudio Pro or a Bring-Your-Own-Licenses of their choice SQL query tool. They can use their personal space to develop queries and result sets with ability to aggregate or summarize rules based on pre-defined, static reports and data filters in query results.

DD245	The solution's data access component should support descriptive text and have the ability to search for elements, derivations, tags, and reports.

SQL Server supports descriptive text and calculated fields derived from other fields. The document management features of our portal also supports descriptive text as well as the ability to tag reports with a controlled vocabulary, enabling search for elements, derivations, tags, and reports.

DD246	The solution's data access component should have the ability to index authorized solution user-created tables in user libraries to drive queries.

SQL Server allows authorized user to create new tables with the CREATE TABLE command. These tables are owned by the user and stored in their personal storage space. Then can create indexes on these tables using the CREATE INDEX command to drive queries.

DD247	The solution's data access component should have the ability to generate alerts when business thresholds have been exceeded.

The solution's tools and our support will help you develop the measures needed to model and analyze your operational business processes. With this you will be able to perform root cause analyses on business processes that need improvement which will target processes and sub-processes that need improvement. Furthermore, you will be able to develop real time measures to monitor the effectiveness and efficiencies of your business processes and improvements. You can define thresholds of service and determine when service thresholds are hit, allowing you to generate alerts to proactively address issues before they become problems.

DD248	The solution's data access component should have the ability to terminate runaway queries.

OPAHHS allows configuring system to enforce timeout on runaway queries within distributed database and prevent latencies and decreased throughput of the system.

DD249	The solution's data access component should support the needs of authorized solution users to perform simple queries based on point-and-click technology.

Our solution data access component primary BI tool, Tableau, provides a visual query builder to develop database queries, using a point-and-click interface.

DD250	The solution's data access component should have the ability to version reports and queries.

Tableau can use naming conventions and store date-stamped copies of reports in the document management part of the portal to support versioning. In addition, users can archive queries with associated tags and descriptive metadata in the document management system.

DD251	The solution's data access component should provide flexible filtering or "sub-setting" to specify the selection criteria for reports.

The Tableau filtering feature allows both simple scenarios using field values as well as advanced calculation for flexible filtering or "sub-setting".

DD252	The solution's data access component should provide modifiable ready-to-use subsets.

Tableau provides the ability to modifiable ready-to-use subsets. Our data warehouse supports CREATE VIEW function which allows the creation of virtual tables defined by ANY valid SQL query. We use it to create analysis-ready datasets which are available to both the BI and statistical tools. This views can pre-aggregate summary functions which mask from the user the details of assembling together a single usable table from a number of other tables. Our BI tool can provide a friendly user interface for passing parameters to the data warehouse for selecting on specific fields. For example, if you wanted to limit retrieved data to specific counties we could set up the BI tool to provide a drop-down list of counties from which you could select. We will work with you during the JAD sessions to define and implement the required subsets.

DD253	The solution's data access component should have the ability to create, save, modify, publish, and share queries.

Using our OPAHHS solution, authorized users are able to create, save, modify, publish and share data, make follow up queries, and forward easy-to-digest visualizations to others who could gain value from the data. Our data access components makes collaborating around data easy and safe.

DD254	The solution's data access component should provide pre-defined templates upon request.

Tableau provides easy to access drag-and-drop templates and widgets, designed to help you with fast actionable data in minutes. During the requirement phase, we will work you to capture and implement templates according to your use cases.

DD255	The solution's data access component should have the ability to provide eligibility indicators at a summary level.

Tableau has the ability to provide eligibility indicators at a summary level.

DD256	The solution's data access component should have the ability to provide financial indicators at a summary level.

Tableau has the ability to provide financial indicators at a summary level. Figure 70 presented in our response to requirement DD257 shows a Tableau dashboard/report with financial indicators (e.g., total dollars and dollars per member per month) at a summary level.

DD257	The solution's data access component should have the ability to provide utilization indicators at a summary level.

Tableau has the ability to provide utilization indicators at a summary level as shown in Figure 70.

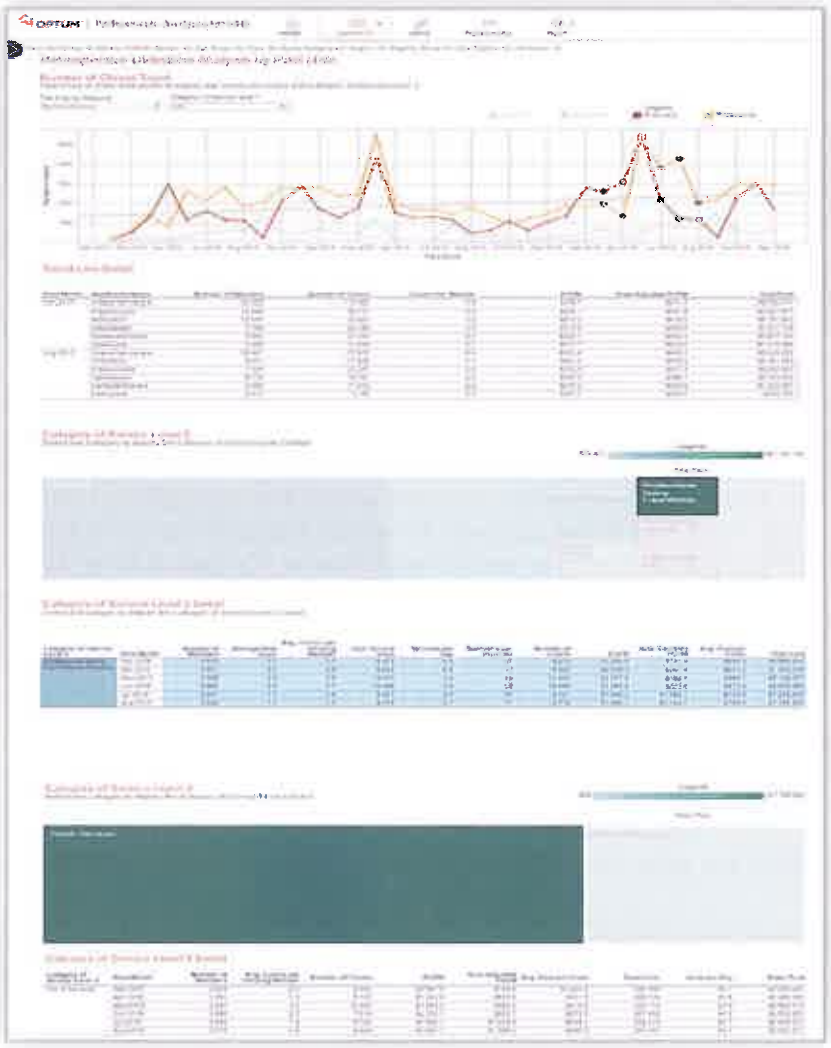


Figure 70: Retrospective Utilization Analysis
This view pulls together utilization patterns for multiple populations, showing overall utilization rates by category of service, detailed analytics such as readmissions, avoidable ED utilization and if available avoidable hospitalizations.

DD258	The solution's data access component should have the ability to provide other indicators, as defined by the Department, at a summary level.

Tableau has the ability to provide user defined indicators at a summary level. During the requirement phase, we will validate OPAHHS summary level data points with the Department.

DD259	The solution's data access component should have the ability to provide access-to-care indicators at a summary level.

Tableau presents measures from our Symmetry EBM Connect tool which present a variety of healthcare quality measures, among which is are measures of access to care at the summary level. The specific measures included in EBM Connect are Adult Access to Preventive/Ambulatory Health Services and Children and Adolescent's Access to Primary Care Practitioners.

DD260	The solution's data access component should have the ability to notify the authorized solution user when user-defined criteria have been met.

SQL Server and Tableau support triggers and event notifications. We will work with you to define the conditions for sending such alerts and configure the triggers and event notifications to notify the authorized solution user when user-defined criteria have been met.

DD261	The solution's data access component should have the ability to provide an alert system to notify authorized solution users of emerging trends, detection of excessive costs, and achievement of goals.

Our data science tools have the capability to run algorithms against specified data to send alerts when, for example, tracked variables exceed a benchmark be a specified number of standard deviations for emerging trends, detection of excessive costs, and achievement of goals. During the requirements phase, we will identify the use cases with the Department, the specific data and benchmarks to be used, and the threshold to trigger an alert.

DD262	The solution's data access component should have the ability to apply selections as flexible objects that can be inserted, moved, or removed through drag-and-drop technology to make cross-tabular and multi-tabular reports.

Our intuitive data access components provides authorized users the ability to apply selections as flexible objects through drag-and-drop user interface and make cross-tabular and multi-tabular reports.

DD263	The solution's data access component should have the ability to allow flexible pivoting of rows to columns and columns to rows.

OPAHHS data access components has the ability for flexible pivoting of rows to columns and columns to rows. The T-SQL dialect implemented in our solution data warehouse supports the PIVOT and UNPIVOT relational operators which not only transpose tables, it also can group and aggregate values. The R statistical language implements similar functions. Our primary BI tool uses the pivot table as its basic data model, so this functionality is inherent to the user interface.

DD264	The solution's data access component should have the ability to import metadata from the database catalog and other external sources.

We use Informatica Axon and EDC as the data dictionary tool. EDC provides direct connectivity to import metadata from various data sources. For non-standard metadata sources (e.g., stationary documents), EDC also provides a customizable metadata integration capability to help create and edit custom meta-models. The tool contains table name, column descriptions, transformation rules, and the business usage of specific columns. It also records data lineage and mapping, and business rules applied to data in the migration and data conversion process. We keep the business glossary in Informatica current with data model changes. EDC is synchronized with Azure's data warehouse service. In addition to metadata, reporting metadata from various Informatica repositories will automatically synchronize with third-party metadata and business intelligence tools.

DD265	The solution's data access component should have the ability to export metadata to other external sources.

We use Informatica Axon and EDC as the data dictionary tool. EDC provides direct connectivity to capture metadata from various data sources. It also provides the capability to export metadata to other external objects or sources.

DD266	The solution's data access component should have the ability to provide ease of maintenance of metadata updates.

Using EDC, we store all the metadata contents in a centralized Metadata Repository. EDC can be used to maintain the custom models already created. It captures the data: title, category, objective, source, type, version, status, applicability, references and relations to other standards. The repository includes vocabularies (i.e., code sets). When we calculate new fields

in BI tools, those definitions also import to EDC. The metadata repository holds all technical and business metadata content, such as documents, spreadsheets, and messages to provide ease of maintenance of metadata updates.

DD267	The solution's data access component should provide authorized solution users with the ability to create and/or import user-defined values or other driver data to inform querying and reporting.

OPAHHS data access component provides authorized users with the ability to create and import user-defined values or other driver data to inform querying and reporting. Our solution primary BI tool, and R all allow the users to define new fields calculated from other fields. The BI tool also allows the creation of what are known as "measures" – new fields based on aggregate data independent of tables. We support sandboxes for authorized users which allow the importation of data which can be linked to Azure Synapse data and analyzed in available tools.

DD268	The solution's data access component should have the ability to import and save user-defined data.

Our solution has the ability to import and save user-defined data. We support sandboxes for authorized users which allows the importation of data which can be linked to the solution data warehouse data and analyzed in available tools. Users can also save intermediate and final work product from the BI and data science tools into their sandboxes.

DD269	The solution's data access component should have the ability to access data from external sources in native form.

The OPAHHS data model is an entity-relationship model designed to work with relational databases. The model and the database can accept XML documents in native format or binary documents as a complex field type from eternal data sources. We can store any kind of data, no matter how unstructured in Azure blob storage.

DD270	The solution's data access component should have the ability to use data that has been stored in user-defined tables with a parameter that is used to join to the data warehouse to drive queries.

Our solution data access component provides authorized users the ability to access and join tables and data across distributed databases, stored in user-defined tables or data warehouse to drive queries. Authorized power users with access to Tableau Creator, RStudio Pro, or a Bring-Your-Own-Licenses of their choice SQL query tool can use their personal space and develop these queries.

DD271	The solution's data access component should have the ability to import a list of user-defined values into the user library.

Authorized power users with access to Tableau Creator, RStudio Pro, or a Bring-Your-Own-Licenses of their choice SQL query tool can use their personal space and store whatever they would like into personal storage space including importing a list of user-defined values into their user library.

DD272	The solution's data access component should have the ability to import external data into tables.

Authorized power users with access to Tableau Creator, RStudio Pro, or a Bring-Your-Own-Licenses of their choice SQL query tool can use their personal space and import external data into tables.

DD273	The solution's data access component should have an online/contextual help function.

OPAHHS data access component, using the Tableau tool, provides comprehensive online/contextual help function as shown in Figure 71.

Figure 71: OPAHHS Online Help
This is a screenshot of OPAHHS with access to Support Center, FAQs, and Glossary.

DD274	The solution's data access component should have the ability to add, delete, or develop measures from any report available without needing knowledge of Structured Query Language (SQL) or other complex query language.

Our solution contains an intuitive data access component and primary BI tool, Tableau. Tableau is an industry leader in providing the authorized users with the ability to add, delete, and develop queries and measures from reports and data sets without needing knowledge of SQL using a drag-and-drop user interface. Figure 72 shows our solution user interface drag-and-drop functionality.

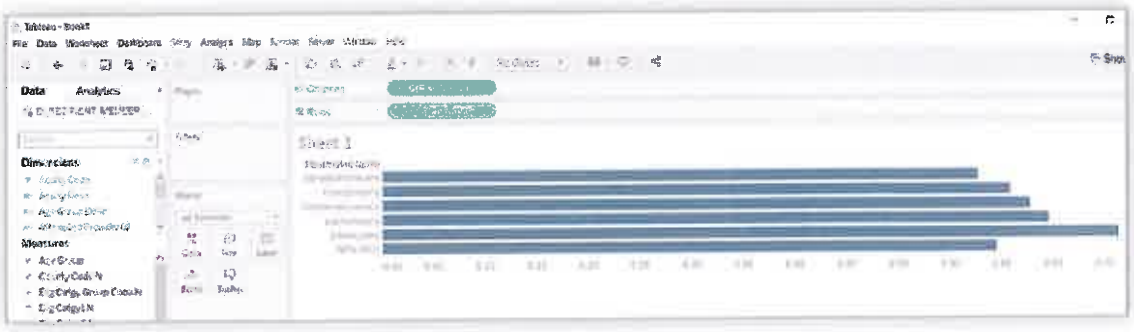


Figure 72: Tableau query builder drag-and-drop functionality
Using Tableau capabilities, users can add, delete, or develop measures from any report available without needing knowledge of SQL or other complex query language.

DD275	The solution's data access component should provide a menu of view-ready and print-ready summary-level reports, charts, maps, and graphs.

OPAHHS data access component provides a menu of all canned reports, view –ready, report-ready, print-ready and summary-level reports, charts maps and graphs via its intuitive user interface.

DD276	The solution's data access component should have an application menu that utilizes point-and-click functionality.

Our solution data access component interactive user interface and application menu provides an intuitive point-and-click functionality for all users actions.

DD277	The solution's data access component should have the ability to graph reports and make the reports presentation-ready without the need to export the data to third-party software.

OPAHHS includes Tableau as the primary data visualization component to graph reports and make the reports presentation-ready without the need to export the data to third-party software. Tableau is an industry standard for using data visualization to support data-based decision-making. The tool has received numerous industry accolades for its power, ease of use, and ability to create multi-dimensional, meaningful visualizations of data.

The OPAHHS solution also includes R's ggplot package. Ggplot is a data visualization solution for creating elegant and complex plots. It allows you to create graphs that represent both univariate and multivariate numerical and categorical data in a straightforward manner. The plot grouping can be represented by color, symbol, size, and transparency.

DD278	The solution's data access component should have the ability for online maintenance of reports including adding, deleting, editing, copying, and pasting actions.

OPAHHS provides online access to authorized users for all data access capabilities and maintenance of reporting including adding, deleting, editing, copying and pasting actions. The editor in both the BI and data science tools support the cut, paste, copy, and delete functions defined in Microsoft's User Interface Guidelines.

DD279	The solution's data access component should support data visualization techniques.

The OPAHHS solution uses Tableau-an industry standard for using data visualization to support data-based decision-making. The tool has received numerous industry accolades for its power, ease of use, and ability to create multi-dimensional, and supports many data visualization techniques.

DD280	The solution's data access component should have the ability to schedule Department-specified reports for execution and route the reports automatically through email.

Users have the ability to print reports directly from their workstation. The solution also supports printing, emailing and extracting reports. We also have the ability to create a subscription and add the users and groups to receive the subscription emails to access reports.

DD281	The solution should have the ability to build, name, and save multiple user-defined searches and sort parameters to allow authorized solution users to repeat the same search/sort queries.

OPAHHS data access component and BI tool has the ability to save searches and filters and share with other users to repeat the same search and sort queries. Department users can build, name, and save multiple user-defined searches and sort parameters to allow authorized solution users to repeat the same search/sort queries.

DD282	The solution should have the ability to capture and incorporate into queries and reports any date-sensitive occurrences that may impact analytics and reporting, including, but not limited to:
DD283	Rate changes
DD284	Policy changes
DD285	Health plan changes
DD286	Legislation
DD287	Others as determined by the Department

Authorized power users with access to Tableau Creator, RStudio Pro, or a Bring-Your-Own-Licenses of their choice SQL query tool can use their personal space and develop and modify queries. Our solution will provide authorized users the ability to access and incorporate into queries and reports any date-sensitive occurrences that may impact analytics and reporting including **rate changes, policy changes, health plan changes and legislation.**

During requirement phase of the project, we will work with you to define all data element including date-sensitive data required as well as user role and their data access level.

If **others as determined by the Department are** in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DD288	The solution should have the ability to capture and incorporate into queries and reports any data field in the Medicaid Management Information System (MMIS).

Our solution includes both secure FTP and EDI services and a robust ETL tool to help us extract data from the sources you require. This includes the MMIS. OPAHHS will have the ability to capture and incorporate into queries and reports any data field in the Medicaid Management Information System (MMIS).

DD289	The solution should have the ability to link external data to any structured data field in the solution to serve as a search/sort query parameter.

We will provide you with the ability to load data from external sources and to link external data to any structured data field in the solution to serve as a search/sort query parameter. Our solution has the ability to provide a report library that can be indexed and searched, and can retrieve published reports.

DD291	The Vendor solution should provide the functionality to view the results of wild card searches including, but not limited to, both single character and string wild card search for all searchable fields.

Our OPAHHS solution data access components, leading BI and data science tools, provides full SQL standard functionality including viewing the results of wild card searches with both single character and string wild card search for all searchable fields.

DD292	The solution should have the ability to utilize all data, queries, analyses, and reporting in the solution to produce geospatial analytics and maps.

We support and produce geospatial analysis in various ways. We calculate latitude and longitude for every address in the system and clean them to conform to Postal Service standards. Tableau has built in map-making capability that we use to add interactive maps to the solution. R, our primary statistical language, also has map-making capability that can communicate with the Census and CDC data servers to retrieve public use data and shapefiles.

DD293	The solution should have the ability to perform statistical analyses on geospatial data.

Both Tableau and R support geospatial analysis and can visualize data results on maps and charts. R has a number of freely available geospatial statistics packages. You would be able install other geospatial tools on virtual desktops. Finally the Azure environment offers access to Bing maps and ArcGIS online though the Azure Marketplace.

DD294	The solution should have the ability to identify, query, analyze, and report on episodes of care or bundled services.

Optum meets this requirement with our cost and quality measurement module, Optum Symmetry EBMConnect, to apply clinically approved guidelines against episodes of care to identify instances of treatment inconsistent with guidelines. The output of that module is stored in the data warehouse and used in a number of OPAHHS care management report workbooks.

DD295	The solution should have the ability to develop and calculate fee-for-service (FFS) rates, actuarially-sound managed care rates, bundled fee-for-service and managed care rates, and others as determined by the Department.

As part of our Integrated Master Schedule, as well as our Data Management Plan, we will load encounters and fee for service claims to the data warehouse. These claims and encounters will be available for authorized users analyze using our Tableau, RStudio and SQL toolset. Upon DHHR request, we will use Informatica PowerCenter to support the extraction of encounters and claims (as well as relevant member, provider etc. information) to authorized actuarial personnel and/or organizations.

DD296	The solution should have the ability to calculate travel distance including, but not limited to, member's home and relevant provider locations.

Our OPAHHS solution provides an interactive mapping capability, with easy to use distance calculation. Additionally, we enrich data using integrated geocoding for added accuracy and efficiency.

DD297	The solution should have the ability for authorized solution users to create and view all reports and maps on mobile devices in accordance with Department, State, and federal security and privacy policies and procedures.

Our solution supports mobile apps for Android® and Apple (IOS) devices as a means of deploying to tablets and phones.

DD298	The solution should have the ability to display to authorized solution users the number of pages to be printed before the authorized solution user proceeds with printing a report.

Tableau supports including page numbers on reports and printing as PDF, which includes page number. Also, many web browsers have a print preview function will estimates total pages and allows looking at thumbnails of individual pages.

DD299	The solution should allow authorized solution users the ability to add comments to reports.

Tableau has a Comments function which lets users add comments to report views. You can notify colleagues of added comments by mentioning them in the @name format.

DD300	The solution should have the ability to capture and report on solution response time.

We set and measure response time thresholds for all OPAHHS solution components to meet your requirements. Our fully integrated and comprehensive system performance monitoring will capture and monitor all system level response time. Performance monitoring and measurement is a critical function that requires agreed-upon processes for measurement, analysis, action, and reporting.

Optum uses best practices learned from our decades of experience in health care service and analytics to monitor and measure performance. Figure 73 shows our performance standards framework, which supports our tools and techniques. The framework provides the foundation for the tools and techniques we use to monitor solution performance and capture associated measurements for our many data warehouse engagements.

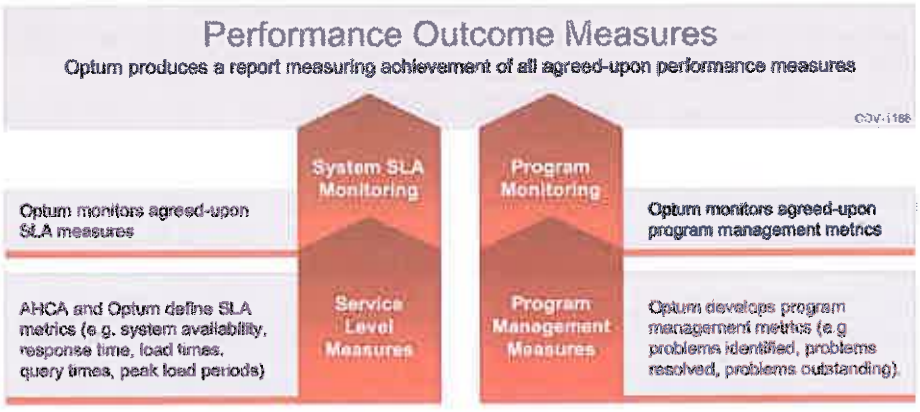


Figure 73: Performance Management
Our performance management methods will use mutually agreed upon SLAs and program metrics to confirm that the program is controlled, reported, and managed.

DD301	The solution should have the ability for authorized solution users to view, print, export, and analyze audit data through an integrated component of the solution.

OPAHHS supports viewing, printing, emailing, extracting reports, and analyze audit data through the integrated user interface.

DD302	The solution should provide the ability for all solution forms, documents, data files, data, and manuals to be accessible online, indexed, and content-searchable with version control.

We create pdf versions of finalized Tableau workbooks and store them in Liferay. Using Liferay portal document management and sharing capability all solution forms, documents, data files, data, and manuals. We will provide access to authorized users to all documents and manuals in an online, indexed and searchable form with historical information.

DD303	The Vendor should employ a Relational Database Management System (RDBMS) or Object Oriented Database Management System (OODMS) that is easily configurable and role-based.

Our solution RDBMS secure data with the advanced security and privacy features and easy to configure role based access, such as column- and row-level security and dynamic data masking.

DD304	The solution should have the ability to support analytic techniques including,
DD305	Predictive modeling
DD306	Machine learning
DD307	Data mining
DD308	Others as defined by the Department

Both the business intelligence and the statistical tools in the solution can support **predictive modeling** and **machine learning**. You will have access to text mining, **data mining**, Predictive analytics, graph analysis, and exploratory data analysis. OPAHHS already includes the data mining capabilities via Tableau reports. For more sophisticated hands-on data mining, R provides a wide range of data mining implementation capabilities.

OPAHHS reports and analytics includes data enrichments by Optum Machine Learning module. There are also a wide range of freely available Machine Learning R packages for more options to be used by authorized advanced data scientists.

Our solution provides a wide range of advance analytics capabilities in the industry for projecting trends, Machine Learning, Predictive and Prescriptive analytics and more. During the requirement phase we will discuss and identify techniques required to implement the most effective EDS solution.

If **others as defined by the Department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DD309	The solution should have a single point of entry for all authorized solution users.

Our design allows the OPAHHS portal to be a single point of entry for gaining access to the EDS tools and data. OPAHHS combines a centralized enterprise data warehouse with integrated analytics and reporting capabilities that serve business imperatives across state programs. Our solution aligns with all three MITA Framework architectures: Business, Information, and Technical.

DD310	The Vendor should provide a data access component that works efficiently in the enterprise data solution (EDS) environment.

Our OPAHHS data access component is comprised of market-leading BI and data science tools available to users depending on their expertise and access level which are built for high-volume data management. As indicated earlier, in response to requirement DD028, with modular design and architecture, our solution uses discrete system functions that are independently evolved without impact to the rest of the system. Additionally our EDS cloud platform provides scalability and expansion of processing power and high availability. Our system architecture leverages the latest cloud processor technologies to gain maximum CPU and system performance. We can achieve linear scalability against data and work-load demands with consistent performance.

DD311	The solution should have the ability to distribute reports and/or information from the enterprise data solution (EDS) portal chosen by the Department.

Our solution has the ability to distribute reports from the OPAHHS portal as well as other authorized and accessible portals chosen by the Department. During requirement and design sessions, we will work with the Department to identify and design efficient portal reports distributions.

DD312	The solution should provide the ability to allow authorized solution users to view, manipulate, download, and save reports locally.

We provide access to authorized users to Tableau and statistical tools to create reports, which they can download, view, manipulate, download, and save reports locally.

DD313	The solution should have the ability to maintain report inventories for authorized solution users.

Our portal has extensive document management capabilities that allows for indexing and faceted search. The reporting tools included in the OPAHHS solution include capabilities to store reports in document management, both private to individual users or shared across a group of authorized users.

DD314	The solution should track Medicare deductibles and coinsurance paid by Medicaid for all crossover claims, by Member and program type, and by other data elements as defined by the Department.

The OPAHHS data model is purpose built to contain the claims data and attribution necessary to track services and financial payments. This is true of Medicare crossover claims, where Medicaid pays for the deductible and coinsurance for members who are eligible for such benefits. We store all necessary information on the crossover claim record so that authorized users can easily track the services and financial amounts at the member level or rolled up in the program level.

DD315	The solution should provide a tool for managing data sharing requests from both internal State agencies and external entities.

We will create and submit the Data Management Plan for your approval during DDI. The relevant section in the Data Management Plan will incorporate approach, strategy, architecture, methodology, process, tools, resourcing, quality and contingency aspects for sharing data with internal State agencies and external entities. We will use Azure Data Share to securely share data both internal agencies and external customers.

Assumptions for Data Sources, Delivery and Display

Optum's proposed solution will enable member and provider access to the EDS portal to the extent that such users are identified, verified, and passed through a public-facing URL hosted by DHHR. We assume:

- DHHR will be responsible for first-level help desk support of these users.
- Member and provider users will not require licenses to any applications whose costs are based on named user licenses.
- Member and provider users will not require access to PII, PHI, or any protected data which requires individual access rights.
- The workload and system resources required for these users will be marginal such that existing capacity (i.e., that which is sized per metrics in the RFP, such as the 75 named users and details identified in Detailed Specifications DD168 thru DD170) will be sufficient for their user experience and data access needs.
- EDS Solution Users as specified in Detailed Specifications (DD168 thru DD170) and RFP section 4.4.2 (To-Be EDS Environment): Optum has assumed for licensing purposes the

following initial user counts along with 10% growth annually throughout the life of the contract:

- EDS named users: 75 total (60 Analysts/Standard, 10 Power User/Advanced, 5 Data Scientists)
- Program Integrity/SURS: 15

2. DATA QUALITY

Refer to the relevant technical specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Data Quality below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Optum Response:

Approach and Solution Capabilities to 4.5.2 Data Quality

Data governance is a fundamental function of our successful approach. We use it to manage the data layer assets and the data quality process. We will work closely with your existing data governance committee, or we will help you establish one, to introduce the necessary data stewardship positions and processes to govern your data assets. Full transparency and your active involvement in every step of our data quality process are essential to our mutual success.

Data governance will bind the core functions of the OPAHHS data process together. We use it to identify, prioritize, track, and manage data changes within the data warehouse and to confirm that the data quality process is working effectively. Using our data management and data quality tools as part of the data governance processes, we will verify that data quality is sufficient before we make it available within the data warehouse and that you agree to the quality before loading into the production environment for data analytics. The data governance program will include enforcement policies and practices to continually maintain the quality, integrity and meaning of your data. We will use our change control and release processes to validate changes in our non-production environment before promoting changes to production.

Approach to Data Quality

Our approach to maintaining data quality and integrity is to follow a concise methodology for managing how we store, archive, back up, and secure data that will mature in parallel with the EDS. We will work with you to support your data governance, master data management, metadata and data quality processes. This will help us:

- Identify your data assets
- Establish a data stewardship process
- Understand the flow of data across your enterprise (e.g., the producer and consumers of data)
- Establish data standardization rules
- Implement a master data management strategy
- Identify data security requirements including controls and audit procedures that must be in place to confirm ongoing compliance with State and federal government regulations audits and audit response
- Establish enterprise or organizational data models and data dictionaries

- Establish data stewardship, data quality and other related working and managerial committees to affect the management of the defined processes

The initial step in our data analytics solution, before applying any statistical analysis, is the data tracking, data validation, and quality control process. The diagram and data validation steps in Figure 74 illustrate this critical procedural step.

Figure 74: Data Validation and Quality Control Process
Our rigorous process of data validation and quality control supports the meaningful analysis of any basic and advanced analytics.

Maintaining data quality and data integrity requires well-defined and maintained procedures that can be clearly articulated and understood. The process establishes roles and proper communication channels that identify and address issues quickly, with appropriate management discipline. These procedures will help you consistently achieve your data governance goals. Optum has helped many clients implement data quality and integrity processes using this approach.

The foundation for data-driven, evidence-based policy making is an enterprise-wide data governance strategy. It will promote efficient, effective data sharing throughout the EDS. Our data governance model will make sure we formally manage data throughout the enterprise by establishing clear lines of authority, responsibility, accountability, and communication. We designed our layered governance approach and framework for flexibility and adaptability. We understand DHHR is in the process of establishing your data governance policies. Optum will support and work with the policies you are developing, like we have previously done for many other states. We also understand many states have overarching enterprise-level data governance models and project oversight. We will work in full cooperation and support the appropriate teams within DHHR. Figure 75 shows our multi-layered data governance model.

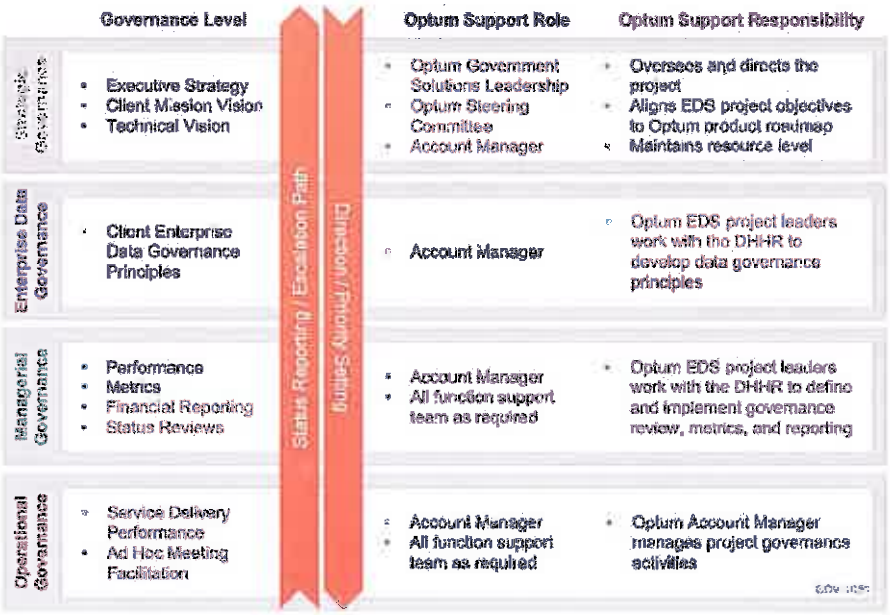


Figure 75: Optum Data Governance Model
Our proposed governance model will promote close cooperation, communications, and active management participation.

Our model establishes the project vision, direction, and priority-setting at the top, strategic governance layer. Then, at the enterprise data governance layer, the vision materializes from developing enterprise-level data governance principles. The enterprise data governance layer carries this vision forward to make sure the policies adopted across the enterprise data governance framework are carried through to the project itself. The data governance principles help us realize the vision by developing the performance metrics, reviews, and reporting in the managerial layer. Each layer further refines and defines the data governance model that we will follow and manage throughout the project in the operational governance layer.

At the strategic governance level, our project team and account manager are supported by our corporate leaders and steering committee. This structure will provide supervision and direction as we align the Optum data governance framework with yours. At each subsequent level in our governance framework, we will align our Optum project team members and functional areas with the DHHR project governance model and processes.

It is important to understand that the implementation of technology alone, without the necessary health care background, health care policy context, and statistical analysis acumen in the health care discipline will not be successful. This collaborative process is important when using statistical analysis or predictive modeling to answer state or federal inquires. We will collaborate with you to achieve the following:

- Understand those pre-defined or ad-hoc analytic questions
- Develop the research hypotheses
- Define the data model
- Apply the relevant statistical methods
- Interpret and document the results
- Provide the necessary guidance to your staff

Throughout DDI and operations, we will align with and be informed by your enterprise data governance policies, principles, framework and processes. This will help us perform data governance activities and handle data across your enterprise according to your RFP requirements.

Standards-Based Solution Delivery Process

As a health care company, Optum follows and validates compliance with State and federal standards every day. At an organizational level, we also actively participate in many standards bodies. These include Workgroup for Electronic Data Interchange (WEDI), American National Standards Institute (ANSI), Health Level Seven International (HL7), Accredited Standards Committee X12 (X12) and National Council for Prescription Drug Programs (NCPDP). Our participation enables us to help drive the next generation of standards.

Our many state government clients rely on us to provide technology and critical policy knowledge and health care expertise. For this project, Optum will work with you to identify your processes and standards. We will work with you to support your data governance structure, policies, and procedures.

The EDS solution will use data standards that promote data consistency and enhanced sharing through common data-access methods. The solution and structures support standards to validate data quality. We understand DHHR requires clear, consistent formats and structures across your enterprise that complies with industry standards. We embrace and will support

industry data standards for data governance and the exchange of information and health care reference data sets such as HIPAA, NDC, HCPCS, CPT, and ICD-10. We will work with you to define common data access mechanisms and data consistency during discovery and requirements validation activities and in our ongoing data governance. We will use these methods in our project work.

For the EDS, we will receive data from all sources in the required formats. We will harmonize the data and make it available to stakeholders in several required formats and data delivery methods. In each stage of this transformation, storage, and dissemination, we will adhere to contractual requirements, required federal and State laws and regulations, and data standards to store and protect data in motion and at rest.

Availability of Functionality and Processes

The EDS solution will enable you to make data-driven decisions by validating the availability, usability, integrity, and security of your enterprise data.

Business Process Management

Our solution will provide the business process management capabilities necessary to implement and support DHHR data management policies. Optum has extensive experience implementing and supporting data management policies for our state and federal government clients. Our solution components will give you extensive technology and business process management capabilities. We adhere to nationally recognized standards for business analysis and management. We will use repeatable processes and artifacts to capture your requirements and demonstrate our understanding of your underlying business processes. These artifacts may include use cases, business glossaries, state diagrams, flow charts, and functional band or swim lane diagrams.

Phased Implementation

We will comply with the enterprise data quality and governance policies and processes that DHHR defines and approves. During discovery and requirements validation, we will align our processes with yours. Figure 76 shows the phases of our data quality strategy for DHHR. Our plan incorporates a validation sequence where we will obtain DHHR approval.

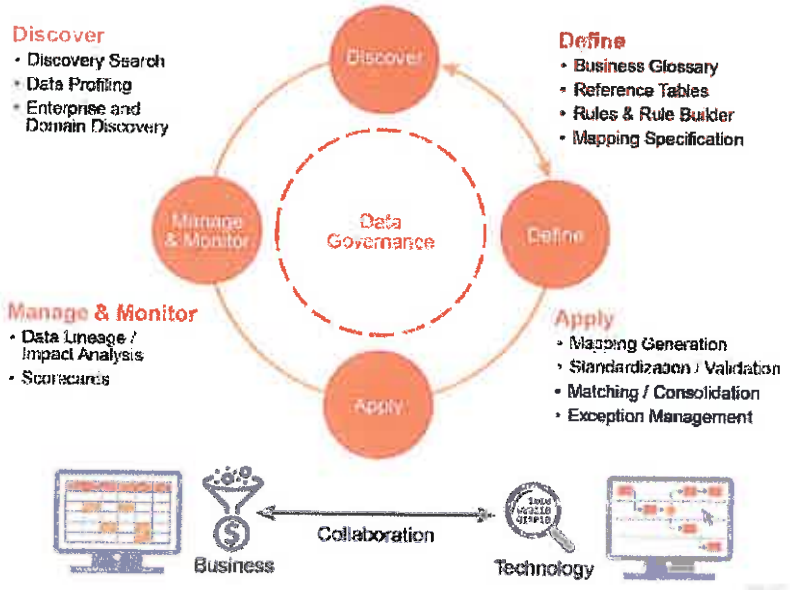


Figure 76: Optum Data Quality Strategy
We based our data quality strategy on a continuous improvement loop.

Our strategy will help us validate that your data has the quality needed to support your analytics and reporting needs.

Exception Handling Process

We will implement and support data management policies to support data quality and monitoring. Our data quality strategy is to incorporate quality checks beginning in DDI cycle and continuing throughout the Operations Phase.

We will work with you to discover, define, apply, manage and monitor the data quality strategy. We will incorporate the data quality reporting process as a standard component of our load processes. Our solution will generate data quality reports during every load cycle and make them available to DHHR and Optum usage. These reports will be critical for helping us identify issues before loading the data. If we find issues in the data, we will immediately work with you and your data providers to address and resolve them before loading the data in the production analytic environment.

We will use Informatica Data Quality as our data quality solution supporting our data quality processes. We have used Informatica extensively on our other data warehouse and analytics projects for multiple states. Our solution can produce a wide array of reports with dashboard capabilities, enabling you to easily develop metrics and reporting. Optum will work with you to configure the quality reports or develop new ones monitoring or sharing data quality metrics with scorecards and reports.

Our data quality management tools and processes will handle the root cause of data problems before they can infect the data warehouse and analytics results. Our solution profiles and discovers data anomalies, structure, and overall suitability before any data migration effort begins. It matches records and identifies relationships across multiple members, providers, and other data domains. We will assess the overall health of data that feeds data quality metrics and key performance indicators. We will apply reusable data quality rules and processes to master enterprise data across multiple sources, applications, and systems in batch or by using Web

services. OPAHHS corrects misplaced, misspelled, and misfielded data to capture valuable information that would otherwise be lost. Precise, consistently reliable data leads to more accurate operational models, projections, and analyses. Quality data generates trusted results. Figure 77 shows a sample data quality report.

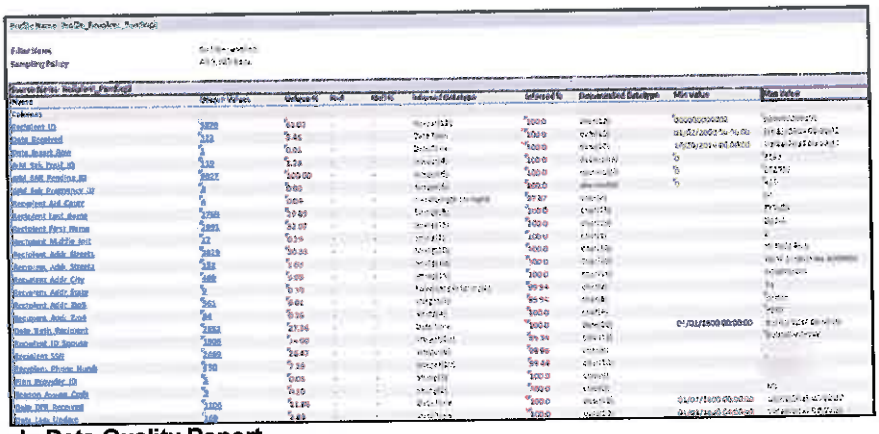


Figure 77: Sample Data Quality Report
Our solution provides extensive data quality reporting to help us resolve discrepancies or issues.

The Data Conversion Plan will describe our approach, scope, tasks, schedule, and resources for establishing high-quality analytics for your project. The plan will list potential migration issues, including issues you identify, and describe how we will address them. We will address each challenge with a tool or technique to mitigate it. The following table describes potential migration issues and our mitigation strategy for each one.

Potential Migration Issue	Mitigation
Unexpectedly high data volume	By itself, higher than expected data volume is only a capacity planning issue. When we know the true volume, we can adjust processing schedules or resize virtual machines and storage quotas, if needed. If this occurs, we will follow our established change management procedures.
Complexities inherent in defining the relationship between source and target data structures	We will work with DHHR to understand how legacy outputs are calculated. We will use that information to define transformation rules for target data structures. Our metadata tools capture the relationships between source and target data. Our repository of existing data models and data modeling techniques allow us to capture and version health care and business data relationships.
Differences in the data required for processing between legacy and new systems	We will identify the new data that is needed and its source. We will define the data's acquisition, if available. If the information is unavailable, we will discuss potential impacts to the EDS and discuss possible workarounds with you.
History of changes to processing requirements and valid codes that may result in data inconsistencies and missing data conditions	We understand that coding schemes and regulatory rules change periodically. Retaining changes over time allows us to evaluate data at a particular point in time. Optum always retains the original data in a manner that makes it clear which rules apply. We often then annotate records with new codes from a crosswalk.
Converted data may need to be integrated with the data coming from operational interfaces, potentially in a different format	We have extensive experience merging converted data with data from production interfaces. Data transfer and conversion and ongoing ETL use the same technologies, processes, and people. This helps us make sure we successfully integrate the data from the legacy data warehouses with the same information received from the production interfaces. We carefully map data we receive from multiple sources to confirm consistency in data type, size, and code values. We also perform testing to make sure we integrate the data to make sure that the data is integrated without introducing duplicate or conflicting records.

In addition to addressing potential data challenges, the Data Conversion Plan will describe our overall approach for moving all data sources into the EDS. Key indicators of quality data will include the following:

- Claim number, claim line and paid date are unique
- The Adjudication date (date processed thru the RMMIS) is a valid date on all claims, encounters and financial transactions (no Nulls, no spaces, no 0's, no 01/01/0001, 12/31/299, 12/31/9999 etc.)
- Provider ID (PROV_ID) is unique
- Provider specialty, provider type, provider NPI and provider taxonomy data is provided
- Providers that are MCOs are identified as a Managed Care Organization
- Provider pay to (or billing), mailing and provider service location address data is provided
- Provider demographics data (current and history is provided)
- Member (RECIP_ORIG_ID) original ID is unique which remains constant throughout all member services
- Member demographics data current and history is provided
- Members that are in waiver populations can be identified
- Members that are getting state plan only services (100% State funding) are identified
- Members that are in the State's Hospice, Nursing Home and Long Term Care programs (level of care which goes in the MBR_LOC_TB) are identified
- Provider and member IDs on the claim can be joined to the REICP_ORIG_ID/PROV_ID on the provider and recipient tables
- Crosswalk of valid values and reference table lookups values to the claim, member and provider
- Valid values and reference table lookups values must match the equivalent values from the claim, member and provider
- There is not more than one record for a valid value code in the reference table data
- All claim types will include a billing/pay to provider
- Pharmacy claim will include a prescribing provider
- Medical/professional claims will include a Rendering/treating/servicing provider
- Provider specialty, provider type, provider NPI and provider taxonomy code are populated for each provider that is on the claims. For example if the prescribing provider is supplied then the following prescribing provider fields should be populated: NPI, provider specialty, type and taxonomy
- Logic and data available to perform adjustment processing
- Logic and data available to perform member merge processing

Dependencies of Existing Systems

Successful data conversions begin with applying practices and gaining a full understanding of the character and purpose of the data in both the source and target systems. With this understanding, we will transpose this information into migration, testing, and execution specifications. Failure to receive quality data into the EDS throughout the DDI phase is a risk to the project. Optum will work with DHHR and source vendors to set expectations for source data

to eliminate delays in data transfers and the need to redo extracts. We will also work with DHHR to define quality expectations for all new data sources.

Appendix 1: Data Quality

Optum will meet the Data Quality requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

DQ001	The Vendor should provide Data Quality Management for all data coming into the solution.

All data loaded to the EDS will undergo data quality management. This includes completeness, consistency and validation checks.

DQ002	The solution should have the ability to provide data conversion as needed to feed the solution.

Where the requirements and design dictate data conversion as part of the ETL lineage path, we will provide that conversions are complete with quality checks.

DQ003	The Vendor should develop a process to rectify source data quality issues via data checks and edit procedures as data is extracted from the solution data sources with limited impact on the data source vendors.

We will work with you to design, test and implement edit procedures to rectify targeted data quality issues. Although the ideal situation is for data source systems to rectify data quality problems for the good of the enterprise, we will remain flexible to discuss temporary or permanent mitigation measures. We have performed these same steps for every data warehouse that we've built over the past 25 years.

DQ004	The Vendor should ensure data integrity is checked throughout the term of the contract as an integral part of operations to ensure quality data.

We will continue applying designed and agreed to data quality checks through data conversion and operations for the term of the contract.

DQ005	The Vendor should develop processes to maintain data integrity, consistency, accuracy, and timeliness of the solution data.

Our approach to data quality is one that keeps timeliness central to design and execution. We know that our system must have production ready, repeatable and performant technology and processes. We will work with you to define a schedule and align our production jobs to present quality data in a timely manner.

DQ006	The solution should have the ability to provide an audit trail on all changes to tables including, but not limited to:
DQ007	Business and system dates
DQ008	Begin date
DQ009	Effective date
DQ010	End date
DQ011	User-ID and assignment/enforcement in all tables that can be modified

Our data models include tables with inline or linked attributes that support data and process auditing, **business and systems dates** to track the "as of" and "system date". Additionally, Informatica comes with version control functionality to easily audit changes made to tables, data fields, transformations performed during conversions.

In addition, our data models include tables that track **begin dates, effective dates, and end dates.** The effective date is essential to tracking slowly changing dimensions such as member and provider addresses.

Our data models facilitate the presentation of data column and row wise subject to role-based Access control (RBAC). We will use flexible and configurable RBAC to provide **User-ID assignment and enforcement** of data access to all tables and objects.

DQ012	The solution should provide a tool that supplies data profiling abilities that obtain comprehensive and accurate information on the content, quality, and structure of data in the source systems as an ongoing process.

Our data quality tools provide data profiling of data in tables or files outside of the Relational Database Management System (RDBMS). This is highly advantageous in providing you with opportunities to rectify data quality problems prior to ingestion into the RDBMS. We also provide ongoing monitoring of EDS data quality to identify any recommendations for data quality course corrections in operations.

DQ013	The solution should provide a tool that continually monitors the data quality within the solution and internal analytic applications.

Our operations data quality tools will reach all data in the EDS solutions, whether they are the baseline data warehouse or the OPAHHS and FADS marts.

DQ014	The solution should support audit and control processes that identify, report, and summarize errors in the data.

Our data models include tables with inline or linked attributes that support data and process auditing that identify, report, and summarize errors in the data.

DQ015	The solution should provide a tool that includes error/exception handling processes that identify/isolate the errant data.

Our ETL tools include the capability to identify and isolate errors and exceptions. We will work with you to design, test and implement rules and attendant processes to identify errors and exceptions for special handling.

DQ016	The Vendor should maintain a process to identify and track all errors and discrepancies found in the solution pursuant to Service Level Agreements (SLAs).

Our ETL tools and processes provide the capability to track all errors and discrepancies found in the EDS. We will work with you to identify and agree to a process for such reporting pursuant to the relevant SLAs.

DQ017	The Vendor should maintain a process to notify the Department of errors and discrepancies found in the solution pursuant to Service Level Agreements (SLAs).

Our ETL tools and processes provide the capability to track all errors and discrepancies found in the EDS. We will work with you to identify and agree to a process for such reporting pursuant to the relevant SLAs.

DQ018	The Vendor should provide recommendations for proposed resolution/fixes for identified issues within a timeline approved by the Department and pursuant to Service Level Agreements (SLAs).

Our ETL tools and processes provide the capability to track all errors and discrepancies found in the EDS. We will work with you to identify and agree to a process for such reporting pursuant to the relevant SLAs. This process will include a format for us to provide recommendations for fixing and resolving data issues pursuant to the relevant SLAs

DQ019	The solution should support data integrity through system controls for software program changes and promotion to production.

Our data quality tools include a mature integrated development environment and source control. We will use these capabilities to follow agreed to change control, testing and promotion to production procedures.

DQ020	The solution should include an integrated automated logging and tracking component for all inquiries between authorized solution users and Vendor staff that includes, but is not limited to:
DQ021	The date and time of inquiry
DQ022	The form of inquiry (phone, email, and instant messaging)
DQ023	The ability to create a summary level nature of the inquiry
DQ024	The ability to document details of the nature of the inquiry
DQ025	The authorized solution user
DQ026	The Vendor staff member

DQ027	The response details
DQ028	The date and time of the response
DQ029	The applicable notes on the resolution of the inquiry
DQ030	Other details as determined by the Department

We understand that it is important to track all inquiries between our staff and authorized solution users. We will track all such interactions to provide you with visibility into timeliness, accuracy and client satisfaction.

Our tracking system has the capability to provide the following: **The time and date of the inquiry,** a **summary level description** of the inquiry, **document details of the nature of the inquiry,** track the authorized solution user and their relevant contact information. The **vendor staff member** who worked on the inquiry as well as staff members involved in the follow up, track the **response details** provided in the inquiry and follow ups, **date and time** of the inquiry and **applicable notes** on the **resolution of the inquiry**.

We will track the medium through which the inquiry was made, including phone, email, in person, and instant messaging (if Optum team members have access to the DHHR instant messaging platform).

If **other details as determined by the Department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DQ031	Reporting on all inquiries as requested by the Department

We understand that one major benefit of using a tracking system is reporting on individual and aggregate interactions. We will work with you to identify and agree to reports that provide meaningful detail and where desired overall and roll up statistics.

DQ032	The solution should provide the ability to automate meta-tagging including, but not limited to:
DQ033	Reports
DQ034	Queries
DQ035	Maps based on their contents
DQ036	Other elements as requested by the Department

One major benefit of OPAHHS is our ability to provide you with lineage from inbound data to outbound **reports and queries**. This lineage is enabled in a large part by meta-tagging. We will work with you to provide visibility with attendant search-ability and categorization of the EDS solution objects including: all reports so that they are searchable and storable in libraries, as well as making their constituent data reachable by data lineage tools, **queries** so that they are searchable and storable in libraries, as well as making their constituent data reachable by data lineage tools.

R Studio has the capability to meta-tag **maps, based on their contents,** so they are searchable and storable in libraries. It also makes their constituent data reachable by data lineage tools. We will work with EDS users so that they are familiar with these capabilities.

If **others elements are requested by the Deparment** that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DQ037	The solution should have the ability to de-identify and re-identify data within the solution as needed.

Our data redaction software will de-identified and re-identify data where required in any of our environments. This software has the capability to redact data on the fly or persistently, depending upon agreed to rules. On-the-fly redaction is controlled by RBAC described above, whereas persistent data redaction is obscured for all users. We will work with you to identify columnar and row wise rules for such redaction, whether it is on the fly or persistent.

DQ038	The solution should provide the ability to review and report on data quality metrics including, but not limited to:

Our data quality tools provide a data quality assessment, quality module development and an ongoing set of metrics for the measurement of the effectiveness of the modules. We measure the data quality through the major steps recognized by the Data Warehouse Institute TDWI for data quality. In your requirements listed below, you have listed the major aspects of data quality that TDWI and we consider important.

DQ039	Data completeness

We will work with you to identify, agreed to and develop data completeness metrics to defend against omitted or duplicated data. We understand the importance of loading complete datasets in order to balance to source systems, and we do so in all of our data warehouses. We focus intently on balancing record counts and dollars, and also work to accomplish complete renditions of the provider, member, reference and other aspects of the Medicaid enterprise.

DQ040	Data consistency

We build data consistency into our data models, ETL and metadata management so that like data have the same structure, definitions and business meaning across the data warehouse. To take a simple example, we will maintain the same data type and size for provider id across the EDS so that users can easily join from provider ID on the claim or encounter without fear of data mismatch and dropped records. In this example, if one source system omits something like a leading zero, and other systems maintain it, we will make the data contents (i.e. the provider ID) consistent in size by adding the zero back in. We also maintain consistency across column names and semantic layers so that users do not encounter mismatches like pay_prov_id on one type of claim and pay_to_prov_id on another type of claim. Users can be confident that metadata are consistent across our model, and have the same business meaning where appropriate.

DQ041	Data validity

Using our data quality development environment, we will build measures that assess the validity and faithfulness to technical and business definitions of your incoming data, both as part of data conversion and ongoing ETL. In order to preserve your investment in data quality, we will adapt the measures used for validity assessment to inbound data, data inside of the EDS, and data presented through the reports and interfaces. This consistent approach will help to not only detect data validity problems prior to conversion, but will detect trends that fit within quality control thresholds but are headed in the wrong direction.

DQ042	Data conformity

We will employ data conformity transformations and measure their results. Whenever a data element does not adhere to its technical or business metadata definition, that is a data quality problem. We are experienced in recognizing and reporting the impact of data conformity problems. We have designed ETL routines for more than 9 states, and are well familiar with the most serious problems that will cause downstream reporting and interface problems. One example is category of service (COS). COS is essential for federal and State reporting, which is an example of a top priority problem with inbound data that we would work with you to solve and monitor ongoing. Conforming such data elements often involves looking at other fields on the claim record such as procedure code and provider taxonomy.

DQ043	Data accuracy

Our data models and ETL routines are designed to produce an EDS that accurately reflects your source systems. Wherever possible, we work to move the data through the source systems to the data warehouse substrate and product data marts in a manner that reflects the record by record and field by field rendition in the source system. This is not always possible due to

problems with the source systems. When we encounter such issues in data conversion and ongoing maintenance, we will recommend creating a companion field in the record in question. This will help users easily see how the data were presented and how we conformed it to the business rules in the EDS. These data will simultaneously reflect the source system and business rules in the EDS accurately, as our data quality measures, quality reports and attendant metadata will show.

DQ044	Data integrity

Data integrity is a fundamental aspect of our solution and we will bring this to your EDS. Whether we are modeling dimensional or 3rd normal form objects, users expect referential integrity for key relationships and they will get it. In order to deliver on that expectation we will measure and in cases that a data conformity problem in a key field risks data integrity, we will catch the problem ahead of time. Per agreed to procedures, we will bring an assessment of the impact of the problem complete with recommendations for remediation to you.

DQ045	Others as defined by the Department

We will work with you through change control to stand up other types of data quality measures. If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DQ046	The solution should support production of X12N 270 transactions to query other payer eligibility files and ability to process responses.

Our ETL tools include libraries that enable the processing of X12N 270 and X12N 271 responses so that the EDS can interact with other payer eligibility systems. We will work with you through change control to stand up this capability for the EDS.

DQ047	The solution should comply with relevant standards including, but not limited to National Information Exchange Model (NIEM), CAQH-CORE, Health Level Seven International (HL7), X12, EDI, and HIPAA for data interchange.

We will work with you to preserve your existing compliance with relevant healthcare data standards, including National Information Exchange Model (NIEM), CAQH-CORE, HL7, X12, EDI, and HIPAA for data interchange.

DQ048	The Vendor should support each phase of Council for Affordable Quality Healthcare - Committee on Operating Rules for Information Exchange (CAQH-CORE) rules.

We will work with you to preserve your existing compliance with relevant healthcare data operating rules, including CAQH-CORE.

3. HARDWARE AND INFRASTRUCTURE

Refer to the relevant technical specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Hardware and Infrastructure below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Optum Response:

Approach and Solution Capabilities for 4.5.2 Hardware and Infrastructure

Our proposed solution is a COTS-based, scalable, and extensible data analytics platform and enterprise data warehouse for the EDS. It provides an intuitive interface to engage users of all types and skill levels, across departments, agencies, and external research partners and organizations. OPAHHS enables authorized users to coordinate, collaborate, develop, share, save, and re-use reports and analytic workbooks.

OPAHHS is hosted in the FedRAMP-certified Microsoft Azure® cloud. It directly addresses the West Virginia's goal of establishing an EDS platform for understanding member health status, health care use, and social determinants of health. With this information, you can improve health outcomes and reduce the cost of care.

Phased Implementation

We will implement the hardware and infrastructure early in the project. At project onset we will start to stand up and secure parts of the production environment so we can begin to ingest your data as quickly as possible. We divide the project into distinct phases, as shown in Figure 78, below. In the early phases of implementation not all environments will be available to all users. All environments and infrastructure are enabled during the Execution Phase.

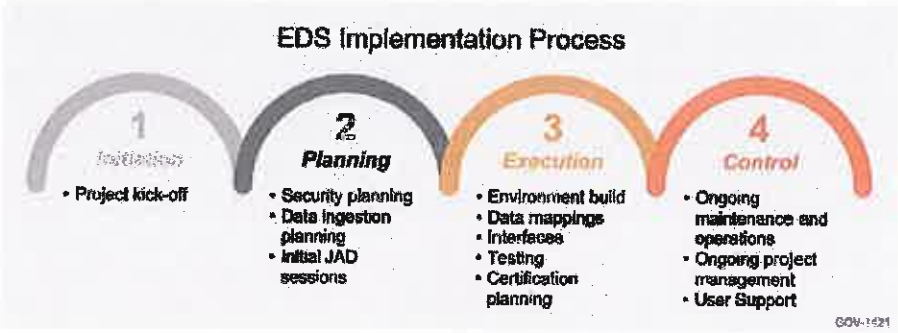


Figure 78: EDS Implementation Phases
We apply a proven phased approach to implementation.

We deliver OPAHHS as a Platform as a Service (PaaS) model. This provides all the flexibility and scalability of a cloud solution at a lower total cost of ownership than traditional on premise solutions. By using a cloud solution, you are assured the technology is kept updated and compliant. We have designed our solution with the right sizing and resources. Deploying on a cloud platform enables us to scale as needed to meet your contract requirements.

OPAHHS combines a centralized enterprise data warehouse with integrated analytics and reporting capabilities that serve business imperatives across state programs. Our solution aligns with all three MITA Framework architectures: Business, Information, and Technical. This design allows the data warehouse to be a single point of entry for gaining access to all data, whether or not the data resides in the data warehouse.

Our architectural design is based on best practices such as the use of open standards and COTS. A foundation of our approach is our experience delivering large-scale systems based on HIPAA and National Institute of Standards and Technology (NIST). Particularly, we note the MITA Reporting Condition's emphasis on the importance of the enterprise data warehouse and to improve Medicaid enterprise data governance.

Additionally, CMS requires an environment for SOA Web service development, especially because such services access federated data similar to those found in the enterprise data warehouse. Data and access services are inherent design components in our architecture.

Figure 79 provides an overview of the OPAHHS architecture.

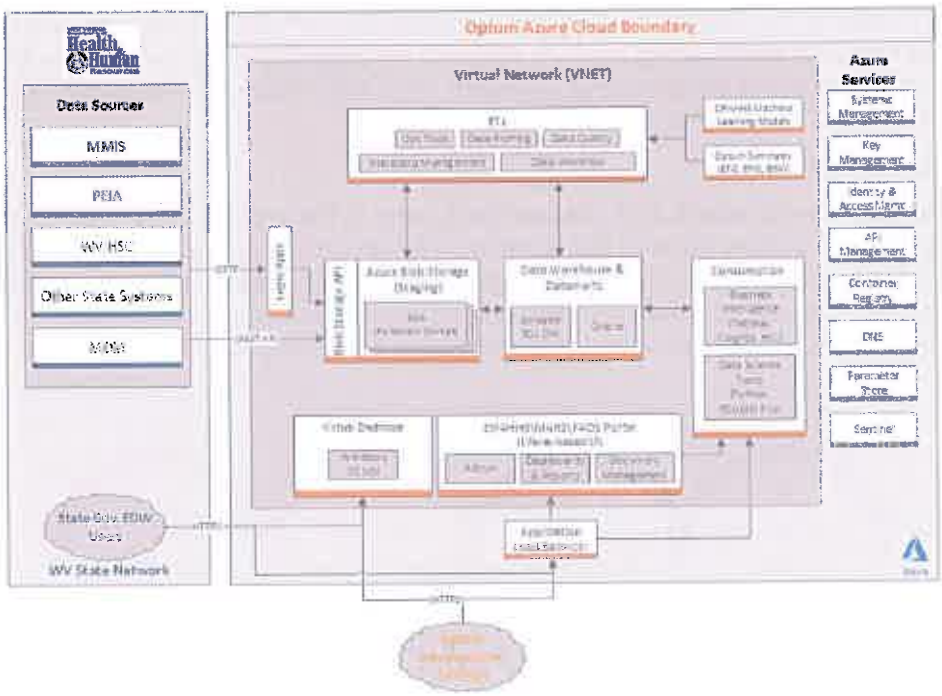


Figure 79: Architecture Diagram
Optum architected your solution for maximum effectiveness.

The following describes how our architecture matches your target architecture by function.

Data Warehouse: The primary data store will be implemented using Azure's data warehouse service. This is a PaaS solution, which provisions the current version of SQL Server on a data warehouse appliance. This means you get the benefits of SQL Server software enhanced by a parallel processing hardware platform designed to quickly execute database queries. This is a virtual equivalent of Oracle's Exadata or Microsoft's Analytics Platform System. SQL Server supports both structured (relational) and unstructured (e.g., XML, JSON, and blob) data. The support for XML and JSON will help you if you start receiving electronic medical record data because it is usually represented in those formats.

SQL Server also has native support for geospatial and graph data. This managed service includes regular backups and georeplication of those backups. The georeplication means that your data is available at another data center for resumption of operations at another data center in the event of disaster.

Data Ingestion: Getting data into the warehouse is paramount to success. Our architecture involves three services:

- **SFTP/EDI:** Secure file transfer protocol for moving files and electronic data interchange for X12 and HL7 messages is accomplished by the Azure Logic Apps service. This is the new version of the Biztalk service in the cloud environment, thus it is compatible with your chosen ESB. We have provisioned capacity to meet your needs. Azure Logic Apps has unused ESB and app capabilities we are not presently using that would be available if needs change
- **Staging Area:** As files and transactions arrive, they are stored as is in our landing zone. Both structured and unstructured data can be stored for any length of time as Azure blob storage. We store each distinct object and back them up to the alternative site. The R/RStudio/Spark

environment can read and write directly to blob storage, making it usable as personal storage.

- **ETL/ELT Platform:** The market-leading Informatica suite of extract, transform and load tools is our primary toolkit for acquiring, transforming, loading and cleaning data. Whether we transform the data before loading it or not depends on the specific business problem – we can do either. This software runs on its own virtual machines and is not a Microsoft managed service. Informatica has extensive logging and alerting processes. Erwin is our primary data modeling tool. In addition, we use Informatica Metadata Manager and Business Glossary.

Data Quality: We are using Informatica Data Quality coupled with our data quality processes. Data validation occurs before and after loading. We follow processes that count the records and fields in the input files. These record and field counts can then be balanced to verify that no data was excluded during the loading process. When the data is loaded, we perform further data integrity checks to validate that the newly loaded data displays correctly for the user. At each step in the ELT process, we conduct quality checks to validate the accuracy of converted data against source data and the transformation rules. In addition to statistically significant sample size audits to check for outcome violations on various data elements, we verify count balances at the file and table level and perform unit and system testing for migration and load programs.

Metadata Management: We use Informatica Metadata Manager as the EDS data dictionary tool. Metadata Manager provides direct connectivity to capture metadata from various data sources. For non-standard metadata sources (e.g., stationary documents), Metadata Manager also provides a customizable metadata integration capability to help create and edit custom meta-models. It is accessible through the Data Analytics and EDS portal. The tool contains table name, column descriptions, transformation rules, and the business usage of specific columns. It also records data lineage and mapping, and business rules applied to data in the migration and data conversion process. We keep the business glossary in Informatica current with data model changes. Metadata Manager is synchronized with Azure's data warehouse service. In addition to metadata, reporting metadata from various Informatica repositories will automatically synchronize with third-party metadata and business intelligence tools.

Using Metadata Manager, we store all the metadata contents in a centralized Metadata Repository. Metadata Manager can be used to maintain the custom models already created. It captures the data: title, category, objective, source, type, version, status, applicability, references and relations to other standards. The repository includes vocabularies (i.e., code sets). When we calculate new fields in BI tools, those definitions also import to Metadata Manager. The metadata repository holds all technical and business metadata content, such as documents, spreadsheets, and messages.

Figure 80 shows how metadata from various sources integrates with the centralized Metadata Manager repository. It also shows various applications from which Metadata Manager can directly exchange metadata using pre-built connectivity.

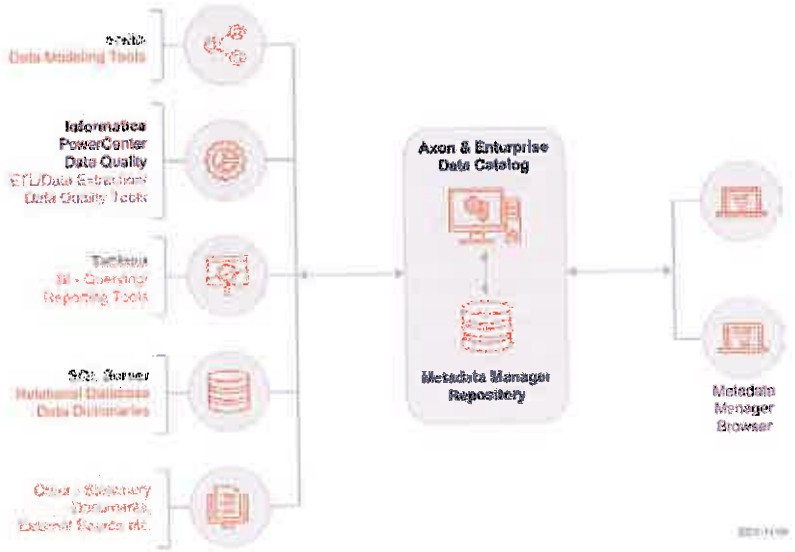


Figure 80: Relationship of Infrastructure and Data Modelling tools to the Metadata Manager
All components are integrated and feed Metadata Manager.

Reference Data Management: We load needed reference data and ingest it into the data warehouse. We acknowledge that you are requiring SNOMED and LOINC codes in addition to the ICD, CPT/HCPCS, and NCPDP codes needed with claims data.

Reporting, BI Analytics and Visualization: We use Tableau both as our primary BI tool and as our primary visualization tool. OPAHHS reports are produced as Tableau workbooks. The workbooks contain a substantial amount of data and are in many ways the equivalent of a data mart. This is a benefit because our reports are not inflexible objects. They are user-customizable through filters and selection mechanisms and you can change the data visualization. Tableau also supports the ability to select points or regions in one pane and filter a tabular view in the other (i.e., brushing and linking).

In addition, Tableau provides business intelligence analytics. It is supplemented by statistics done in the R statistical language. Tableau has a mechanism for calling functions in R. We provide advanced analytics in our reports by calling functions written in the R statistical language, passing data from the Tableau workbook and returning the model result.

PowerBI is also used to support business intelligence to the member and provider portal.

Data Model

The OPAHHS data model is customized to meet your needs, beginning with the reporting and analytic dimensions and commonalities frequently used. Our solution provides DHHR with easy access to retrospective reporting while also facilitating proactive thinking to support the strategic planning efforts and your overall goals. By addressing the key factors listed in this table, OPAHHS provides ease of access for retrospective reporting and the support needed to activate proactive thinking and strategic planning.

OPAHHS provides the flexible and responsive data-driven framework needed for reacting to legislative and regulatory change with minimal effort. Our solution is aligned with the CMS Seven Conditions and Standards and meets applicable Medicaid Enterprise System (MES) checklist requirements. Further, the flexible and extensible architecture of our solution positions you to move to higher MITA maturity levels.

OPAHHS users will interact with the solution through their Web browsers. Our solution supports Internet-compliant browsers, including Internet Explorer, Firefox, and Chrome. We leverage the Azure Active Directory for role-based access control. We do not require any browser extensions.

Users will have role-based access to all components of the solution through our Web-based portal. All users will arrive at their home page and access information and tools specific to their roles and business needs. They will have easy access to data and analytics when they need it and how they need it. Figure 81 depicts a single-point of entry for all user types through our Web-based OPAHHS portal.

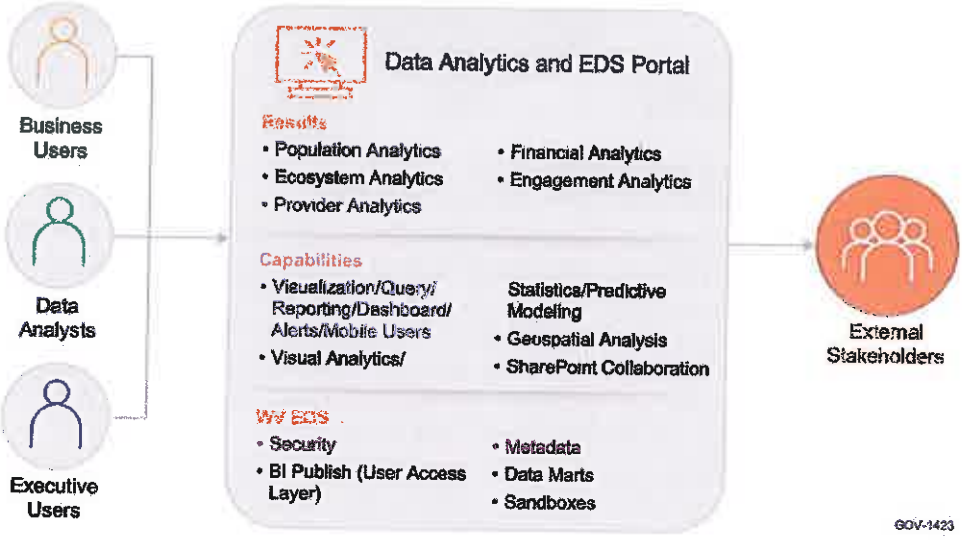


Figure 81: Facilitating Analytic Access and Information Delivery
OPAHHS provides a central access point for the entire EDS user community.

We will maintain and operate the set of software tools used to build and implement the EDS following industry-best practices. This includes cleansing and loading data, all aspects of security, performance monitoring, and metadata management, reference data repository, data quality and governance management.

The most likely source of errors in our experience is bad data. We provide strict data quality through rigorous validation during data intake. In the case of bad data, our data quality management tools and processes handle the root cause of data problems before they can infect the data warehouse and analytic results.

Our solution profiles and discovers data anomalies, structure, and overall suitability before any data migration effort begins. It matches records and identifies relationships across multiple members, providers, and other data domains. We score the perceived quality of data items and the relevance of business rules to gauge the overall health of data that feeds data quality metrics and key performance indicators. We apply reusable data quality rules and processes to master enterprise data across multiple sources, applications and systems in batch or by using Web services. Figure 82 shows the data quality continuous improvement cycle.

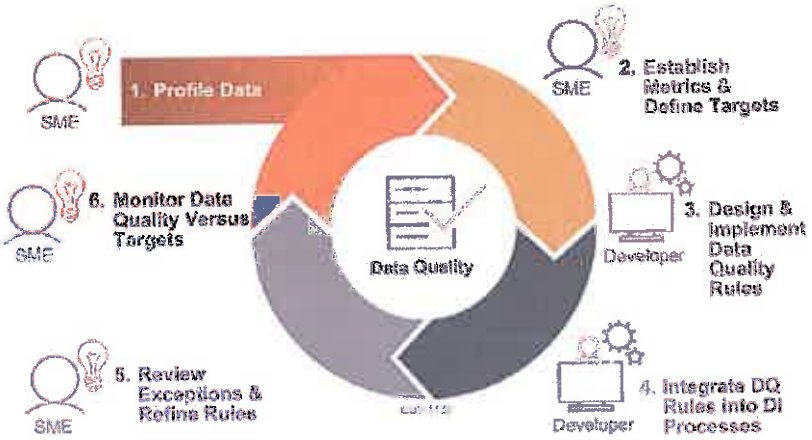


Figure 82: Data Quality Continuous Improvement Cycle
We apply proven ongoing processes to continually improve data quality.

We understand our role in data governance and will support you by proposing and implementing a Data Quality Plan. The plan includes data-based policy, data gathering and data harmonizing. It also provides information on policy components that we will modify to accommodate DHHR requirements discussed during JAD sessions. We will publish that information to the appropriate stakeholders in reports and other media used to consume performance metrics. In addition, we will perform data profiling and inform upstream systems about data quality issues. For data governance administration, we will perform tasks related to:

Research on behalf of governance: Many issues are better resolved with quality technical advice. For example, if the data governance board decides that better matching of client to claims and assessment data is an issue, we will discuss the relative advantages of maintaining the status quo versus the costs and difficulties of maintaining within the solution.

Reporting on actual usage: We report on actual relevant usage figures and survey stakeholders about the usefulness of existing measures and the demand for new ones.

Data quality: Data governance sets policies for measuring the quality of data sources, the need for quality given the business goal, and informs the execution of concrete steps for its improvement. For example, if transitioning managed care along with direct transmission of encounter data is an issue, continuous improvement in integrity edits and constructive feedback to the source managed care entities will address the problem. Similarly, integrating physical and behavioral health data implies the development of appropriate measures of performance and a more holistic approach to identifying gaps in care. OPAHHS delivers a unified data management platform, key performance indicator tracking, and data quality issue collaboration.

Exception Handling Process

The OPAHHS infrastructure is deployed using a standard SDLC process. Should exceptions occur, Optum will review the exception with DHHR as part of the change management process to gain your approval. All exceptions will be documented. If the exception will impact the project plan, we will rebaseline the project plan for your approval. Exceptions to infrastructure buildout are rare.

Dependencies of Existing Systems

OPAHHS will use the existing MDM solution. Users will connect to OPAHHS from their web browser. Existing client software such as SAS EG, Cognos or Tableau Creator can be used by your users to connect to OPAHHS.

OPAHHS can meet your expectation to become the foundational tool for all aspects of analytics in the West Virginia. The following table summarizes the OPAHHS key features and advantages that align with your requirements.

Appendix 1: Hardware and Infrastructure

Optum will meet the Hardware and Infrastructure requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

IN001	The solution should have the ability to retain a historical record of all reports created within the solution including, but not limited to:
IN002	Report parameters
IN003	Date created
IN004	The authorized solution user who created the report
IN005	All fields included in the report
IN006	Others as defined by the Department

Our solution supports comprehensive content archiving. It will comply with your State and federal records retention standards. We will work with you to define the record retention standards and retention rules. We can define how long to keep the history and report output versions. Report and project artifact retention will be established according to DHHR policy.

Report parameters and **creation date** is saved as part of the report metadata. The **solution user who created the report**, otherwise known as the report owner, will be retained as part of the report metadata. Each time the report is executed by additional authorized users the execution details, including who requested the report, will also be retained.

All fields included in the report and its historical executions will be maintained as part of the solution. If there are particular elements that need to be captured, for example, the IP address originating the execution request, those details can be added as part of the captured audit data.

If **others as defined by the Department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN007	The solution should ensure an authorized solution user experience that meets the response time goal for system latency of no more that 20 milliseconds for each workload interaction.

For data scientists or other power users who execute direct access queries to the system, simple queries will be processed within 20ms. Complex queries will take longer to execute depending on multiple factors including the number of dimensions, data elements and range of data that is being queried. Likewise, reports can be executed within three seconds (for a complex report) or less, as measured at the Azure egress router. Monitoring tools within the BI tools can be used to show SLA adherence.

IN008	The solution should provide tools for maintaining and managing changes and modifications made by authorized solution users to queries and reports.

OPAHHS captures, retains, and provides online access to historical data changes, including those changes to saved queries and reports. The information within the online audit record is understandable and identifies the person responsible for the updates, the data element prior to the update and the new value of the updated data element including any associated date changes associated with the update. A change history is available to authorized users.

IN009	The solution should have the ability for hardware, operating system, database management software, and other infrastructure software to meet capacity needs including, but not limited to:

OPAHHS and the Microsoft Azure Cloud are able to resize on demand. There are no built-in limits to the size of the EDS or any other component of the solution. It also supports auto-scaling which can add additional capacity automatically in response to demand. We know that

scalability is important for the West Virginia's EDS solution to avoid potential performance issues. We understand current data needs and use multiple capacity areas.

IN010	Bandwidth

Your solution will be a tenant at a Microsoft Azure data center, which has a general availability SLA. This is a contractual guarantee of sufficient Internet bandwidth even after sharing the data center's connection with other tenants. The Azure Network Watcher enables us to monitor connection flow. We have not encountered any issues with bandwidth availability at client sites. Client connections require 50 kilobits per second of Internet bandwidth.

IN011	Central processing unit processors and speed

Additional processing capacity can be allocated to virtual machines on demand. We will proactively monitor the solution to assess when servers regularly perform beyond a 60% threshold. Once thresholds are met additional capacity will be provisioned.

IN012	Cache size

Cache size will be configured to support optimal database and report performance.

IN013	Data storage capacity

We have carefully sized our solution to allow for the creation of reports by authorized users, data ingestion and system storage requirements. The Microsoft Azure cloud platform has the technical ability to allocate new resources on demand with nearly instantaneous availability. Azure can also auto scale, which means increasing or decreasing capacity automatically in response to current demand. This assures sufficient process/storage is available at all times.

IN014	Retrieval speed

Secure file transfer protocol for retrieving data is accomplished by the Azure Logic Apps service. This is the new version of the Biztalk service in the cloud environment. We have provisioned capacity to meet your needs. Azure Logic Apps has unused ESB and app capabilities we are not presently using that would be available if needs change. We will store files in high-speed blob storage.

IN015	Others as defined by the Department

Capacity management is flexible and can be accomplished on demand. We proactively monitor the solution to provision services as needed to support OPAHHS and maintain compliance with SLAs. If others are defined by the Department are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN016	The solution should have workflow processes that prevent shifting architecture inefficiencies to manual processes performed by authorized solution users.

The design of OPAHHS architecture supports and promotes Service Oriented Architecture (SOA) design principles that support an architectural platform that includes independent vendors, products, and technologies. The solution's services are a distinct unit within the solution's functionality to support independent product updates and additions. DHHR will set the business rules and workflows. Optum will configure those business rules to accommodate and automate your business processes and services. Should any architectural deficiency develop over the system lifecycle, established workflow processes will prevent inefficiencies that are inherent with manual processes.

IN017	The Vendor should specify to the Department the hardware, software, main operating system (OS), and configurations necessary to run the solution on client devices.

Any standards-based modern browser will work with our solution. Data scientists will be able to use enhanced analytic tools through the virtual desktop interface. These tools might include PowerBI, Excel, SQL Server Management Studio or Tableau Creator.

IN018	The solution should have business intelligence that adheres to the Department's business policies and procedures.

OPAHHS will adhere to DHHR business policies and procedures. Users access data, reports, and dashboards based on your governance process. OPAHHS facilitates data visualization that promotes higher levels of data consumption and business insights. At-a-glance views of key performance metrics and program information will drive more effective information use. You will gain insight for monitoring performance metrics against benchmarks and goals to help advance your MITA maturity level by:

- Focusing on standard business intelligence metrics
- Consolidating data into a single or centralized dashboard
- Making business intelligence information available more quickly to support decision-making and strategy development
- Adopting enterprise-wide performance standards and metrics for business analysis

IN019	The solution should be a service-oriented architecture (SOA) with reusable and interoperable components and services.

Our component-based, SOA approach will support your "Build Once, Reuse Often" strategy. We will leverage our high-performance hosting environments and services, SOA, and secure infrastructure for our architectural approach. Your EDS will be responsive to change and maximize your return on investment. We will achieve performance using an infrastructure that:

- Tightly manages the core processes that matter most to you and may affect the member and provider community
- Measures and reports on aspects of operations to meet your SLAs
- Builds quality into our processes with a focus on effective operations instead of corrective actions

We designed OPAHHS with a cloud infrastructure to provide high availability and resiliency, building in redundancy and stability. We can provision additional capacity as your business demand grows. Optum will also implement a comprehensive approach to continuous monitoring. This ongoing effort will protect your information, critical assets, and intellectual property of application and infrastructure components. Our solution's operational processes will support high availability.

Through SOA-based tools, OPAHHS can expose the data that is necessary for oversight, administration, evaluation, integrity, and transparency. Dashboards, interactive visualizations, and pre-defined reports can be accessed through our web-based portal. You will have appropriate drill-down capabilities to see the details behind each dashboard measure. Reports can be scheduled and distributed automatically internally or externally through the OPAHHS integration services and web services portal.

IN020	The Vendor should document a holistic, multi-dimensional data view that includes pictures, diagrams, and flow charts of the architecture requirements at the summary and detail levels for suppliers, the Department, and authorized solution users to visualize the solution components and interactions.

To guide our operations and support of OPAHHS, we will work with you to develop a System Operations Plan. The System Operations Plan will include Pictures, Diagrams, Flow charts, Data models, and Architecture details at both a summary and a detail level. Inputs for the guide will include the key service operations areas of our service delivery model: event management, incident and problem management, change management, performance and availability management, and capacity management. The System Operations Plan will describe the methodology, procedures, and tools we will use throughout operations. We will work with you to incorporate your RFP requirements, standards, tools, procedures, and SLAs into the guide. Our

operating procedures will drive accurate, timely reporting and oversight of project activities. The System Operations Plan will also address the following:

- Incorporating standards required to pass periodic reviews that CMS, the State, independent auditors, or other regulatory bodies may conduct
- Identifying, documenting, and incorporating federal and State standards and requirements
- Providing a comprehensive knowledge base you will own going forward
- Providing performance and workload data to build accurate staffing models
- Informing test plans for all environments and change and maintenance processes
- Electronically providing up-to-date, accurate documentation to you and third-party contractors
- Documenting service thresholds to quickly identify problems and provide the artifacts to facilitate effective internal control reviews with well-documented cause, effect, and resolution documentation
- Performing monitoring and reporting that provides the evidence of service level achievements
- Providing and managing secure access to the system for authorized users
- Creating and updating system operations documentation
- Providing single sign-on and role-based access reporting
- Documenting roles and access control lists by role
- Archiving operations documentation in case restoration is needed

IN021	The Vendor should ensure the architecture and application design used for the solution allow for the volume, frequency, and variety of data to be scalable, added and updated as needed by the Department.

OPAHHS uses modular, highly integrated, and configurable commercial-off-the-shelf (COTS) products that comply with your objective for a scalable, extensible EDS module needed by the Department. As your program needs evolve, the OPAHHS solution will offer the same inherent flexibility and scalability to expand the number of data sources, the data volume, the data frequency and the variety of data within the EDS.

IN022	The Vendor should provide independent application environments to support unit testing (software), system integration testing (SIT), user acceptance testing (UAT), and production deployment.

OPAHHS will support multiple environments using standard Azure capabilities for infrastructure security, scalability, performance, backup, and ongoing maintenance. The environments will share nothing with one another, and will be isolated from one another in terms of their purpose in the EDS data, development, and operations lifecycles.

Each physical environment will provide multiple logical ones, which will map to one of your required environments. The environments provided for the EDS are in the following table.

Environment	Description	Data Management Advantage
Development	Development, integration testing, iterative functional testing and unit testing environment	Under SAFe, we will engage multiple databases simultaneously for development and testing of different subject areas
System Test	System integration testing environment	Flexible release-based testing; releases can accrue and require environment elasticity
User Acceptance Test	User acceptance testing, interface testing, regression testing, end-to-end testing, security testing, usability/accessibility testing, and browser testing	One or more databases providing focused testing of data and functions

Environment	Description	Data Management Advantage
Staging and Release Testing	Performance Testing, Data Conversion Testing, Operational Readiness Testing (ORT), Parallel Testing, Sandbox, Training	One or more databases providing stage and release testing
Production	Production environment	Single environment with production resource management
Disaster Recovery	Disaster recovery environment	Failover environment to support declared disaster events

IN023	The Vendor should provide independent application environments (sandboxes) to support authorized solution user testing and training.

Sandboxes will be provisioned to power users and client data scientists with proper authorization through role-based authentication. These users will use the provided tools and resources to gain access to the additional database sandbox environment.

IN024	The Vendor should provide a solution that minimizes the cost of changes to business rules and business processes.

OPAHHS supports routine changes to business rules and refinements of workflows. The OPAHHS workflow component provides the ability to make routine changes without requiring system restart or service disruption. Routine changes or updates are cost neutral.

IN025	The Vendor should provide a solution that integrates new technology in a way that minimizes any negative impact to the solution and authorized solution users.

Any updates or new technologies are managed through our change control processes. Once a new technology or change is approved, our team performs the appropriate testing in a non-production environment prior to the Production environment. Changes to the production environment must be submitted using a formal change control ticket and must include a back-out plan, in the unlikely event that such changes need to be removed. We use this process to minimize downtime and any impact on OPAHHS or authorized solution users.

IN026	The Vendor should provide modular components and processes that lengthen the solution's life span when components are updated and/or replaced.

OPAHHS is a modular, integrated, intelligent solution that modernize health care systems and improve overall population health. Our solutions help states manage programs and services for half of the total U.S. Medicaid population. OPAHHS is a modular COTS-based solution that allows for replacement, upgrade or exchange of components to extend the solution lifespan.

IN027	The Vendor should provide a solution that is adaptable and extensible to accommodate business and technology changes.

Microsoft Azure is an extensible, scalable, FedRAMP-certified cloud platform to ingest, store, analyze, and interact with sensitive and regulated data. This assures that the technology is configurable, scalable and interoperable to meet your evolving business and technology needs.

IN028	The Vendor should provide the ability for authorized solution users to run multiple sessions concurrently and have multiple views in the same environments, application, and solution components.

The soluiton provides the ability for authorized users to access multiple screens and functions from a single login. While it is possible to enable a single user to run multiple logged in sessions concurrently, this capability will require DHHR to provide and maintain a written security exception to MARS-E Control AC-10: Concurrent Session Control. MARS-E requires each system account/user is limited to a single session. The exception will be documented in the Security, Privacy, and Confidentiality Plan.

IN029	The solution should have the ability to provide a toolbar with common toolbar utilities including but not limited to:
IN030	Highlight
IN031	Copy
IN032	Paste
IN033	Zoom
IN034	Others as defined by the Department

Toolbar functions are limited to those supported by the web browser. OPAHHS uses a modern web browser. Common web toolbar utilities are available in OPAHHS. **Highlight** and **copy** are supported in OPAHHS. **Paste** is supported in OPAHHS for free entry fields. **Zoom** is a supported function of OPAHHS. Field constraints are applied to require proper field formats. For example, a text entry could not be pasted into a numeric field. Copied data can be pasted into external applications. Reports could be exported to Word or PDF formats to support highlighting needs.

If **others as defined by the Department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN035	The solution should have the ability for screens to be maximized, minimized, scrolled, and zoomed without the use of external, non-solution-based hot keys, and without hindering standard Windows capabilities.

Screen size, scroll functions and zoom functions will function as standard Windows functions. OPAHHS does not inhibit any of these default user experience capabilities.

IN036	The solution should provide the ability for efficient sharing, management, and stewardship of data and data queries.

OPAHHS provides a proven data governance model that assimilates to your enterprise governance structure and outlines clear lines of responsibility, accountability, transparency, and communication to promote prudent data stewardship and secure data sharing. Data governance is a fundamental function of our successful approach. We use it to manage the data layer assets and the data quality process. We will work closely with your existing data governance committee, or we will help you establish one, to introduce the necessary data stewardship positions and processes to govern your data assets. Full transparency and your active involvement in every step of our data stewardship process are essential to our mutual success. Data governance will bind the core functions of the OPAHHS data process including efficient sharing and data management.

We use governance to identify, prioritize, track, and manage data changes within the EDS. The data governance program will include enforcement policies and practices to continually maintain the integrity and meaning of your data.

IN037	The Vendor should work collaboratively with the Department to minimize existing barriers internally and externally, as defined by the Department.

Optum knows how to work with clients to create and nurture a skilled, productive, collaborative user community that achieves maximum return on investment. We will work with DHHR to minimize any internal or external barriers to EDS success.

IN038	The solution should provide components that deliver asynchronous communication, timely alerts and notifications, and support social and collaborative environments.

OPAHHS provides asynchronous communication with alerting and notification capabilities. We support alerts and notifications for:

- User notifications
- ETL processes

- Solution monitoring
- Security monitoring

Our standard monitoring tools capture the availability status of each environment. We monitor hosted environments 24/7, to identify, record, report, and analyze equipment or system alarms and conditions that may lead to abnormal operations. Monitoring at each level in the environment accelerates incident identification and problem or incident resolution. Various tools perform:

- Infrastructure and application instrumentation/monitoring (e.g., alerting/notification)
- Event monitoring (e.g., process completion, file transfer)
- Application performance monitoring and reporting
- Transaction monitoring

We support social and collaborative environments through an online user forum. Interactive message and discussion boards enhance the user experience.

IN039	The Vendor should document the solution's architecture and clearly define service end points where system abilities can be added and/or modified without requiring changes to the end points of the solution.

OPAHHS will be fully documented in the Detailed Specifications Document (DSD) the will and clearly define service end points where system abilities can be added and/or modified without requiring changes to the end points of the solution. Additionally service end points will be defined in the Security, Privacy and Confidentiality Plan. OPAHHS is a modular, configurable, COTS-based enterprise data management and analytics solution that is scalable and extensible to add capabilities and datasets to adapt to a constantly changing landscape and eliminate the risk of technology obsolescence.

IN040	The Vendor should develop a solution where all components return the same results when the same parameters are used.

Precise, consistently reliable data leads to more accurate operational models, projections and analyses. Quality data equals trusted results. Regardless of the OPAHHS component used to query data, OPAHHS will yield the same results when the same parameters are used.

IN041	The solution should provide the ability for concurrent use of the solution by other applications, components, and/or software.

Multiple applications and components can use OPAHHS concurrently.

IN042	The Vendor should provide a solution that is compliant with the Medicaid Information Technology Architecture (MITA) Standards and Conditions.

Our solution aligns with the Centers for Medicare and Medicaid Services' (CMS) strategic direction for MITA and the Seven Conditions and Standards. We have built OPAHHS from the ground up to be compliant with CMS' standards, conditions, and requirements. Our best practices-based OPAHHS solution incorporates our experiential lessons learned delivering large scale systems per HIPAA and NIST security guidelines as well as CMS' Seven Conditions and Standards. We have translated the requirements contained in each MECT Checklist into design specifications for the foundational OPAHHS product. As a result, with OPAHHS you get MECT-compliant data warehouse and decision support services out-of-the-box.

We have extensive experience with MITA. Our team contributed to the basic requirements of the MITA standards during their initial development through peer groups and consultative services. We incorporated this strategic understanding into our data model and our reporting and analytics that leverage it. OPAHHS employs a health and human services (HHS) data model that has evolved over our many years of state government data warehousing experience.

OPAHHS meets the CMS Industry Standards Condition through the designed ability to use industry standards throughout the technical and information architecture. One of our selection criteria for the COTS products incorporated into OPAHHS was the ability to accommodate and incorporate industry standards. This includes the COTS vendor's ability to adopt and incorporate new industry standards in a timely and reliable manner.

As an example, OPAHHS incorporates industry standards such as those mandated by HIPAA. This includes standardized EDI transactions; adherence with usability standards such as Section 508(c), ACA Section 1104, and ACA Section 156; portal design according to WC3 standards; and application of security controls as recommended by NIST, FIPS and the standards contained within the HIPAA security rules.

OPAHHS advances the CMS Modularity Standard as well. Our data solutions become a core component of our clients' MES as you have envisioned for your EDS architecture and concept of operations. This happens because we approach systems development using modular components that minimize the need for customization. We promote open interfaces and enterprise standards and rules. As described in other sections of our proposal, the OPAHHS technology stack includes industry-leading components, including SQL, Informatica, Liferay and Tableau, integrated together as a hosted solution. These tools enhance modularity by providing open standards-based and SOA-capable components.

OPAHHS is a set of layered services and components enabling a reusable, modular, and highly scalable set of capabilities that will meet your growth and performance requirements both today as well as in the future. To meet the modularity standard, we designed OPAHHS to allow for the replacement or addition of individual modular COTS components as technology and business needs change and the industry evolves. OPAHHS features a services oriented architecture, where communication is executed by messaging through an enterprise service bus (ESB). This will allow communication with other external systems and modules as well.

To support the CMS Leverage Condition, OPAHHS can support the data and analytics needs from the entire EDS, including all HHS programs and other State agencies. For example, our Michigan client leverages our data warehouse solution across multiple, diverse State programs including Community Health, Human Services, Law Enforcement, Corrections, Courts, Natural Resources, Licensing, Treasury, and the Secretary of State. OPAHHS can also support inter-state sharing of transactions that can further advance your capability maturity. OPAHHS is truly an enterprise capable solution that has been designed to be scaled up and leveraged across your entire ecosystem.

DHHR will benefit from the OPAHHS solution through the opportunity to reuse EDS business functions within and outside of the EDS. For example, during implementation, we will assist you in expanding data governance by standardizing data quality among various plans and programs. Further, in building conformed dimensions within OPAHHS and reconciling with master data management golden records, we will help you collaborate with West Virginia agencies beyond Medicaid.

You will advance the Leverage Condition at the logical and physical layer. OPAHHS standardizes Medicaid data, which further advances your Leverage Condition maturity. By conforming incoming data to a standard format, you can leverage the data across a multitude of business domains. OPAHHS further enables this by making the metadata available to all users. Additionally, the technical components of our solution provide bi-directional leverage opportunities. The technology stack supporting our solution is based on commercially available, industry-leading technologies beginning with the physical compute and storage platforms and extending up into the hypervisor and operating system layers. The same is true for middleware

and database platforms. OPAHHS components will leverage other data and systems and, in turn, our components will become candidates for other systems to leverage. Our rich palette of EDS data-infused rules, workflows, and application interfaces are prime candidates that other modules can leverage securely.

OPAHHS meets the CMS Business Results Condition. While the EDS does not perform the operational transactions of an MMIS or eligibility system, OPAHHS provides the capabilities to drive the most significant process analysis capabilities that will provide the greatest improvements in your business results. As your EDS, OPAHHS will be a major component in helping you to improve your Medicaid enterprise business results.

The Business Results Condition relates to the timeliness and effectiveness of your business processes. OPAHHS will host the data that supports your business processes within the EDS and supports batch and near real-time updates to the data. With the data inside of the EDS, you can use OPAHHS's robust analytic tools and methods to isolate business processes and even sub-processes to perform process analysis for efficiency and quality improvements. This ability will enable accurate root cause analysis and correlation studies to identify and prioritize opportunities for business process improvements. This kind of process analysis can be extended to the broader HHS enterprise, as well as to other agencies and programs.

The opportunities to improve business process results can extend beyond the MITA business processes and into all of your HHS programs and other State agencies if so desired. Not only will this advance your capability maturity for the Business Results Condition, it will also work to improve your Leverage Condition. This helps further the objective of moving all business, information, and technical processes to maturity Level 3 and beyond.

OPAHHS provides the information and technical capabilities that must first exist to improve the Business Results Condition that is data driven. Furthermore, the analytic tools will allow you to build and consistently provide dashboards that monitor key metrics and SLA adherence. This will enable you to make your process improvement efforts enduring and, in fact, improve the auditability of your processes. With OPAHHS you can even automate alerts to warn when service thresholds are at risk of not being met, allowing for corrective actions to be initiated before a service level is breached. These are simple examples of the strategic and tactical benefits of our solution. We are eager for you to experience the business process improvement capabilities that OPAHHS provides you.

OPAHHS meets the CMS Reporting Condition. In fact, our self-assessed maturity level for the Reporting Condition is a Level 4. OPAHHS will store cleansed and enhanced data and provide extensive analytic capabilities, dashboards, pre-defined and ad hoc reporting capabilities, and performance measures that will contribute to program evaluation, continual improvement in business operations, transparency and accountability.

Through a SOA- and ESB-based solution, OPAHHS can externally expose the data that are necessary for oversight, administration, evaluation, integrity, and transparency. Dashboards, interactive visualizations, and pre-defined reports can be accessed through a highly intuitive Web-based navigation portal. You will have appropriate drill down capabilities to see the details behind each dashboard measure. Reports can be scheduled and distributed automatically internally or externally through the OPAHHS integration services and Web services portal. The EDS will also contain and allow you to report on all audit trail data that is available.

OPAHHS meets the CMS Interoperability Condition. We understand that the real benefit of interoperability is to allow for a high degree of coordinated interaction in order to maximize value and minimize burden and costs to providers, recipients, and other stakeholders. Interoperability

provides for effective, efficient, and timely communication within the EDS itself and externally to other systems. OPAHHS will integrate with your integration framework, through the ESB, using messaging and communication protocols to facilitate this communication. This includes providing interoperability with other MES modules as well as other, external systems such as public health agencies, human services programs, and community organizations providing outreach and enrollment assistance services. In the future, OPAHHS could also interoperate both within the State and, eventually, across states and with the Federal government. It was designed for this purpose and states that are using our OPAHHS solutions are finding the extensibility of this system to be well beyond its originally intended Medicaid-centric purposes.

OPAHHS will also provide the ability to communicate (provision) data directly with internal and external clients and systems. Furthermore, the OPAHHS Information Architecture will facilitate the exchange of data by addressing and providing data semantics, metadata, data governance and ownership, and data security and privacy policies. OPAHHS provides both the interoperability capability and the content to support coordinated communication across your EDS, and beyond.

IN043	The Vendor should provide a solution that maintains a holistic view of emerging technologies, and aligns with Department, State, and federal health information technology (HIT) standards.

Our approach and solution for reporting tools and capabilities is to combine our industry expertise with emerging technologies to deliver a powerful reporting and analytics platform. We will participate in your long-term planning for the EDS and align with Department, State, and federal health information technology (HIT) standards. We will look for emerging technologies and use cases that are candidates for EDS expansion and efficiencies that can help provide an integrated, enterprise-wide view of the business of Medicaid in West Virginia.

IN044	The Vendor should maintain data governance to enable efficient, effective, correct, and relevant decision-making regarding all aspects of data related to the solution.

We understand our role in data governance. Our solution offers a high degree of self-driven analytic capabilities and transparency for authorized users. Users can access all data, reports, and dashboards based on your governance process and their role-based access. Proper data governance enables efficient, effective, accurate and relevant decision making.

Many issues are better resolved with quality technical advice. For example, if the data governance board decides that better matching of client to claims and assessment data is an issue, we will discuss the relative advantages of maintaining the status quo versus the costs and difficulties of maintaining within the solution.

Data governance sets policies for measuring the quality of data sources, the need for quality given the business goal, and informs the execution of concrete steps for its improvement. For example, if transitioning managed care along with direct transmission of encounter data is an issue, continuous improvement in integrity edits and constructive feedback to the source managed care entities will address the problem. Similarly, integrating physical and behavioral health data implies the development of appropriate measures of performance and a more holistic approach to identifying gaps in care. OPAHHS delivers a unified data management platform, key performance indicator tracking, and data quality issue collaboration.

IN045	The Vendor should monitor the solution and anticipate maintenance needs and scheduling.

We understand the nuances of how the maintenance and operation of OPAHHS differ from other systems. We plan and assess every measure, whether preventative or remedial, with system availability in mind. Typically we recommend keeping scheduled maintenance confined to very low usage times, typically late nights on weekends after data load, enrichment and validation steps are finished. While we manage the impact of data loading and processing using

workload controls, we maximize the system power available to users by running such processing late at night.

IN046	The Vendor should develop a process to coordinate with the Department on batch control, balancing of input with data source vendors, scheduling extract, transform, load (ETL) processes, and data load cycles.

Our data ingestion process validates data as it comes in. We will work with you during the requirements phase to specify control totals and other balancing mechanisms to meet your need in ongoing reporting. We are using Informatica Data Quality coupled with our data quality processes. Data validation occurs before and after loading. We follow processes that count the records and fields in the input files. These record and field counts can then be balanced to verify that no data was excluded during the loading process. When the data is loaded, we perform further data integrity checks to validate that the newly loaded data displays correctly for the user. At each step in the ELT process, we conduct quality checks to validate the accuracy of converted data against source data and the transformation rules. In addition to statistically significant sample size audits to check for outcome violations on various data elements, we verify count balances at the file and table level and perform unit and system testing for migration and load programs.

IN047	The Vendor should provide the ability for authorized solution users to reset passwords through a self-service password reset option.

Users will be able to reset their password via Azure Password Reset, a self-service tool for password management offered as part of Azure AD.

IN048	The Vendor should provide the ability for authorized solution users to self-report issues with solution components as an alternative to calling for support.

We establish the help desk as a single point of contact for your users. Users will be able to self-report issues through the help desk portal or via email as an alternative to calling for support.

IN049	The Vendor should define and document a process by which the Department and Vendor define new/ desired solution features and/or functionality.

New features and functions can be introduced to OPAHHS as part of the change management process. We will work with DHHR to define the process and document it in the Change Management Plan.

IN050	The Vendor should provide the ability to participate in an online discussion forum to share information related to the solution including, but not limited to:

During JAD sessions we will work with DHHR to establish the requirements for an online discussion board. The OPAHHS supports this functionality.

IN051	Post inquiries

Users can post message to the online discussion board by category. All categories will be visible to all authorized users. Only an administrator will be able to create categories. During JAD sessions we will determine the initial message board categories and the process by which to create new categories.

IN052	Respond to other participants

Users will be able to respond to discussion threads. We will work with DHHR to determine moderator requirements.

IN053	Create topical threads on problems

Authorized users will be able to create new threads within a category.

IN054	Moderate the posts and threads

Designated stakeholders will be able to moderate posts and threads for DHHR. Moderator requirements will be determined during JAD sessions.

IN055	Search posts and threads by date or relevance

The discussion board is searchable. All authorized users will be able to search all categories.

IN056	Others as defined by the department

If there are additional discussion board requirements Optum will work with DHHR to scope the additional features and functions. If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN057	The Vendor should provide a schedule for updating solution hardware and software.

Change is a common occurrence in the project lifecycle, especially in complex business process implementations like this project. To help us analyze, identify, and implement proposed changes to scope, schedule, resources, or requirements, we will follow our standards-based, repeatable change management process. We will perform updates to hardware and software throughout the contract as necessary following the approved change management processes to reflect any new releases or changes to overall design. All changes or updates will be scheduled and approved by DHHR in advance of implementation.

IN058	The Vendor should develop, implement, and maintain standards for software installation in coordination with the Department to streamline the installation and maintenance of software.

We use our change management process to track and manage change activity to our IT environment, application and infrastructure. This process requires that the change owner properly document activity related to the change, including pre-implementation testing, implementation, validation and back-out plans. We will document the process and standards in accordance with DHHR policies and processes to streamline any installations and required maintenance.

IN059	The Vendor should handle scheduled or on-demand requests to refresh the data from production with a full or referentially intact subset of data within two (2) business days.

We regard the Data Management Plan to be one of the most fundamental elements of the EDS effort. As part of the Data Management Plan we will work with you to create a release schedule to update data timeliness. We will respond to on-demand requests for data refreshes in production within two (2) business days.

IN060	The Vendor should monitor network availability, throughput, bandwidth, response time, and network congestion between authorized solution users and the solution.

We will use Azure Network Monitor to monitor network availability, throughput, bandwidth, response time and network congestion. We will monitor solution response time based on query response time and execution. Effective transmission speed over a packet-switched network such as the Internet is affected by the Internet service provider connections at both ends as well as the intermediate networks the connection passes through. Historically, bandwidth availability, throughput and network congestion have not been issues as our delivery team continuously monitors system responsiveness at client sites and acquires faster connections on behalf of clients at our cost if needed to comply with SLAs.

IN061	The Vendor should supply the Department with recommendations to develop the solution to support new industry standards, features, and/or functionality as needed.

Our experience makes us the ideal partner to support your project. Optum is a leading health services and innovation company dedicated to helping make the health system work better for everyone.

As a health care company, we not only provide technology, but also critical health care expertise, policy knowledge, and a profound commitment to research and innovation A specific benefit to this engagement is our investment in over 50 artificial intelligence health care use cases that will be part of our OPAHHS platform proposed as part of our solution.

We will bring recommendations to DHHR to further develop OPAHHS to support new industry trends, features, standards and functionality.

IN062	The Vendor should test and troubleshoot interfaces with other contractors or vendors for information exchange.

We will provide technical assistance to test interfaces with other systems, information architecture, and IT and project governance. We will review all the partner interfaces to understand the protocols and API standards. Depending on the service design standards such as SOAP and RESTful, Optum's technical and QA team will define the appropriate test strategy to assure that all the required business rules are being enforced at the service level. The test plan will cover strategy for some of the typical service testing scenarios like:

- Functionality validation, which involves sending and receiving a request and response for different service methods
- Negative testing, which involves message or error code validations for wrong inputs
- Schema validations
- Performance and load testing
- Security testing

If there are issues with information exchange Optum will participate with our partner vendors and contractors in troubleshooting sessions to resolve the issues.

IN063	The Vendor should provide a data access component that works efficiently in the enterprise data solution (EDS) environment.

The EDS solution will be your centralized access point for all data access and data delivery functionality. Each perspective must be effectively addressed in a visual and transparent way. OPAHHS is designed to provide the right information and capabilities to each user.

OPAHHS business and executive users will access the data warehouse and analytical tools through a Web interface that simplifies use and administration. In addition, power users will have access directly to the data through SQL, Data Science and ODBC-based desktop tools. The OPAHHS over-arching management controls for role-based access and business rules administration manage access and provide a consistent experience regardless of the user level or access method.

IN064	The Vendor should provide a data access component that allows for integration with tools in current or future use by the Department including, **but not limited to:**

OPAHHS aligns with your need to integrate with third party productivity tools. OPAHHS can be used to create, filter, and share ad-hoc or predefined queries and reports. OPAHHS uses PowerBI for data analysis, reporting, simple and complex visualizations and governed data discovery.

Users can connect to a published data source and these sources can be exported and shared. The capabilities of OPAHHS provide options to export summary or detailed data in various formats, including Excel, CSV, and PDF.

IN065	Microsoft Project

Optum uses the latest version of Microsoft Project that has been approved by our security and compliance teams for compatibility and support within our enterprise computing infrastructure. It allows us to clearly identify logically sequenced tasks, milestones, and deliverables to communicate progress.

IN066	Microsoft Word

We will use Microsoft Word as our primary word processing tool to develop meeting notes and create interface control documents for each data source. Users can export reports and interactive dashboards that OPAHHS delivers can into CSV, Microsoft Word, Microsoft Excel, or PDF formats. This is easily accomplished; all end-users have to do is select which file format they wish to export results into from drop-down menus.

IN067	Microsoft Excel

Our experience, combined with users' knowledge of what they are trying to accomplish, promotes effective system adoption and use. Excel is a powerful data analysis and visualization tool. For example, Excel includes built-in mapping capabilities. It cooperates with Bing, Microsoft's on line mapping service. OPAHHS will allow users to export data to Microsoft Excel. Excel's mapping capabilities will enable DHHR to display information by data such as ZIP Code. Figure 83 shows Chicago drug arrests for 2016 displayed as stacked bars by ZIP Code.

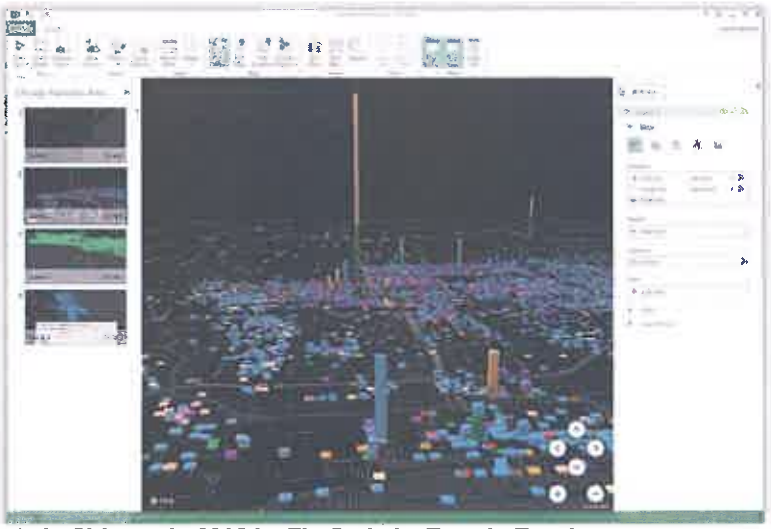


Figure 83: Drug arrests in Chicago in 2016 by Zip Code by Type in Excel
Different colors represent different kinds of arrests.

This is a powerful feature that can be used in Excel to further enhance the data in OPAHHS. Users can export reports and interactive dashboards that OPAHHS delivers can into CSV, Microsoft Word, Microsoft Excel, or PDF formats.

IN068	Portable Document Format (PDF)

Using the Print to PDF feature from the OPAHHS menus users can export reports and interactive dashboards to PDF formats. Users will also be able to view the data model in PDF to review the database design and structure.

IN069	Microsoft Access

Users with existing Access databases or front end applications will be able to connect Access to the EDS.

IN070	Cognos

Users with existing Cognos licenses will be able to connect to the EDS to write ad hoc reports and query data.

IN071	Tableau

Users with existing Tableau Creator licenses will be able to connect to the EDS to query data and create visualizations.

IN072	Others as defined by the Department

Users will be able to connect to the EDS with most data access tools including Toad, SQL Plus, PowerBI, ClickView and BusinessObjects. Licenses for these tools would need to be provided by DHHR unless otherwise specified as part of the solution scope of work.

If others are defined that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN073	The Vendor should describe and document in the Security, Privacy, and Confidentiality Plan the proposed approach to hosting and operating the solution including, but not limited to, production and back-up systems in a secure environment.

The Security, Privacy, and Confidentiality Plan will document our approach to hosting and operating OPAHHS in a secure environment. Details regarding production and back-up systems will be found in Contingency Planning (CP).

IN074	The Vendor should describe and document the operating platform including, **but not limited to:**

We develop detailed system design documents (DSD) for various components within all of our implementations. We develop DSDs to address each technical functional requirement included in the overall design of our solutions.

The DSD will include detailed design information or System Architecture, Hardware and Software required for the EDS as well as a description of the different components of the EDS. In other implementations, we develop source-to-target mapping documentation that documents data flow to and from our EDS systems. This process will be included as part of our overall DSD documentation. The information in the DSD provides in a detailed manner, the overall system architecture used to create, configure, and deploy the EDS to support the technical and analytical reporting requirements. A primary goal of the DSD will be to reflect the detailed level architecture and system design of the EDS. It will focus on the design of key functional components required to successfully implement desired features and functionalities of the EDS described in the RFP.

IN075	Hardware

Our approach to infrastructure includes implementing our integrated health care data warehouse and analytic platform in a flexible hosting environment. OPAHHS will use the infrastructure available in the FedRAMP-certified Azure hosting environment. Our hosting environment's infrastructure provides flexible, modular component scalability. This flexibility will help us provide you with full lifecycle infrastructure support and recovery in the event of component failures. We designed OPAHHS using open standards and configurable COTS components. OPAHHS supports scalable, timely sizing of infrastructure components by allocating the resources needed to meet your availability, uptime, and performance requirements.

The core of our solution is based on a platform-as-a-service (PaaS), Azure Cloud's data warehouse service. We have designed our solution with the right sizing and resources. Deploying on a cloud platform enables us to scale as needed to meet your contract requirements.

IN076	Databases

Databases in use for the solution will be documented and described as part of the DSD as well as the Database Design Document and Data Models.

IN077	System software

System software, where not provided as part of the PaaS offering, will be documented as part of the DSD.

IN078	Application software

Application software, descriptions and versions will be maintained as part of the DSD.

IN079	Telecommunications

Any telecommunications services, as provided as part of the solution by Optum, will be documented in the Security, Privacy and Confidentiality Plan as well as the Detailed System Design.

IN080	Others as defined by the Department.

Optum will document other relevant system architecture components as part of the both the DSD and the Security, Privacy and Confidentiality Plan. If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN081	The Vendor should describe and document how the platform is shared and how the Department's data is partitioned from other customers' data.

Optum does not partition our data warehouse solutions onto shared platforms. Each client is provided with their own exclusive resources for data management, access and storage. The system is not designed as a multitenant solution.

IN082	The Vendor should document and describe the operational support of the solution including, not limited to:

Our clients have continually sought greater value and utility from the systems we provide. They expect greater trust in their data and steady growth in the programs to be integrated into the solution. They also actively increase the numbers and types of users who can make meaningful decisions using our solutions. Our repeatable, operational processes will accommodate the changes you require while minimizing impacts or disruptions to daily operations.

Overall operational support will be documented in the Systems Operation Plan. Any changes to operational support or systems will follow the processes that are detailed in the Operations Change Management Plan. Any changes will be reviewed with DHHR and approved prior to implementation.

IN083	Disaster recovery

The Disaster Recovery and Business Continuity Plan will detail tasks required to maintain system and business continuity. The Plan will also include all proposed off-site procedures, locations, and protocols including plans to address data loss, the time required to restore the database, and "catch-up" data load processing times.

IN084	Data/system back-up

Our Azure Cloud-based approach to backup and recovery will protect your data from loss and increase the overall reliability of your enterprise data and associated assets. We will leverage online Azure Cloud backups to protect your data, metadata, work products and other valuable artifacts. This approach will make them retrievable for scenarios ranging from accidental user error to a declared site-wide disaster.

Results

Our cloud-based approach will protect your data and increase its reliability. Wherever the data originates, OPAHHS will back it up according to the schedule and policy you approve.

Our approach to backup and recovery provides protection against data loss from external causes, machine-based, or human errors. We back up data with sufficient frequency and types to allow restoration consistent with your recovery point objective of one hour. Our overall plan for backup and recovery is to match the backup type and frequency with the volatility and recovery point objectives of your target data types. We

will provision secure cloud backup services from Azure to physically perform the backups according to an agreed-upon schedule. We will use full backups and incremental backups to protect your data.

- **Full backups** make a complete standalone copy of the data. Performing or restoring a full backup takes more time than an incremental backup. However, the full backup has the advantage of being complete.
- **Incremental backups** capture data that have changed since the last full backup. These backups are fast because they do not require writing all of the source data to the backup. However, as time elapses since the last full backup increases, these incremental backups can take additional time.

System backup plans will be documented in the System Backup and Record Retention Deliverable.

IN085	Staffing and management of data center

OPAHHS is hosted in Azure data centers. Data center staffing is managed by Microsoft. Optum's staffing plan will be detailed in the Human Resources Plan.

IN086	Data loading

We will provide the Data Management Plan for your approval during DDI. The plan will document the requested information in regard to the initiation, management, and operations of our approach to the DHHR data management. This includes approach, strategy, architecture, methodology, process, tools, resourcing, quality and contingency aspects of data management. Operational data loads are included as part of the data management plan.

IN087	Data validation

All data validation processes and operational support will be documented in the Data Management Plan. We are using Informatica Data Quality coupled with our data quality processes. Data validation occurs before and after loading. We follow processes that count the records and fields in the input files. These record and field counts can then be balanced to verify that no data was excluded during the loading process. When the data is loaded, we perform further data integrity checks to validate that the newly loaded data displays correctly for the user. At each step in the ELT process, we conduct quality checks to validate the accuracy of converted data against source data and the transformation rules. In addition to statistically significant sample size audits to check for outcome violations on various data elements, we verify count balances at the file and table level and perform unit and system testing for migration and load programs.

IN088	Data cleansing for the proposed solution

Any approved data cleansing rules will be invoked as OPAHHS performs data mapping. Data mapping activities will result in the Data Conversion Plan and Data Conversion Mapping documents, which will provide overall technical coordination of the data conversion functions and specific maps used for each source to target mapping area. These documents will emphasize shared components, out-of-the-box transformation routines, and existing designs that we bring to the engagement. We write the documents to serve all audiences. Business and project management readers and technical metadata experts can use these documents as the authoritative and up-to-date source of data conversion and transformation knowledge.

IN089	Others as defined by the Department

We understand the importance of developing and maintaining an effective documentation system. We will document all aspects of operational support. If others are defined that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN090	The Vendor should describe its approach for installing the technical infrastructure, making any facility alterations (including upgrades), and establishing necessary telecommunications links in the Security, Privacy, and Confidentiality Plan.

Detailed information on Optum's approach to installing the technical infrastructure will be included in the DSD and the Configuration Management deliverable. Additional information related to PaaS services and telecommunications will be documented in the appropriate controls related to Physical and Environmental Protection in the Security, Privacy and Confidentiality Plan.

IN091	The Vendor should provide a site that fully supports all physical needs of the solution including, but not limited to:
IN092	Hardware
IN093	Electrical
IN094	Cabling
IN095	All other physical needs of the system
IN096	Others as defined by the Department

OPAHHS is hosted in the FedRAMP-certified Microsoft Azure® cloud. This includes **hardware**, **electrical**, **cabling**, and **all other physical needs of the system.** As you can see in Figure 84, the core of our solution is based on a platform-as-a-service (PaaS), Azure Cloud's data warehouse service. By using a cloud solution, you are contractually assured the technology is kept updated and compliant. We have designed our solution with the right sizing and resources. Deploying on a cloud platform enables us to scale as needed to meet your contract requirements.

Figure 84: OPAHHS Cloud Technologies
Our proposed solution combines native cloud services with our proven health care management services.

Azure's services will have frequent changes and additions. As your trusted advisors, we will recommend available services that advance your goals and facilitate their deployment if you contract for those services. All physical components of OPAHHS are managed as part of the Azure cloud.

Our approach to infrastructure includes implementing our integrated health care data warehouse and analytic platform in a flexible hosting environment. OPAHHS will use the infrastructure available in the FedRAMP-certified Azure hosting environment. Our hosting environment's infrastructure provides flexible, modular component scalability.

The core of our solution is based on a PaaS, Azure Cloud's data warehouse service. By using a cloud solution, you are contractually assured the technology is kept updated and compliant. We have designed our solution with the right sizing and resources. Deploying on a cloud platform enables us to scale as needed to meet your contract requirements.

OPAHHS can be scaled up or down. If **others as defined by the Department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN097	The Vendor should ensure all component hardware supporting the solution database structures contain an adequate number of parallel threads for authorized solution user needs.

Optum has extensive experience with performance tuning of MS SQL Server databases. We will configure the degree of parallelism (DOP) to a setting sufficient to support all authorized solution users and their queries. We will use Azure Query Store to capture a history of queries, plans, and runtime statistics. Query store also allows us to monitor queries by the highest recompile time, execution time, execution count, CPU usage, memory usage, and the most physical reads/writes. This allows us to appropriately tune the system to allow for the most efficient user processing.

IN098	The Vendor should ensure bandwidth between data acquisition and the solution database servers supports refreshes of the solution database with minimal disruption.

Effective transmission speed over a packet-switched network such as the Internet is affected by the Internet service provider connections at both ends as well as the intermediate networks the connection passes through. Historically, transmission speed has not been an issue as our delivery team continuously monitors system responsiveness at client sites.

IN099	The Vendor should ensure solution hardware and software is compatible with internet browsers including, but not limited to:
IN100	Microsoft and Apple products
IN101	Google Chrome
IN102	Firefox
IN103	Internet Explorer (IE 7 or greater)
IN104	Others as defined by the Department

OPAHHS provides an easy-to-use, familiar user interface that is accessible through a standard web browser. Our solutions require a modern browser which supports HTML 5. Current versions of **Google Chrome**, **Apple** Safari, **Firefox**, Microsoft Edge, and **Microsoft Internet Explorer** have been qualified with our primary business intelligence tool.

If DHHR is supporting additional browsers, such as Opera, Optum will work with DHHR to test OPAHHS compatibility. If **others as defined by the Department** are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN105	The Vendor should ensure hardware and operating systems are certified with recent major versions (1.0, 2.0, etc.) of the solution software.

Conforming to the modular and interoperable requirements set forth by CMS, OPAHHS is delivered using various COTS products that hardware and operating systems are certified with recent major versions (1.0, 2.0, etc.) of the solution software. Because of this bundling, each respective COTS application that we will use to deliver your EDS solution will be updated with the respective manufacturer's release schedule. To verify compatibility and avoid breaks in production processes, COTS applications will only be upgraded after they have been regression tested for backwards compatibility.

IN106	The Vendor should maintain compatibility with hardware and software for the term of the contract.

Hardware and software compatibility will be maintained for the term of the contract.

IN107	The Vendor should provide the Department with an inventory of all solution hardware and software.

We develop detailed system design documents (DSD) for various components within all of our implementations. We develop DSDs to address each technical functional requirement included in the overall design of our solutions.

The DSD will include detailed design information, including relevant inventories, for system architecture components including any hardware and software required for the EDS.

IN108	The Vendor should coordinate and communicate in writing with the Department regarding the delivery, installation, repair, and maintenance of hardware updates, upgrades, and patches.

OPAHHS is hosted in the Azure Public Cloud. As such, Microsoft is responsible for all hardware maintenance and updates. Microsoft maintains full redundancy throughout the Azure solution to assure clients that when hardware must be upgrades, replaced or patched, regions or customers do not experience any outages. To the extent possible with the OPAHHS solution Optum will coordinate and communicate in writing with the Department regarding the delivery, installation, repair, and maintenance of hardware updates, upgrades, and patches.

IN109	The Vendor should coordinate and communicate in writing with the Department regarding the delivery, installation, repair, and maintenance of software updates, upgrades, and patches.

Changes to system software and application software will be subject to the approved change management process and conducted in accordance with the approved release schedule. During the operations phase, we will manage change requests using change management tools that govern system changes, configuration management, and the CMDB. Optum will communicate and coordinate all changes to the solution to DHHR prior to the change.

IN110	The Vendor should provide server and storage hardware with the proven ability to support the processor, memory, input/output subsystem bandwidth, and storage for the solution.

Our approach to infrastructure includes implementing our integrated health care data warehouse and analytic platform in a flexible hosting environment. OPAHHS will use the infrastructure available in the FedRAMP-certified Azure hosting environment. Our hosting environment's infrastructure provides flexible, modular component scalability. This flexibility will help us provide you with full lifecycle infrastructure support and recovery in the event of component failures. We designed OPAHHS using open standards and configurable COTS components. OPAHHS supports scalable, timely sizing of infrastructure components by allocating the resources needed to meet your availability, uptime, and performance requirements.

We designed OPAHHS with a cloud infrastructure to provide high availability and resiliency, building in redundancy and stability. We can provision additional capacity as your business demand grows. Optum will also implement a comprehensive approach to continuous monitoring. This ongoing effort will protect your information, critical assets, and intellectual property of application and infrastructure components. Our solution's operational processes will support high availability. They will help us provide multiple levels of continuous monitoring, tightly manage change processes, and deliver best-practice incident management services. Our primary goal for solution availability will be to eliminate possible causes of unexpected downtime and mitigate service disruptions as soon as possible.

Infrastructure and deployment tools help us scale quickly and easily. The OPAHHS infrastructure can handle predictable and planned loads as well as sudden spikes or changes in load. Our scalable solution minimizes the impact of degraded service availability. These capabilities enable us to establish efficient infrastructure operations for DHHR.

IN111	The Vendor should provide server and storage hardware with the capacity to handle the average and peak demands of the authorized solution user community with no performance degradation.

We will work with DHHR to develop and implement a Capacity Plan that outlines the strategy for the overall solution and component performance. The plan will include provisioning to support average and peak EDS usage for authorized solution users. We will work with you to develop performance measures linked to achieving your business objectives and maintaining critical services. If any performance measure fails to meet performance standards during operations, we will take immediate, corrective action to bring performance back in line.

There are no built-in limits to the size of the OPAHHS or any other component of our solution. It can support auto-scaling, which adds capacity automatically in response to demand. We know that scalability is important for your EDS. We understand current data and usage needs and use multiple capacity areas to avoid potential performance issues.

IN112	The Vendor should provide component hardware supporting the solution that has a proven record that is comparable to the Department's needs.

The core of our solution is based on a PaaS, Azure Cloud's data warehouse service. By using a cloud solution, you are contractually assured the technology is kept updated and compliant. We have designed our solution with the right sizing and resources. Azure has statistical uptime measures and has a proven record of meeting SLAs for their customers.

IN113	The Vendor should install, configure, enhance, and maintain all hardware and software and should provide services for the Vendor's local area network (LAN) up to the point of connection with the Department's wireless area network (WAN) and LAN network.

As part of our PaaS Cloud design we are providing Azure Firewall and Azure VPN Gateway to support connections from DHHR. We will work with the DHHR network teams to install, configure, support and maintain connectivity between DHHR and OPAHHS.

IN114	The Vendor should establish agreements with telecommunications network vendors to install secure data lines to its data center.

We will establish contractual agreements with Microsoft to assure connectivity between our experts and Azure to support OPAHHS.

IN115	The Vendor should provide and maintain servers.

We will provision and maintain the servers required to operate OPAHHS at optimal levels. Azure enables us to dynamically provision resources including servers.

IN116	The Vendor should provide and maintain applications, web pages, and secure sockets layer (SSL) devices to support hypertext transfer protocol security (HTTPS).

OPAHHS is a Web-based data access and analytics tools. Access to your content from client-to-server, server-to-server, and data center-to-data center is protected in transit using HTTPS/TLS. We will provide and maintain all applications, web pages and security infrastructure required to deliver the high performance analytics you need, as depicted in Figure 85.

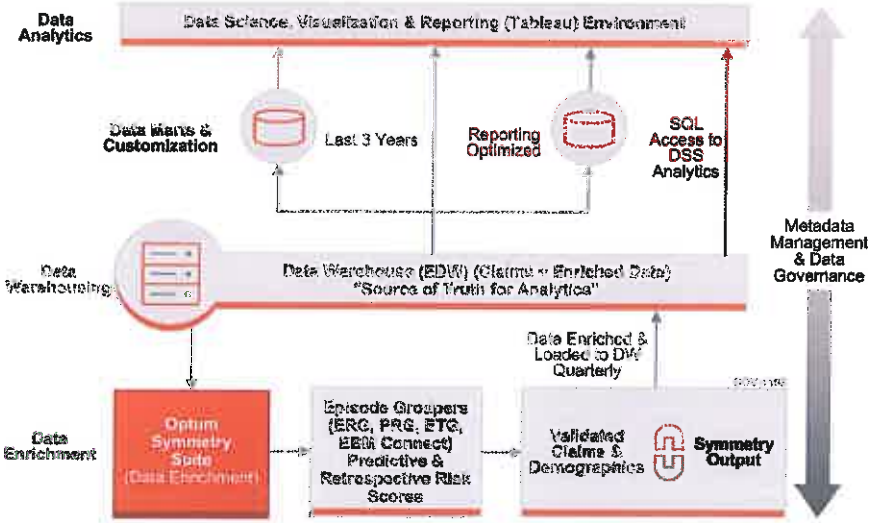


Figure 85: Secure Analytics Supported by OPAHHS
This diagram shows the analytic resources available to DHHR that the OPAHHS application delivers via a Web-based application.

IN117	The Vendor should submit the proposed plans for all connections to the network to the Department for its review and approval prior to implementation.

We will submit an infrastructure plan for all connectivity between DHHR and OPAHHS for review and approval prior to implementation.

IN118	The Vendor should ensure authorized solution users are able to access the network and any necessary equipment located in the Vendor's data center from the Department's facilities.

Authorized solution users need only a modern web browser with Internet access to access OPAHHS. Optum cannot be responsible for local network issues at DHHR facilities.

IN119	The Vendor should ensure that authorized solution users have the ability to access the solution environments remotely.

Authorized solution users need only a modern web browser with Internet access to access OPAHHS. Remote access will be limited to the United States and U.S. Territories to comply with security standards.

IN120	The Vendor should have the ability to provide a firewall solution and proxies between its private network and the connection to the Department's network.

OPAHHS will be secured with Azure Firewall. Access lists will be appropriately configured to allow access to only authorized locations. OPAHHS provides a firewall solution and proxies between its network and the connection to the Department's network.

IN121	The Vendor should have a firewall solution and proxies in accordance with Department, State, and federal requirements.

The OPAHHS firewall solution and proxies meet MARS-E and FedRamp requirements. Our security model is based on a layered defense strategy that complements service oriented architectures (SOA). OPAHHS incorporates security controls across the environment to prevent unauthorized opportunistic access. The native and third-party security controls are designed based on applicable regulations and standards along with your specific organizational requirements. Our toolset includes a combination of advanced data protection, auditing and logging, encryption, identity and access management, infrastructure security, security incident management, and threat and vulnerability management solutions to protect your data.

IN122	The Vendor should allow Department authorized solution users access into the Vendor facilities.

The Azure facility will meet all state and federal standards for health, safety, fire, and disabilities as established, governed, and enforced by presiding bodies such as the Occupational Safety and Health Administration, American Disabilities Act, and the U.S. Access Board. OPAHHS is hosted at Azure East US-2. Microsoft provides regular facility audit detail for customers to support SOC requirements. Facility access to Azure facilities must be approved by Microsoft.

We will provide access to our office, in Charleston, for approved DHHR staff to make certain contract conditions are met.

IN123	The Vendor should provide network support for the solution that handles a minimum of 75 authorized solution users.

OPAHHS has been sized to support 75 authorized solution users (60 Analysts/Standard, 10 Power User/Advanced, 5 Data Scientists).

IN124	The Vendor should provide network support for the solution that handles 40 authorized solution users accessing the system concurrently.

OPAHHS has been sized to support 40 concurrent authorized system users.

IN125	The Vendor should provide network support for the solution that handles ten percent (10%) growth per year in the total number of authorized solution users and concurrent authorized solution users.

Optum has accounted for a 10 percent user growth factor to both authorized and concurrent users per year of the contract.

IN125	The Vendor should provide network support for the solution that handles ten percent (10%) growth per year in the total number of authorized solution users and concurrent authorized solution users.

Optum has accounted for a 10 percent user growth factor to both authorized and concurrent users per year of the contract.

IN126	The Vendor should assist in the resolution of solution-related issues.

The Optum Help Desk will be the first point of contact for support for all reporting and analysis work requests from DHHR. Our Help Desk staff will be trained and knowledgeable of your system, processes, and to response time requirements for acknowledging support requests. We will be available to DHHR, and will work directly with users with open lines of communication from start to finish so that they can address and resolve questions, problems, or issues.

IN127	The Vendor should manage versions, acquire associated software patches and fixes, apply fixes, and test all applied fixes.

We evaluate new versions, application and system vulnerabilities and patches for software under our control, rating their severity as it relates to our environment and communicate this information to our companion services and operational teams. In addition, we monitor the information system compliance with our vulnerability and patch management standards.

When a severity rating is assigned to each of the released patches, we will communicate the information to DHHR and known operational contacts responsible for the products in a bulletin on a regular basis (e.g., standardized summary of releases). Vulnerabilities and patches with high priority ratings are communicated accordingly since they demand faster remediation. Remediation is to be completed by the product owners in the time frame associated to the patch rating.

Security-related upgrades are conducted based on vulnerability recommendations. Otherwise, they are timed to facilitate periodic platform lifecycle management activities.

IN128	The Vendor should assist with analysis of Department requests for new software and hardware for appropriateness to the overall solution and architecture.

Optum will assist DHHR in analysis and acquisition of new services, software and hardware based on DHHR needs. Azure's services will have frequent changes and additions. As your trusted advisors, we will recommend available services that advance your goals and facilitate their deployment if you contract for those services. Our knowledge of the business reasons behind your use cases and the evolving services available in the Azure environment make us the ideal partner to help you maximize your use of technologies.

IN129	The Vendor should develop and maintain an inventory of software including, **but not limited to:**

During project planning, we will work with you to develop and provide an asset detail as part of both the DSD and the Security, Privacy and Confidentiality Plans. This asset list will detail the software inventory. We will track and manage assets inventory, procurement information, contract information, license management, and change activity to our IT environment, applications, and infrastructure through our configuration management process. Configuration management policies identify, maintain, and verify information on IT assets and configurations related to a specific client or service. Each configuration item (CI) stores up-to-date information. CIs include hardware, software, databases, applications, services, and the relationships between CIs. The Configuration Management Database (CMDB) is the system for storing and maintaining information on each CI. This may include version, location, and relationships between components.

IN130	Active versions

Active version data will be maintained in the CMDB and the Security, Privacy and Confidentiality Plan.

IN131	Licensing requirements

Licensing requirements for all software will be maintained by Optum. We conduct regular entitlement reviews to assure licenses are being used according to the license terms of use for each application.

IN132	Interdependencies to assist with overall management of software upgrades

Managing interdependencies with the solution is critical. The CMDB allows us to automatically assess the risk of each change by analyzing relationships between all CIs and the CIs involved in the proposed change. The system evaluates all secondary upstream and downstream relationships between CIs to determine the overall impact of a proposed change. The CMDB flags conflicts where multiple changes affect the same CI at the same time, creating a high-risk situation. This level of automation reduces the likelihood of introducing new issues and improves overall application stability.

IN133	Others as defined by the Department

We can maintain additional information for each software component within the CMDB. We will work with the Department to determine what aspects of the asset may be needed. For example, on some of our contracts we list support contract information as part of the CMDB. If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN134	The Vendor should develop and implement standards for software installation including, but not limited to:

Software installation must follow established processes according to our internal standards, our client standards and our change management plan.

IN135	Data set names

During design sessions we will work with you to develop a naming standard to easily identify data sets.

IN136	Architecture names

We will use a standard naming convention for all architecture device names where we have naming options.

IN137	Volume names to streamline installation and maintenance of software

Volume names will be standardized to streamline installation and maintenance of software.

IN138	Others as defined by the Department

Optum maintains comprehensive software installation standards. For example, we perform appropriate testing in a non-production environment before installation to the production environment. Changes to the production environment must be submitted using a formal change control ticket and must include a back-out plan for the unlikely event that such changes need removal. We will submit all standards for installation and implementation to DHHR for your review and approval.

If others are defined that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN139	The Vendor should manage scheduling of operating system upgrades to accommodate processing schedules and system availability needs of the Department.

Our approach to system maintenance and upgrades centers on maintaining stability and preventing unexpected outcomes. We will work with you on scheduling periodic releases and implementing critical changes according to the DHHR-approved upgrade or replacement plan. These could include changes for system fixes or meeting CMS change deadlines. After a change has been tested and approved by DHHR, we will schedule implementation. We will work with the appropriate DHHR personnel to implement change requests when they will have the

least impact to the project. Because our solution is a configurable, COTS-based solution, we will perform most changes through configuration updates. This significantly reduces the risks associated with change implementations.

System patches and minor COTS updates are generally applied on a weekly maintenance schedule. This helps us analyze and monitor for any adverse impact separately from data updates. For critical or urgent updates that cannot wait for the weekly update, we will coordinate them with you and apply them as quickly as possible. Critical or urgent updates are usually security-related.

Major updates are assessed and scheduled to occur with or a maintenance release monthly. These updates frequently involve substantial user communication and may require additional training. Regular network and infrastructure patch releases are generally scheduled quarterly.

IN140	The Vendor should provide a plan for the physical security of the solution facilities including, but not limited to these topics:

Azure has contractual obligations to maintain physical facility security. Per Microsoft[2] "Microsoft designs, builds, and operates datacenters in a way that strictly controls physical access to the areas where your data is stored. Microsoft understands the importance of protecting your data, and is committed to helping secure the datacenters that contain your data. We have an entire division at Microsoft devoted to designing, building, and operating the physical facilities supporting Azure. This team is invested in maintaining state-of-the-art physical security.

Microsoft takes a layered approach to physical security, to reduce the risk of unauthorized users gaining physical access to data and the datacenter resources. Datacenters managed by Microsoft have extensive layers of protection: access approval at the facility's perimeter, at the building's perimeter, inside the building, and on the datacenter floor. Layers of physical security are:

- **Access request and approval:** You must request access prior to arriving at the datacenter. You're required to provide a valid business justification for your visit, such as compliance or auditing purposes. All requests are approved on a need-to-access basis by Microsoft employees. A need-to-access basis helps keep the number of individuals needed to complete a task in the datacenters to the bare minimum. After Microsoft grants permission, an individual only has access to the discrete area of the datacenter required, based on the approved business justification. Permissions are limited to a certain period of time, and then expire.
- **Facility's perimeter:** When you arrive at a datacenter, you're required to go through a well-defined access point. Typically, tall fences made of steel and concrete encompass every inch of the perimeter. There are cameras around the datacenters, with a security team monitoring their videos at all times.
- **Building entrance:** The datacenter entrance is staffed with professional security officers who have undergone rigorous training and background checks. These security officers also routinely patrol the datacenter, and monitor the videos of cameras inside the datacenter at all times.
- **Inside the building:** After you enter the building, you must pass two-factor authentication with biometrics to continue moving through the datacenter. If your identity is validated, you can enter only the portion of the datacenter that you have approved access to. You can stay there only for the duration of the time approved.

[2] Referenced from **https://docs.microsoft.com/en-us/azure/security/fundamentals/physical-security**

- **Datacenter floor:** You are only allowed onto the floor that you're approved to enter. You are required to pass a full body metal detection screening. To reduce the risk of unauthorized data entering or leaving the datacenter without our knowledge, only approved devices can make their way into the datacenter floor. Additionally, video cameras monitor the front and back of every server rack. When you exit the datacenter floor, you again must pass through full body metal detection screening. To leave the datacenter, you're required to pass through an additional security scan.

Microsoft requires visitors to surrender badges upon departure from any Microsoft facility.

IN141	Designated responsible person(s)

Microsoft coordinates the designated responsible person as part of their physical security plan.

IN142	Defined perimeter and protocols for secure access

Microsoft defines the physical security perimeter for their data centers. The OPAHHS security boundaries will be defined as part of the Security, Privacy and Confidentiality Plan.

IN143	Security of the communication network and solution components

Microsoft secures communication network and physical components as part of their system security plan. Azure is FedRAMP compliant.

IN144	Administrative controls

Microsoft implements the appropriate administrative security controls to enforce physical security of their data centers.

IN145	The Vendor should provide and maintain encrypted network connections that align with State, federal, and Department requirements.

Optum encrypts data at rest, data during transmission and back-up data. Encryption methods are as follows:

- We encrypt all data during transmission between the web browser and the web server using Secure Sockets Layer (SSL) 256-bit encryption. This includes all individually identifiable health information, financial information and messages sent by the secure messaging option.
- We provide data encryption for the environment hosting the EDS solution with FIPS 140-2 compliant encryption modules. We use standard encryption algorithms, such as the Advanced Encryption Standard (AES) or RSA. Key lengths vary by encryption cipher types, symmetric and asymmetric. Symmetric encryption algorithms use a minimum key length of 256-bits, while asymmetric algorithms use a minimum key length of 2048-bits.
- We store passwords and challenge responses using a one-way hashing algorithm rather than clear text.
- We encrypt all types of media, including backup tapes, disk arrays, laptop disks and removable media.

IN146	The solution should prioritize business intelligence data retrieval over batch extract, transform, load (ETL) processes.

User actions and queries are prioritized over batch ETL processes. We optimize solution performance so that users get the best experience.

IN147	The Vendor should describe and maintain the solution's interface design in interface control documents that are readily available to authorized solution users.

We will develop separate maintained interface control documents (ICDs) for all data sources. These will detail what data is being sent or received from which source, including code sets (possible values and their meaning for categorical variables), frequency, and error correction protocols. These documents will be available to users in the solution document library.

We will also develop a comprehensive data dictionary that details what is in the enterprise data model, including code sets implemented as lookup tables. Much of the work creating this data dictionary will be facilitated by the metadata management and business glossary tool included in OPAHHS. This data dictionary will include the information in the database schema, plain English name for each field, possible codes, meaning of each code, and the source of the data. We will document the procedures in the OPAHHS technical documentation. Our solution's data dictionary will be available online and searchable as well. The metadata will be updated and published as updates are implemented and with an agreed upon frequency with DHHR. We maintain and will make available all third-party product documentation in our proposed solution.

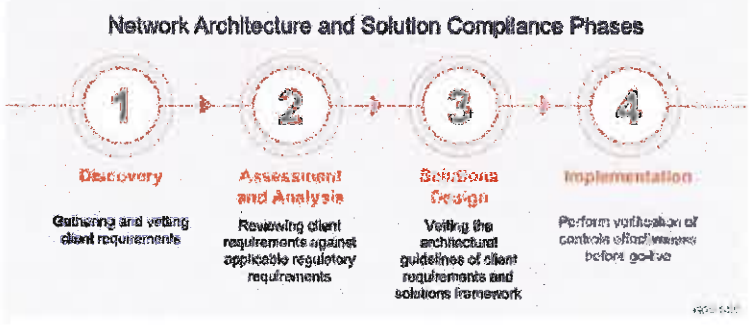
IN148	The solution should have a web-based browser interface that provides seamless integration to the full solution for authorized solution users.

OPAHHS users interact with the EDS solution through a single-point of entry, the Web-based portal. They will have role-based access to solution components according to their specific roles and business needs. This design enables DHHR users to have easy access to the data, tools, and analytics they require, when and how they need it.

IN149	The solution network architecture, network hardware, and software should be compliant with:

Optum takes an industry-standard, comprehensive approach to adopting, designing, and implementing regulatory and security requirements to be compliant with state and federal controls. We base this approach on a tiered-framework of applicable security frameworks, applying the most stringent regulations, mandates, policies, and guidance. This approach permits a common understanding and acceptance for our clients, partners, and vendors.

Our design of the network architecture and solution starts with compliance in mind. We use a four-phased approach to compliant design as displayed in Figure 86.



- **Discovery**: Gathering and vetting client requirements
- **Assessment and Analysis**: Reviewing client requirements against applicable regulatory requirements
- **Solutions Design**: Vetting the architectural guidelines of client requirements and solutions framework
- **Implementation**: Perform verification of controls effectiveness before go-live

Figure 86: Network Architecture and Solution Compliance Phases
Our design of the network architecture and solution starts with compliance in mind.

IN150	All policies and procedures issued by the West Virginia Office of Technology (WVOT)

We will comply will all policies and procedures issued by the West Virginia Office of Technology (WVOT). Optum takes an industry-standard, comprehensive approach to adopting, designing, and implementing regulatory and security requirements. This approach permits a common understanding and acceptance for our customers, partners, and vendors. Optum will evaluate HIPAA, HITECH, CMS MARS-E, and WVOT Policy & Standards in support of meeting these requirements.

IN151	National Institute of Standards and Technology (NIST) Special Publication 800-53, or the most recent NIST publication

We apply NIST 800-53 revision 4 security control and validate those with our security and compliance teams.

IN152	Applicable requirements under the Office of the National Coordinator for Health Information Technology (ONC) certification criteria for electronic health record technology

Optum will comply with applicable requirements under the Office of the National Coordinator for Health Information Technology (ONC) certification criteria for electronic health record technology.

IN153	Others as defined by the Department

Optum adheres to stringent security standards in all of our implementations. Our best practices-based solution incorporates our experiential lessons learned delivering large-scale systems per HIPAA and NIST security guidelines as well as the CMS Seven Conditions and Standards.

Optum has a working knowledge of State and federal mandates, regulations, standards and requirements pertaining to project procurements under our scope of work. This includes operational compliance with legislation passed at the federal or State level, as application, and at a minimum to include CFR, CMS policy, State Policy, State regulations, and federal regulations. If others are defined that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN154	The solution should have open application programming interfaces (APIs).

We will work with you in the requirements phase to identify the list of software packages and how the EDS needs to communicate with them. The Azure environment has various means of both ingesting files and using APIs from external systems.

OPAHHS integration services allow the bridging of multiple domains and business functions. Our tools enable the nimble development, cataloging and use of Web services, both provided by and used by OPAHHS. Our experience shows that we make the most rapid progress in integration projects when all parties agree to use standards, such as Simple Object Access Protocol (SOAP) or those involved in Representational State Transfer (RESTful) Web services. We have experience in providing all of the advantages of interoperable services to our clients.

IN155	The Vendor should ensure that backups of reports and queries performed by authorized solution users are stored on a single shared drive in the solution.

Our Azure Cloud-based approach to backup and recovery will protect your data from loss and increase the overall reliability of your enterprise data and associated assets. We will leverage online Azure Cloud backups to protect your data, metadata, work products including reports and queries and other valuable artifacts. Backups will be written to blob storage available as a single storage location to authorized solution users.

IN156	The solution should leverage existing Department systems to achieve the desired to-be environment detailed within this Request for Proposal (RFP).

Our solution supports your strategy to, "Build Once, Reuse Often," with the functionality to meet the RFP requirements. We will leverage our high-performance hosting environments and services, SOA, and secure infrastructure for our architectural approach. We will leverage existing Department systems to achieve the to-be environment. At the same time you will be able to use your existing systems, such as SAS and Cognos, to achieve the to-be environment.

IN157	The solution should leverage existing Department services to achieve the desired to-be environment detailed within this Request for Proposal (RFP).

We will leverage existing department services such as MDM to achieve the desired to-be environment within this RFP.

IN158	The solution should allow for intra- and inter-state leverage and reuse.

We fully support the CMS vision to enable the modularity and interoperability of systems that help states use data and business processes and functions across agencies. Our vision can provide the desired business results for today and the flexibility to adopt future technologies and services that allow state agencies to quickly and effectively adapt in an ever-changing health care program and policy landscape. You can rely on our roadmap deliverables to integrate with your plans for delivering critical programs and services now and into the future.

IN159	The solution's technical architecture should enable flexibility and adaptability to respond quickly to changing business needs or regulatory requirements.

While technologies have certainly changed over time, Optum's goal since the inception of our state data warehouse and analytic practice nearly 25 years ago has been to deliver enterprise-scale, flexible, adaptable and extensible solutions that take advantage of the most up to date technologies available. The requirements defined in your RFP align closely with the approach we have embraced since we started our state business.

We create and continuously update our roadmap to align with the evolving needs of our state customers. We first address the data and analytic needs as they are the key to driving business value. We then address the technologies as they play a supporting role.

By using a cloud solution, you are contractually assured the technology is kept updated and compliant. We have designed our solution with the right sizing and resources. Deploying on a cloud platform enables us to scale as needed to meet your contract requirements.

Our architectural design follows the MITA framework, guided by the Seven Standards and Conditions. We also rely on our experience delivering large-scale systems based on HIPAA, NIST, and state and federal security requirements. OPAHHS provides maximum flexibility to plug-and-play additional tools and data sets. The report library grows organically through the state's efforts, the client user base, and Optum development and enhancements. OPAHHS provides flexibility and adaptability for your growing, changing business and regulatory needs.

IN160	The solution's underlying technical hardware and software architecture should promote shared use across the enterprise, including, but not limited to:

We support a "Build Once, Reuse Often" approach to delivering our solution to DHHR.

IN161	N-Tier service-oriented architecture (SOA), or multi-tier architecture, with multiple architecture layers enabling complete separation of the data, application, and presentation tiers

OPAHHS is architected as a multitier solution where solution components are segregated into the data, application (business process) and presentation layers (displayed in Figure 87). We use firewall controls to segment the solution according to required business rules.

The data warehouse, at the heart of the data layer, is central to our solution. We provision it with Microsoft Azure's SQL Database managed service. This full data warehouse service runs on a virtual version of a parallel processing engine and Microsoft Analytics Platform server. The result is fast execution of queries and an ability to scale up. This service includes backup capabilities with geo-replication to alternative data centers. In the unlikely event we need to recover from an alternative Azure data center, Azure site recovery will handle it. SQL Server's primary use is as a relational database for structured data but that is not its only use. SQL Server provides native support for storing and querying XML and JSON documents as well as a blob data type. XML and JSON are widely used for semi-structured medical records data. SQL Server also stores and queries graph data and geospatial data.

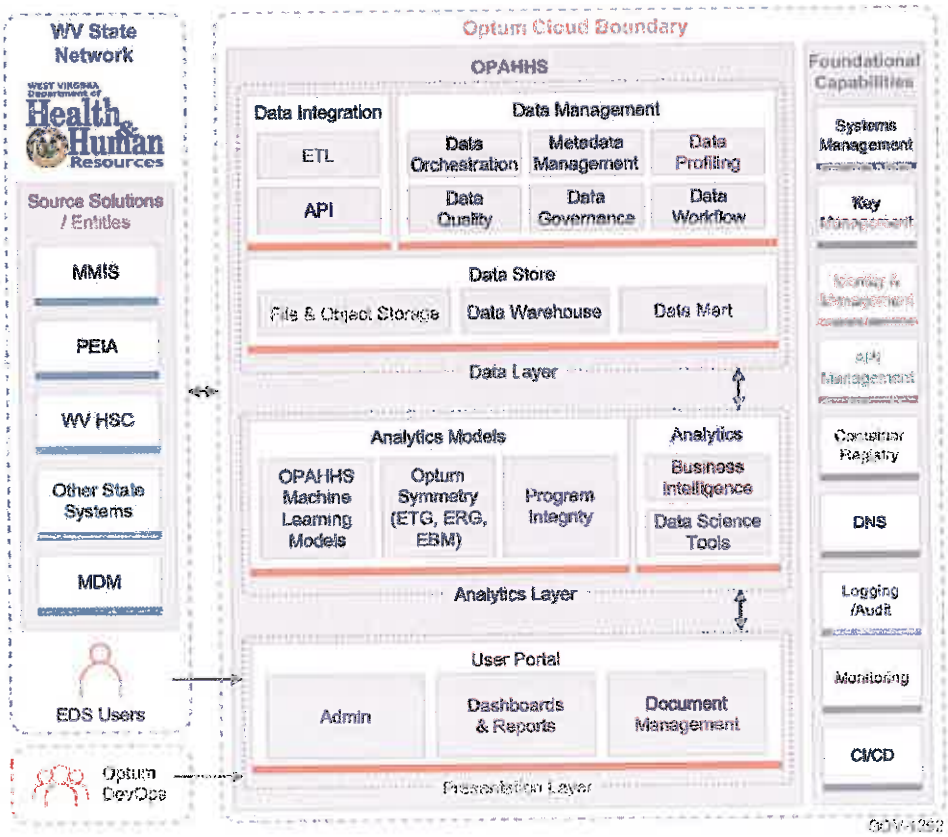


Figure 87: OPAHHS Multi-tier Architecture
Each layer of access within OPAHHS is segregated to create clear tiers in the architectural model.

Our primary BI and data visualization tools are installed into the Analytics (or application) layer, as referenced in Figure 87. We publish the OPAHHS workbooks to the presentation layer, where they are available to authorized users. In essence, the workbooks are data marts where reports and data are combined. Users can drill down, using the logical drill-down dimensions we populate, and sort and filter data through the web portal. They can also clone workbooks to store in their personal space, which will be especially useful for power users who have Tableau Creator (formerly Desktop). These power users will be able to combine subsets of OPAHHS-provided data with their own data and publish the mashup of data for others to use following an appropriate governance process. The OPAHHS presentation layer follows a comprehensive approach to data intake, validation, and quality control standards before using the data in any analytics and reporting tools.

IN162	Standards-based interoperability technologies that include Web Service Definition Language (WSDL), Simple Object Access Protocol (SOAP), Extensible Markup Language (XMS), and Java

OPAHHS supports standards-based interoperability technologies including WSDL, SOAP, RESTful, XML and Java.

IN163	Others as defined by the Department

As new technologies emerge we will work with DHHR to determine a path to provide support and interoperability. If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

IN164	The Vendor should maintain and support data management governance, data security, and data quality to ensure all data received from the Enterprise Data Solution (EDS) Interfaces and Exchanges maintains the data's integrity throughout the Extract, Transform, Load (ETL) process.

Data Security

As the EDS Contractor, Optum is obligated to design and deliver a solution with strict adherence to CMS, other federal agency data security rules and regulations, as well as DHHR-specified data security protocols. Optum will achieve this by operating its DHHR-customized and approved OPAHHS in the Azure East US-2 commercial cloud, a FedRAMP-certified, public secure cloud services platform. Optum's EDS architecture will align with CMS' MITA 3.0 Framework data protocols, and will adhere to HIPAA rules through a Business Associate Agreement, NIST 800-53 data security controls, and other applicable security standards. User access to data will be controlled in accordance with the Security, Privacy and Confidentiality Plan co-developed with, and approved by, DHHR. These robust safeguards prevent unauthorized access to, and use of confidential information.

Data Governance

The foundation for data driven evidence-based policy making is an enterprise-wide data governance strategy that promotes efficient and effective data sharing throughout the enterprise. Our data governance model makes sure that data is formerly managed throughout the enterprise by establishing clear lines of authority, responsibility, accountability, and communication.

Our multi-layered framework for project governance is shown in Figure 88. We intentionally designed our governance approach and framework for flexibility and adaptability, understanding that many of the states we work with have overarching enterprise-level governance models and project oversight.

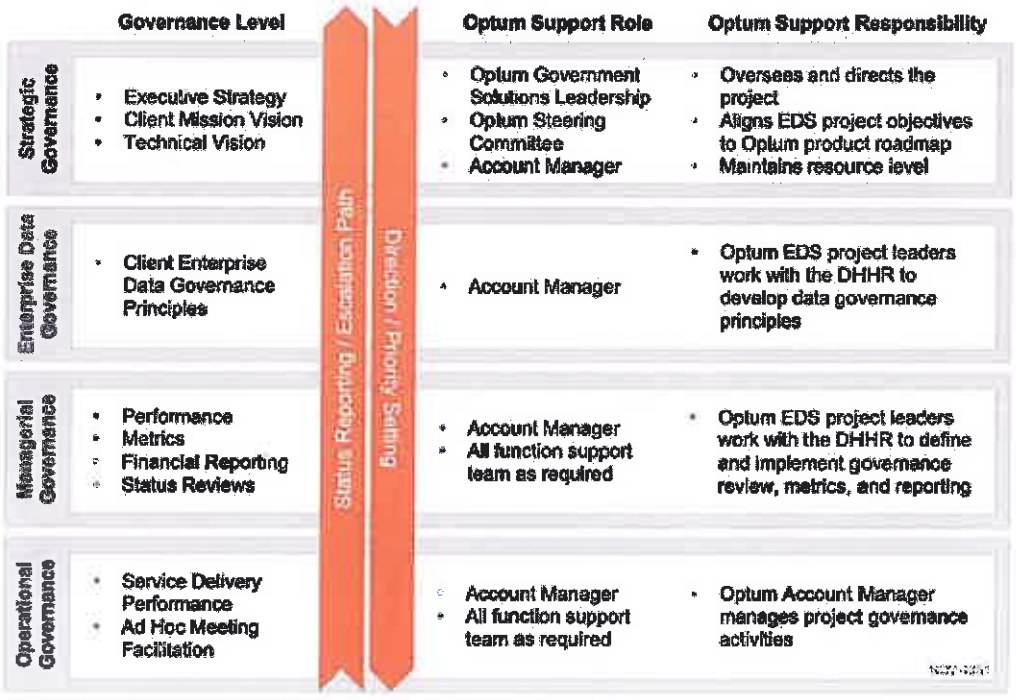


Figure 88: Optum EDS Project Governance Approach and Framework/Roles and Responsibilities
Our proposed governance model will promote close cooperation, communications, and active management participation.

Our proposed project team is woven into our governance structure. At the strategic governance level, our local Optum project team and project manager are supported by our corporate leaders and steering committee. This provides supervision and direction to help our project team align the Optum governance framework to the DHHR project governance model. At each subsequent level in our governance framework, we align our Optum project team members and functional areas with the DHHR project governance model and processes.

It is important to understand that the implementation of technology alone, without the necessary health care background, health care policy context, and statistical analysis acumen in the health care discipline will not be successful. We have tremendous knowledge in optimizing our integrated analytics solution with a business use-case perspective in mind. This collaborative process is important when using statistical analysis or predictive modeling to answer state or federal inquires. We will collaborate with you to achieve the following:

- Understand those pre-defined or ad hoc analytic questions
- Develop the research hypotheses
- Define the data model
- Apply the relevant statistical methods
- Interpret and document the results
- Provide the necessary guidance to your staff

Data Integrity & Data Quality

OPAHHS uses the Informatica suite for both data integration and data quality. The tools will run on dedicated virtual machines in the Azure environment. We have extensive experience in the design, development, and implementation of data analytics solutions for public programs, such as Medicaid and HHS in partnership with CMS. Our prior work also demonstrates the effective use of applying statistical analysis, forecasting, and predictive analytics into real-life business use cases in various care programs.

Our approach is to create an integrated, intuitive data solution. It will be guided by a comprehensive, rigorous method of data intake, validation, and quality control standards before applying the data for any basic and advanced analytics. Performing any statistical analysis and predictive analytics and interpreting the results can be a complex task. The impact can become key factors in supporting policy development, program redesign and system change. At the micro level, our prior experience also informs us of the importance of developing and maintaining an effective documentation system and user training program when statistical models are used.

Data, Data Validation, and Quality Control: The initial step in our data analytics solution, before any application of statistical analysis, is the data tracking, data validation, and quality control process. The diagram and data validation steps in Figure 89 illustrate this critical procedural step.

Figure 89: Data Validation and Quality Control Process
Our rigorous process of data validation and quality control supports the meaningful analysis of any basic and advanced analytics.

Our process of data tracking and validation is comprehensive. We perform the following types of analysis to confirm the completeness and quality of data.

- **Date of Service Volume Analyses:** Trend claim volume by category of service and month of service to identify and track any potential gaps in submissions, and provide an initial view of data completeness
- **Analysis of Valid Values:** Generate simple frequencies for key fields by payer to potentially identify anomalies or differences in how fields are populated by payer; identify values that are missing, incorrectly formatted, or out of range
- **Claim and Member Linkage Analysis:** Verify member identification numbers found in the claims file exist in the corresponding member file
- **Claim and Provider Linkage Analysis:** Check provider identifiers in claims file to make sure they match the values in the corresponding provider file
- **Analysis of the Completeness of Diagnosis Reporting:** Track the quality of the diagnosis information reported on its claims; compute the percentage of claims for each major category of service with one, two, three, four, or more diagnosis codes to verify the completeness of diagnosis reporting and eliminate invalid values
- **Comparison to Reference Totals:** Evaluate the accuracy of the claims payment amounts and obtain comparable reference totals
- **Distinct and Missing:** Calculate the null and missing values to check for fill rates for certain required fields
- **Category of Service and key field distribution:** Data tracking by time-period and selected category of service that provides distribution comparisons between time periods on key fields like outpatient, professional services, and ancillary services
- **Actuarial Analyses:** Create standard actuarial measures of data completeness, such as lag triangles, to assess timing differences in the submission of claims data

We perform a full range of ELT/ETL services using the Informatica suite of data integration tools.

IN165	The Vendor should ensure the data received from the Enterprise Data Solution (EDS) Interfaces and Exchanges is consistent with the Physical Data Model and Data Dictionary.

Data received into the EDS through connected interfaces and exchanges will be consistent with the data model and data dictionary. A flexible and scalable data model has been central to our success. Having served federal and state governments for 25 years, we have experienced the evolution in policy and technology that has had profound impact on how states operate their Medicaid and other Health and Human Services programs. We know that changes will continue and have the potential to disrupt serving those in need and meeting your objectives.

Your business needs will evolve over time. New data requirements demand a flexible and scalable data model that can adapt to changes and additions to data. With that in mind, we designed OPAHHS to align with MITA and the CMS Seven Standards and Conditions. Like MITA, OPAHHS fosters integrated business and information technology data and processes across the enterprise. OPAHHS decouples business services, data, and technology. This facilitates a more Agile approach allowing you to keep up with the pace and rate of change, without requiring a new solution architecture.

The OPAHHS data model is flexible and easy to change. Ongoing online discussion forums, new business needs, periodic stakeholder meetings and many other drivers can help identify new data and measure needs for this solution. In essence, OPAHHS has two data models. The first is the EDS data model, which contains data from multiple sources. This enterprise model is then enriched with Symmetry and AddressDoctor geocodes. In addition to the Symmetry Suite, we also enrich the validated raw data with value added components, such as months of

eligibility, category of service, member category, and region of residence, age groups, program aid category, institutional and HCBS status, care gaps to support user queries, to name a few. These can be used as covariates or other parameter controls in a research study.

The second is the dependent dimensional BI model, which we use to drive business intelligence. We map the enriched enterprise data into a structured series of dimensions and measures. Measures are numeric representations of a set of occurred events (e.g., total dollars paid, number of claims, member months). Dimensions provide structured labeling information to these measures (e.g., Category of Service, ETG). Because of these transformations, the resulting data model, known as a dimensional model, enables researchers to analyze one or more measures of interest across any set of dimensions using the multivariate method.

We load the relevant subsets of this dimensional model into our business intelligence tools which are used as the basis to generate reports and promote reliable reuse. Our comprehensive, searchable data documentation and consultation on data sources supports ease of use. We can make the data views created by your users and the ones you ask us to create available using OPAHHS. They can be shared with authorized users by configuring the access permissions. Your advanced users can share code and technical questions through our forums, promoting collaboration. Our team can support views created by advanced users using the governance of our learning procedures.

We use Informatica Metadata Manager as our data dictionary. Metadata Manager provides direct connectivity to capture metadata from various data sources. For non-standard metadata sources (e.g., stationary documents), Metadata Manager also provides a customizable metadata integration capability to help create and edit custom meta-models. It is accessible through the Data Analytics and EDS portal. The tool contains table name, column descriptions, transformation rules, and the business usage of specific columns. It also records data lineage and mapping, and business rules applied to data in the migration and data conversion process. We keep the business glossary in Informatica current with data model changes. Metadata Manager is synchronized with Azure's data warehouse service. In addition to metadata, reporting metadata from various Informatica repositories will automatically synchronize with third-party metadata and business intelligence tools.

Using Metadata Manager, we store all the metadata contents in a centralized Metadata Repository. Metadata Manager can be used to maintain the custom models already created. It captures the data: title, category, objective, source, type, version, status, applicability, references and relations to other standards. The repository includes vocabularies (i.e., code sets). When we calculate new fields in BI tools, those definitions also import to Metadata Manager. The metadata repository holds all technical and business metadata content, such as documents, spreadsheets, and messages.

Figure 90 shows an example of an OPAHHS solution metadata layer that was produced with extensive client input. Note that the model makes use of pre-determined filters for common queries. Modeled in the metadata layer, these filters dramatically reduce user errors. This metadata model also makes extensive use of dimensional modeling techniques, which provides drill-up and drill-down functionality.

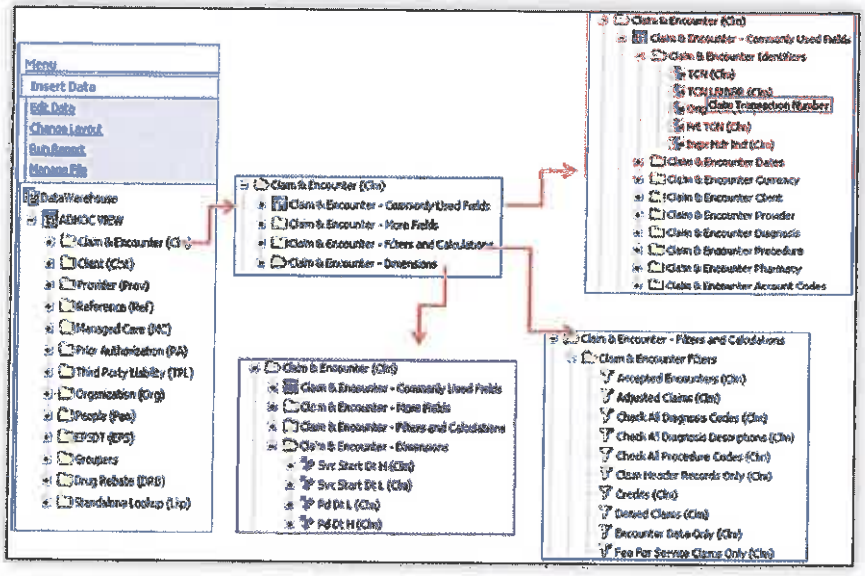


Figure 90: Multi-dimensional Data Model
Dimensional modeling techniques that provide drill-up and drill-down functionality.

It is important for your users to have the capability to easily query information and share it with a larger audience who may not have access to the same analytic tools. For OPAHHS, this begins with a data model that keeps track of user-generated fields, such as datasets and calculations. Tableau's run time layer lets the user change or modify dimensions or measures as well as change aggregations at run time. Metadata components can be shared and reused. In addition to collaboratively developing a rich portfolio of predefined reports, we will also work with you to establish requirements that determine how restrictive ad hoc, drill-down reporting should be based on the user's authorization level. The reports will also be available in various formats to support technical documentation.

The OPAHHS data model is readily scalable and can handle any number of data sources and an increasing variety of analytic functionalities. It can grow as your business needs grow. For example, OPAHHS can adapt as your Medicaid populations, user groups, or your analytic needs increase. We will provide you with the technical capability to grow in size (number of years of data retained), datasets (variety of types of data stored), and the number of users. We will also make certain that business requirements are implemented efficiently by adding new data fields to OPAHHS based on changes in each of your programs. Proof of this can be found in our state EDS deployments where our EDS solutions have been in place for nearly 25 years. Each of those projects have grown in multiple directions including number of users (there are 10,000 users in one state), amount of data (there is nearly 100TB of data in our largest state implementation), and number of unique data sources (there are more than 60 data sources in one state).

IN166	The Vendor should be prepared to assist the Department with discussions as they pertain to data management, data governance, and/or data sharing.

We offer a proven approach to implementation, applying our Optum Delivery Model (ODM) to the incremental design, development, and implementation of OPAHHS. We combine an innovative delivery model, a collaborative approach to project management and governance, and the people, processes, and tools necessary to drive successful delivery. The

implementation phase will begin on the Contract Start Date. We will work with you through JAD session to capture detailed requirements for data analytics. We will assist DHHR in addressing issues as relate to data management, data governance and data sharing.

We have a long history of collaborating with state agencies to support data management and data governance. Our account manager will lead governance activities for Optum, engaging appropriate project staff, as needed, to support specific activities. Our account manager will also make sure our personnel, including subcontractor staff, support and comply with the DHHR data governance policies you are developing. Our corporate leaders and steering committee will support our account manager and project team. They will provide guidance and direction as we align our governance framework with yours.

Our project team will have substantial policy knowledge and expertise. They will work with you to provide the information and support you need to make effective policy decisions. We will communicate any relevant issues to you that we discover as we operate the solution. We will be available to facilitate stakeholder meetings and surveys at your request. Optum will also perform research for DHHR on request. For example, you may ask us to research data in the EDS and provide recommendations on possible consequences of specific policies. If we recommend alternatives that take time to implement, such as developing a new information source, we will develop and present a short-term workaround for you. Our personnel will have the business and technical skills required to support your solution, data management and data governance activities.

4. Security Management

Refer to the relevant technical specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Security Management below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Optum Response:

Approach and Solution Capabilities for 4.5.2 Security Management

Optum protects client data using administrative, technical and physical controls. OPAHHS integrates security through our Systems Development Lifecycle (SDLC), enabling identification and verification of regulatory requirements and controls required to meet compliance. We base our security model on a layered defense strategy that complements service oriented architectures (SOA). OPAHHS incorporates security controls across the environment to prevent unauthorized opportunistic access. Additionally, we designed the control environment to support technology and service interoperability; resulting in reduced technology sprawl and lower cost of ownership for control maintenance while maintaining the prescribed compliance posture.

We designed the native and third-party security controls based on applicable regulations and standards along with your specific organizational requirements. DHHR EDS assets will be protected by a combination of advanced data protection, auditing and logging, encryption, identity and access management, infrastructure security, security incident management, threat and vulnerability management, and physical security solutions. Figure 91 shows our security design model.

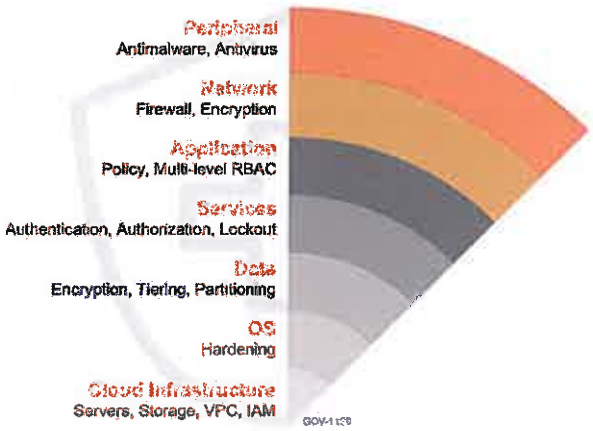


Figure 91: Security Design Methodology
We design security controls for your EDS solution following a proven security design methodology.

Optum will document the security and privacy objectives for the EDS solution, and note any gaps with mandated security requirements in the Security, Privacy and Confidentiality Plan during each phase of the project. This approach permits us to develop the required security artifacts in cooperation with the solution architects and engineers, providing a better understanding of the solution and its security posture.

We have a holistic approach to role-based security with both access to applications and data. Data masking and data controls enforce the concepts of need-to-know and least privilege based on the business rules determined by governance.

Phased Implementation

Application of security controls is an ongoing process. Security controls will be agreed to at project onset. Initial security controls will be in place prior to data ingestion to protect the data. As each layer of the infrastructure is created and configured, security controls are applied and tested.

Exception Handling Process

Exceptions to security controls require a risk review. The risk review must include DHHR written approval as well as mitigating controls that are in place to minimize the risk level. There should be remediation plans to bring the security control into compliance within one year. Security exceptions are reviewed annually and a new risk attestation is required. We evaluate risks to security and compliance controls on an ongoing basis.

Dependencies of Existing Systems

There are no dependencies on existing systems for security management.

Application Security

OPAHHS incorporates industry-leading COTS applications that play a prominent role in health care data warehousing and analytics. We follow their vendor documentation, industry best practices, and regulatory requirements. This helps us secure the applications and your data assets in line with the requirements defined early in design, delivery and implementation (DDI). During DDI we work with you to finalize implementation policies and supporting controls such as those for session time-outs, account lifecycle management, password policies, and role-base security. We will start with the MARS-E security footprint as a baseline for controls.

Additionally, we configure application logging to deliver logs to a security incident and event monitor (SIEM). The monitor sends real-time alerts to highlight suspicious activity based on patterns of access or usage. The OPAHHS SIEM can also be used to reconstruct events when needed to support incident identification and root cause analysis.

Platform Security

Each OPAHHS component employs mechanisms to protect its assets. Consequently, infrastructure security becomes one of the layers of our security model. As part of our layered approach to the enterprise security architecture, we will configure all computer devices with antimalware protection. The operating systems and applications will be hardened as appropriate. Antimalware for Azure provides protection against viruses, malware, network threats and intrusions and file integrity monitoring. We will configure real time alerts to support monitoring activities.

We provide a unified approach to managing SIEM and audit logging. We collect and collate audit logs from all system components to allow for end to end event trails. Real time alerts are configured for delivery to key stakeholders to identify potential concerns before escalation is needed. Real-time actionable intelligence on events across the entire EDS infrastructure, allows us to quickly isolate unusual network behavior by a user, machine or network device.

Data Security

We will work with your data owners and governance to help you create a data security structure. This structure will be complemented by the layered security architecture of OPAHHS and enforced at the user level by role-based security profiles and the principle of least privilege. OPAHHS provides tools that allow for powerful masking, encryption and obfuscation capabilities to protect the data in the data warehouse, analytics marts and extracts. Our extract, transform and load (ETL) processes transform values such as age and geographic location into less specific categories de-identified for general reporting.

We invest significant resources in our information security program. We use various network security monitoring and encryption technologies to protect and maintain the confidentiality and integrity of the data and information entrusted to us. Our administrative, technical, and physical security controls provide the multiple layers of protection you require for your secured information.

Authentication and Role-based Access Security

We provide full support for RBAC. We recognize that users fall into one or more roles, where each role corresponds to a discrete set of job functions. With the EDS, a system with significant and complex protected information, each role's set of job functions must be restricted to the systems and data required based on business needs. OPAHHS uses role membership to control what applications a user can access, the data they can see, and what actions they can take on that data. All components of OPAHHS support RBAC so that all personnel are governed by the same set of security policies. Using this approach, we implement security driven by your requirements and follow a consistent approach to user-based security controls. Similarly, the Change Management process provides a defined, consistent mechanism for configuration changes to access-levels, rules or policies. We will work with you during the requirements phase to define:

- Roles and Access profiles
- Permissions, access grants, and resource quotas for each of the roles
- A matrix matching job titles to security roles and the creation of permissions for each

- Policies and procedures for providing for exceptions to the above, including such special restrictions as time or location limitations

We will document and maintain all of the security-related requirements, policies, standards, procedures and supporting information in the OPAHHS System Security, Privacy and Confidentiality Plan for the EDS. The plan will reinforce the principles described above relating to the role of our SDLC in defining the security requirements and our security model's layered defense strategy to protect your most valuable assets and their usage.

Our comprehensive approach to meeting security requirements has proven successful with our current clients including Arkansas, Indiana, Virginia and California. We know that effective management of risk, technical security, and privacy requires controls, processes, and an implementation and maintenance life cycle that are consistent across modules, is a key to a successful security program. Our business and operations and maintenance teams self-assess their control environment (both IT and operational controls, where applicable) through internal assessments, which are spread throughout each year. Several regulatory agencies, as well as our clients, perform audits throughout each year, which include a review of key IT and operational controls. We contract with third-party vendors to perform internal IT security and control assessments on behalf of clients throughout each year.

Our monitoring program includes the process and technology used to detect compliance and risk issues associated with the client's operational environment. The operational environment comprises people, processes, and systems working together to support efficient and effective operations. Controls are put in place to address risks within these components. We actively monitor and manage our client's operational risk profile using a NIST-based security assessment and testing methodology.

Our goal is to satisfy NIST and CMS mandates to reduce information security risk across the contractor, subcontractor, vendor, and internal enterprise using automation and standardization in a cost-effective manner. As part of the ongoing outreach and data collection process within the security assessment and authorization process, business owners, system developers/maintainers, and their supporting contractors must provide additional information and coordination to support overall security controls and processes. Our security documentation and processes include:

- Asset management
- Vulnerability management
- Configuration management
- Patch management
- Identity and access management
- Data protection
- Boundary protection
- Security incident management
- Network security protocols
- SIEM integration

In summary, we manage and support a comprehensive Information Security Program through industry best practice, a blend of applicable regulatory obligations, and client considerations. We developed our Information Security Policies on the ISO/IEC framework. Additionally, because we must comply with the various regulations and standards, such as FIPS, HIPAA, and NIST, we harmonize standards and regulations to support compliance requirements. We develop solutions based on the harmonized standards, regulations, and client requirements. We apply controls based on jurisdictional prudence; therefore, if a standard or regulation is more stringent takes precedence in our implementation.

Appendix 1: Security Management

Optum will meet the Security Management requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

SM001	The solution should have security controls, safeguards, and alerts to prevent, monitor, and detect potential and actual violations in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

Optum will design and deliver a solution with strict adherence to CMS, other federal agency data security rules and regulations, State, and DHHR-specified data security protocols. We will achieve this by operating our DHHR-customized and approved OPAHHS in the Azure commercial cloud, a FedRAMP-certified, public secure cloud services platform. Our EDS architecture will align with CMS' MITA 3.0 Framework data protocols, and will adhere to HIPAA rules through a Business Associate Agreement, NIST 800-53 moderate baseline data security controls, and other applicable security standards. We will control user access to data in accordance with the Security, Privacy and Confidentiality developed with and approved by DHHR. These safeguards and controls described in the Security, Privacy and Confidentiality Plan will detail protections against unauthorized access to, and use of confidential information.

We will monitor solution components using automated monitoring and alerting tools. Security information and event management technologies deployed throughout the environment will provide analysis of security alerts generated by network hardware and applications. Our SIEM monitor sends real-time alerts to highlight suspicious activity based on patterns of access or usage. The OPAHHS SIEM can also be used to reconstruct events when needed to support incident identification and root cause analysis. We use active monitoring to detect suspicious activity and trigger alerts for further investigative actions. All user activities are monitored and logged real time and any successful or unsuccessful security breach are reported through monitoring alerts.

SM002	The Vendor should deliver a Security, Privacy, and Confidentiality Plan within 30 calendar days of contract startup.

We will deliver the Security, Privacy and Confidentiality Plan within 30 calendar days of contract startup. Optum protects client data using administrative, technical, and physical controls. Optum will submit the Security, Privacy and Confidentiality Plan for review and approval by DHHR. Optum will adjust details of this plan, as needed, during the SDLC process. This includes the specifics, such as designated security team and personnel, frequency and timeline of activities, references to security standards and regulations as well as security measures.

SM003	The Vendor should submit an updated Security, Privacy, and Confidentiality Plan to the Department for review and approval 30 business days prior to the start of solution operations.

Optum will provide an updated Security, Privacy and Confidentiality Plan to DHHR for review and approval 30 business days prior to the onset of solution operations.

SM004	The Vendor should perform a review of the Security, Privacy, and Confidentiality Plan annually and submit to the Department for review and approval within 30 calendar days of the review.

Optum will review the Security, Privacy and Confidentiality Plan annually and provide an update to DHHR for review and approval within 30 calendar days of completion of our internal review and update process.

SM005	The Vendor should submit substantive change(s) to the Security, Privacy, and Confidentiality Plan for review and approval within 30 calendar days of the proposed change(s).

The Security, Privacy and Confidentiality Plan will be updated for a major change(s) and submitted to DHHR for review and approval. We will submit any updates to the Security, Privacy and Confidentiality Plan within 30 calendar days of proposed change(s).

SM006	The Vendor should maintain a Department-approved Security, Privacy, and Confidentiality Plan that details how the solution complies with applicable Department, State, and federal security and privacy laws, policies, and/or procedures.

Optum protects client data using administrative, technical, and physical controls. We provide a Security, Privacy and Confidentiality Plan as required by DHHR. The Security, Privacy and Confidentiality Plan will detail how OPAHHS complies with applicable DHHR, State and federal security and privacy laws, policies, and/or procedures.

SM007	The solution should maintain an audit trail that can be used to identify unauthorized attempts to access the solution and log the IP address from where the intrusion attempt occurred, in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

We will employ a SIEM integrated with security analytical services to detect and identify unauthorized attempts to access the solution. Our SIEM will capture all solution audit trails. The flexible and comprehensive security management solution enables us to track access attempts by user, by IP address or by geographic location. We will configure auditable events in the OPAHHS SIEM in compliance with applicable Department, State and federal security and privacy standards.

SM008	The solution should provide an audit of all attempts to access or use sensitive data, consistent with Health Insurance Portability and Accountability Act (HIPAA), Centers for Medicare & Medicaid Services (CMS), and other Department, State, and federal laws and regulations.

Auditing is a critical component of any information system. OPAHHS includes comprehensive auditing tools in every layer of the solution. We log all attempts to access or use sensitive data, consistent with Health Insurance Portability and Accountability Act (HIPAA), Centers for Medicare & Medicaid Services (CMS), and other Department, State, and federal laws and regulations. Our audit capabilities will allow DHHR to trace every access attempt in the data warehouse to the user ID, IP address, locale, role, modification date/time, and data accessed or system process. Audit details can include the operation type (drop table, insert, create procedure and so forth), the event time and the actual SQL statements. Our solution incorporates comprehensive security and privacy controls to protect data confidentiality. These include compliant encryption, protecting PHI in the non-production environments, and logging and monitoring production data access and usage.

SM009	The solution should have the ability to prevent, monitor, and detect malicious software and code.

As a standard practice, Optum employs protection mechanisms on all computing devices. OPAHHS for DHHR has the ability to prevent, monitor and detect malicious software or code on any of our deployed virtual machines. A real-time protection mechanism is configured on endpoints to scan all critical files, including watching and checking all new incoming files when downloaded, opened, or executed. Additionally, an endpoint tool runs a daily active scan that includes startup files, active registry hives, critical system folders, and memory. All files, including operating system files, are scanned weekly to discover and remove malicious code. Quick scans of files loaded into memory, common virus and security risk loading points, registry keys, and startup files are configured to occur once per week. Live updates to malicious code prevention tool signature files and product updates are scheduled on a daily basis. Client computers are set to automatically connect to the management server to check if new policies are available and download policies and content from the management server every hour.

Sentinel is configured to ingest, aggregate, and correlate events generated from multiple platforms to monitor atypical/malicious activity and malicious code, is configured to include boundary protection devices within its scope, and is configured with processing rules. Event logs are forwarded to Sentinel where notifications are sent directly to stakeholders for follow up and potential investigation. When appropriate, Optum will respond by reviewing Sentinel content, creating case management or incidents within ServiceNow GovCloud, triage 24/7

events to be escalated to our Digital Forensics Incident Response team for additional analysis, or our Security Incident Response for remediation.

All network connections, whether outbound or inbound, are filtered through approved firewalls and inspection zones. We test and approve selected malicious code prevention tool sets prior to implementation. A standard, approved and tested, malicious code prevention tool set is identified for each computing platform. Malicious code prevention software that is industry recognized is required to be installed on all workstations and production servers. All computing devices must have an actively running antivirus or critical system protection software package, to identify and remove malicious code. In cases where removal is not possible, the files must be quarantined or deleted.

Signature-based anti-virus products scan for unique components of certain known malicious code; therefore, they need to be updated continuously. These signatures are updated, at least once a week, to ensure systems scans can identify all known viruses. When possible, updates are installed as part of an automated network process.

SM010	The solution should have the ability to provide security incident reporting and mitigation mechanisms according to State and federal requirements and in accordance with the Department's Incident Reporting and Response Policy including, but not limited to:

We will configure your EDS solution using leading technologies and practices for secure application development. It will protect the confidentiality, integrity, and availability of sensitive, electronic protected health information (ePHI) and personally identifiable information (PII) data in accordance with HIPAA Security and Privacy Rules, and all other applicable legal standards. We will work with you to define and employ policy and procedures to so security events requiring reporting and mitigation are addressed in a timely manner and reported to the appropriate parties in an agreed-upon timeframe. We monitor for potential security events and manage all aspects of security and privacy incidents, from monitoring to forensic investigation and preservation of evidence.

SM011	Terminating access and generating a report when a potential security violation is detected

We actively monitor for anomalous activities at the network, host and data levels. If potential security violations are detected we can terminate user or system access. We will report any security violations to DHHR in an agreed-upon format and timeframe.

SM012	Preserving and reporting specified audit data when a potential security violation is detected

We will preserve and report forensic data and evidence including audit data when a potential security violation is detected.

SM013	Others as defined by the Department

We maintain audit events as defined by MARS-E control standard AU-2. If additional audit details are required for security incident reporting we will work with the Department to identify the data to capture the relevant information. If others are defined that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

SM014	The Vendor should ensure that any and all security and privacy breaches, incidents, and/or unauthorized disclosures are reported according, to State and federal requirements and in accordance with the Department's Incident Reporting and Response Policy.

Our solution is MARS-E compliant with comprehensive audit trails and reporting capabilities. We will cooperate with the Department in reporting and investigating any breach, security incident, unauthorized disclosure or vulnerability.

SM015	The solution should have the ability to log all authorized solution user activity and correlate, analyze, and report on all logged user events and associated data.

OPAHHS provides comprehensive audit trails that will log all authorized and unauthorized user activity. Sentinel can correlate, analyze and report on user events and access to associated data.

SM016	The solution should have the ability to provide a report of authorized solution user activity as determined by the Department in the Design, Development, and Implementation (DDI) phase.

We will work the Department during security JAD sessions in DDI to determine security reporting formats and requirements. OPAHHS can deliver security reports for user actions throughout the solution.

SM017	The solution should provide an audit trail of record changes, including authorized solution user, date, and time of change.

We provide access to data changes and viewing history within the system to allow DHHR to understand the history of data changes, and to maintain HIPAA compliance. The online, human-readable audit trails maintained by our solution will identify the effective and termination date for the data; who made the changes (individual or automated process); and the value of the data element for the identified data range. OPAHHS will create and maintain a comprehensive set of audit trails for use by authorized users. Audit trails will allow authorized users to see who made a change, when the user made the change and what values were changed.

SM018	The solution should have the ability for audit trails to allow information on source documents to be traced through the processing stages to the point where the information is finally recorded.

We audit and trace all data transactions through every phase of data integration into OPAHHS. As illustrated by the generalized diagram in Figure 92, data, including and source documents, are loaded into staging tables and use intermediary tables to perform integration. Audit logs are ingested from every integration layer and tool allowing us to trace the path any data followed from ingestion to finalization or recording of the data in production.

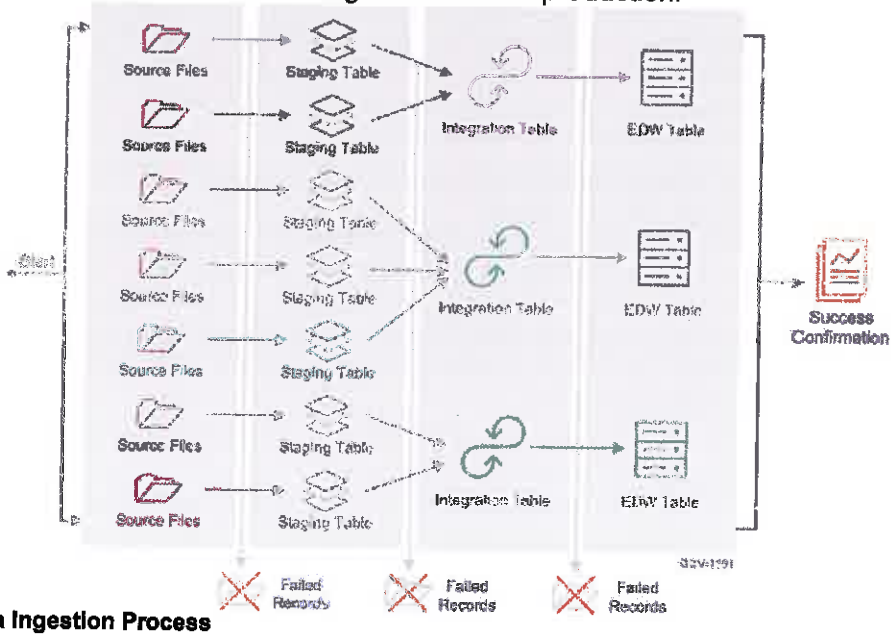


Figure 92: Data Ingestion Process

The path of data from ingestion to publishing is audited at every component of the data integration layer.

SM019	The solution should have the ability to trace data from the final place of recording back to its source of entry.

OPAHHS can trace data from the final place of recording back to its source of entry. The Metadata Repository includes cross references to source systems, database schema, table name, column name, data types and other column attributes, relationships, transformation rules, query subject name, and query object name. Metadata also includes source-to-target mappings, lineage, and transformations from source systems.

SM020	The solution should continuously monitor, authorize, document, and allow access only through controlled interfaces for all connections originating from outside the security boundary of the system in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

As part of our operational procedures, we will monitor the use of the EDS data and all inbound and outbound interfaces. We only allow connections to authorized interfaces. We will document all interface connections, whether internal or external to the security boundary, as part of the Security, Privacy and Confidentiality Plan in compliance with applicable Department, State and federal security and privacy laws, policies and/or procedures.

SM021	The solution should ensure remote connection is performed using multi-factor authentication in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

We will support multi-factor authentication (MFA) through Azure MFA in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures. Azure MFA supports security questions, email-based MFA, the Microsoft Authenticator App, a voice call to a preset number or an SMS pin.

SM022	The solution should limit data sharing to only those entities and individuals located in the United States and/or U.S. territories that maintain a current data sharing agreement with the Department consistent with Department-required agreements and security and privacy policies and procedures.

We will limit data sharing to only those entities and individuals located in the United States and/or U.S. territories. A data sharing agreement will be required with the Department before data sharing will be allowed. Optum will meet this requirement and offers the following clarification: Optum will be using Azure's East US 2 public cloud that uses a "follow the sun" support model so as to provide DHHR with continued support. The DHHR data will remain restricted in the United States and/or U.S. Territories.

SM023	The solution should have the ability to control access rights to data and system functions based on authorized solution user role-based access.

All components of OPAHHS, including access rights to data and system functions, will use RBAC mechanism so that all personnel are governed by the same set of security policies. Using this approach, we implement security driven by your requirements and follow a consistent approach to user-based security controls. We will document and maintain all of the security-related requirements, policies, standards, procedures and supporting information in the Security, Privacy and Confidentiality Plan.

SM024	The Vendor should work with the Department to define the process for access to the solution in the Design, Development, and Implementation (DDI) phase.

We will work with the DHHR during the requirements analysis and JAD sessions, held during DDI, to define processes relevant to system security and privacy and implement controls to effectively maintain security. This includes access controls and identification and authentication. Optum will identify users, processes acting on behalf of users or devices, and authenticate the identities of those users, processes or devices, as a prerequisite to allowing access to the solution. We will work with DHHR to provide a Security, Privacy and Confidentiality Plan that covers all aspects of user access controls.

SM025	The solution should support role-based user access.

We provide full support for RBAC. We recognize that users fall into one or more roles, where each role corresponds to a discrete set of job functions. OPAHHS uses role membership to control what applications a user can access, the data they can see, and what actions they can take on that data. We will work with you to determine the appropriate user roles during security JAD sessions in DDI.

SM026	The solution should provide an interactive, adjustable time-out feature for authorized solution user inactivity in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

Our security policy requires the termination of a user's session after a specific period of inactivity. The timeout setting is configurable. The default setting is 15 minutes as per MARS-E.

SM027	The solution should provide alerts to authorized solution users that inactivity will result in being timed out after the specified period of inactivity in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

Users will see a dialog box warning of the imminent logoff in a timely fashion.

SM028	The solution should have the ability to enforce password policies for length, character requirements, and required updates in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

All DHHR solution users will be required to have unique IDs and passwords that meet complexity standards. This is a standard practice for Optum. Complexity standards include a minimum length, character requirements, minimum and maximum password age and password reuse requirements. These are initially configured to MARS-E recommendations for user, privileged and service accounts found under IA-5(1): Password Authentication.

SM029	The solution should store passwords in encrypted form in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

OPAHHS user and system passwords are not stored in clear text. When passwords are stored, we will encrypt them, using FIPS-compliant encryption modules, in accordance with applicable Department, State and federal security and privacy laws, policies and/or procedures.

SM030	The solution should permit system administrators to reset authorized solution user passwords.

System administrators will have the ability to reset user passwords.

SM031	The solution should allow authorized solution users to reset their own passwords at any time by following system-defined standards in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

Users will be able to reset their password at any time in accordance to DHHR standards and regulatory requirements. Passwords will be required to meet minimum password requirements including number of characters, types of characters, password aging and password reuse.

SM032	The solution should permit authorized solution users to set and modify user security access profiles.

Authorized solution users will be able to assign and modify user roles. Before a user is assigned to any role, a DHHR authorized team member and/or data owner will be required to sign off on the assignment. Users will not be able to self-assign EDS roles.

SM033	The solution should have the ability to supply authorized data sets to authorized solution users.

OPAHHS provides RBAC to control access to data sets. Users may have multiple roles. Each role corresponds to a discrete set of job functions and supports separation of duties requirements. For the EDS, a system with significant and complex protected information, each role will have a set of job functions must be restricted to the systems and data an authorized solution user requires based on business needs. We will actively review and maintain the EDS users and groups to control what data sets a particular role can access, the data the role can see, and what actions a user may take on that data.

SM034	The solution should have the ability to provide an audit log that identifies amendments to the designated record set for an authorized solution user.

OPAHHS will contain a data definition for the Designated Record Set (DRS) that allows it to be included in responses to inquiries and report requests. During JAD sessions we will capture requirements on collecting DRS for support of defined business extracts and respond to authorized report requests. Our solution allows for versioning the data through our data modeling and architecture. We will capture all changes to the DRS through audit trails to identify the change and the user who initiated the change.

SM035	The solution should have the ability to store audit logs of authorized solution user activity in a location determined by the Department in the Design, Development, and Implementation (DDI) phase.

Audit logs captured by Sentinel can be stored at an alternate location as designated by the Department. Alternatively, audit logs from individual solution components could also be forwarded to the audit tool of the Department's choice. We will work with DHHR during DDI to determine appropriate audit storage techniques.

SM036	The solution should establish responsibilities and procedures for remote use in compliance with Department security policy.

Optum will establish procedures for remote use in accordance with DHHR security policy. We can set security policies for access that include location restriction, IP whitelisting, time of day restrictions or user restrictions, as appropriate.

SM037	The solution should block pop-ups, spam, advertisements, and malware.

OPAHHS does not use pop-ups, spam or advertisements. We employ antimalware software on all components of our solution. We cannot block pop-ups, spam, advertisements or malware that may occur at the user desktop. Pop-up blocking is a feature of the local browser and can be controlled per user or through DHHR group policy. Local workstation antimalware software would be the responsibility of DHHR.

SM038	The solution should have the ability to remove or disable systems, services, components, and modules as defined by the Department.

OPAHHS is Platform as a Service. Optum can disable services that are related to solution components of OPAHHS. For example, we could disable direct data access or access to virtual desktop infrastructure (VDI) desktops. We cannot disable system components of user workstations such as access to USB drives or other external storage.

SM039	The solution should have secure transmission and data integrity controls to detect improper modification of transmitted information.

Optum encrypts data during transmission. Network links accessing DHHR data will employ encryption for all data transfers using SFTP and transport layer security (TLS). Encryption of all data during transmission between the web browser and the web server using Secure Sockets Layer (SSL) 256-bit encryption. This includes all individually identifiable health information, financial information and messages sent by the secure messaging option. Azure SQL uses TDS FIPS 140-2 validated encryption connections and TDS packet inspection to validate data transmissions against improper modification.

SM040	The solution should use Secure Sockets Layer (SSL) certificates that are consistent with State and federal requirements for data in transit.

All Web-based access to our solution is encrypted by SSL. We acquire X.509 certificates from reliable independent certificate authorities to enable that encryption.

SM041	The solution should have the ability to restrict release of sensitive data.

OPAHHS can provide data in extracts according to your specifications, and subject to data release controls and procedures built in accordance to policies and standards defined by

DHHR. Optum does not release data without a data release authorization or request from the State and restricts the release of sensitive data.

SM042	The solution should support data integrity by preventing and detecting unauthorized alteration or destruction.

OPAHHS supports data integrity, or the trustworthiness of data, through recoverability and searchability, traceability to origin, and connectivity. Protecting the validity and accuracy of data increases stability and performance while improving reusability and maintainability. We focus on data integrity by monitoring data management activities and responding to issues quickly based on their business impact and your priority. Data integrity can be impacted by:

- Human error, whether malicious or unintentional
- Transfer errors, including unintended alterations or data compromise during transfer
- Bugs, viruses/malware, hacking, and other cyber threats
- Compromised hardware, such as a device or disk crash and Physical compromise to devices

To address these potential risks to data integrity Optum uses data integrity best practices. These include input validation to preclude the entering of invalid data, error detection and data validation to identify errors in data transmission, and security measures such as access control and data encryption at rest and in transit. We have comprehensive audit trails that enable a complete provenance and reconstruction of all data. We log everything that arrives in our landing zone whether by file transfer or by Web service, naming the account responsible. Our ETL tool also maintains comprehensive logging including logging the execution of specific ETL scripts against specific datasets. We also log the resulting loads into the enterprise data model in the data warehouse. In the same way, we log the analytical ETL that loads the BI tool from the data warehouse with identification assets incorporated. The existence of strict RBAC limiting the ability to modify data, coupled with identification assets of all queries, makes certain that unauthorized data modification is unlikely – and if it were to occur; it would be detected. As a method of last resort, OPAHHS retains data backups.

SM043	The Vendor should maintain procedures that ensure all emergency and non-emergency production system changes follow a Department-approved change control process, including a risk analysis.

We recognize change is common in health care, especially for state government agencies that are subject to state and federal laws, rules, and regulations. We follow a rigorous change control process where we log change requests and route the workflow according to a defined process. To help us analyze, identify, and implement proposed changes to scope, schedule, resources, or requirements, we follow our standards-based change management process. Our approach uses PMI PMBOK methodology and includes the documentation, tracking systems, and approval levels required for managing and controlling change. Essential components of our change management process are:

- Standards-based change management process
- Change Management Plan communicated to all parties and strictly followed
- Change control tool to record, track, and communicate change requests
- Change Control Board that will create and oversee the processes
- Risk analysis of each change prior to approval or implementation
- Optum personnel to support DHHR in all aspects of change

All system changes, whether emergency or non-emergency changes, will follow the change control procedures. Work requests, enhancements, and modification pool work will be reviewed and subject to the approval of change management following the approved change control

process. The change control process will be established early in the planning phases. A sign-off authority process, as well as who has the authority to sign-off on changes, will be documented in the Change Management Plan. Approved changes will be documented in our change management tool and in a change control log, along with the date the change was approved and the name of the approver authorizing the change.

The change control process, including roles and responsibilities, will be fully documented. Optum staff working on the project will be trained on the change management tools and processes. We will work with you during the early stages of the project to make sure that the formal change control process is understood and established with the appropriate controls and required reporting. Figure 93 provides an overview of our current change management process.

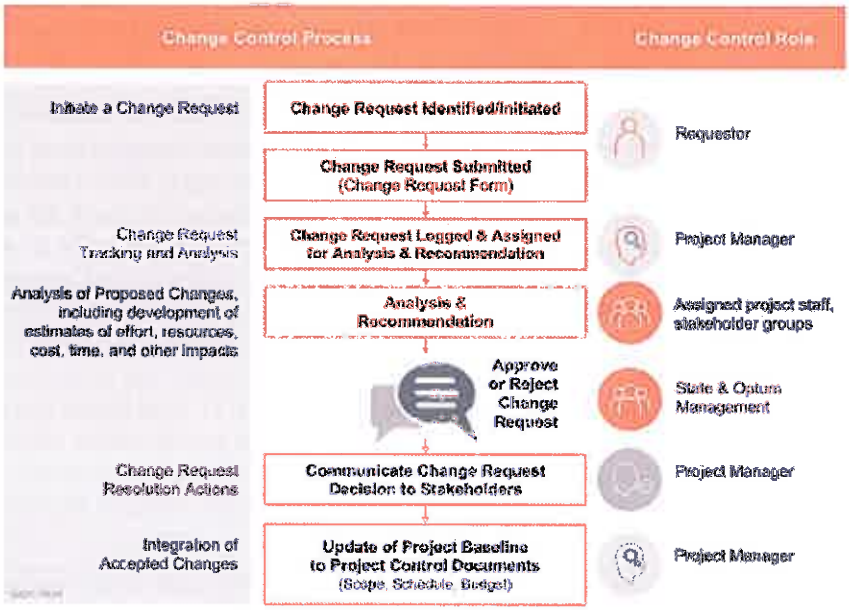


Figure 93: Change Management Process
We will collaborate with you so that our process aligns with your requirements.

SM044	The solution should support record, database, table, and field-level access.

OPAHHS supports record, database, table and field-level access. We will work with you to assign users to roles. Permissions are assigned to roles. Our access controls are based on the principle of least privilege enforcing need-to-know and implementing compliant authentication mechanisms.

SM045	The solution should support secure file and folder access.

OPAHHS will secure file and folder access by assigning permissions to the appropriate roles. We designed our access controls based on the principle of least privilege enforcing need-to-know and implementing compliant authentication mechanisms. Access to information systems and data, including folder and file access, is managed using prevailing identity and access management technologies. The system verifies the identity of all users and denies access to invalid users. Some of the methods Optum uses to enforce appropriate access and to meet minimum acceptable guidelines are: RBAC or attribute-based access control (ABAC), single sign-on, multi-factor authentication and others. OPAHHS allows for access control at the modular level all the way down to the individual data group level, as required, through the creation of configurable user roles to govern authorization levels within the solution.

SM046	The solution should support workforce privacy and security awareness through such methods as security reminders, training reminders, online training capabilities, and/or training tracking.

OPAHHS supports privacy and/or security awareness programs and materials for the workforce. Optum will support workforce privacy and security awareness training as part of all user-training sessions and make available online materials for interim training. Training will focus on the underlying principles, laws, and regulations as well as the security requirements and features of the solution. We will keep a record of all users who access the system and cross-reference it to training logs to validate that they receive security training. We will provide periodic security awareness training facilitating various methods such as reminders, online training capabilities, and training tracking. This will help maintain the confidentiality, integrity, and availability of the solution.

The awareness and training Optum provides will verify that managers and users of the solution are aware of the security risks associated with their activities and of the applicable laws, executive orders, directives, policies, standards, instructions, regulations, or procedures related to the security of IT systems. It also verifies that DHHR personnel are adequately trained to carry out their assigned information security-related duties and responsibilities.

SM047	The Vendor should collaborate with the Department to determine a security approach that integrates with other solution components to supply role-based single-sign-on access.

We will collaborate with the Department to determine a security approach to support role-based single sign on. OPAHHS natively supports single sign on through Azure AD. If federation is required, Optum will work with the Department and other solution component vendors to determine the federation roles and protocols. Azure AD supports federation with identity providers such as CA Secure Cloud, Okta, Citrix, Centrify, IBM Tivoli, NetIQ, OneLogin and Ping Federate. If federation between all solution components and vendors is desired, modification pool hours will be used for solution development and testing.

SM048	The solution should have the ability to provide authorized solution users access to view and audit records of changes to free-form text data fields by capturing information including, but not limited to:
SM049	The name of the authorized solution user who updated a field
SM050	The date and time a field was updated
SM051	Others defined by the Department

We maintain audit events as defined by MARS-E control standard AU-2. If additional audit details are required for security incident reporting, we will work with the Department to identify the data to capture. All audit logs will maintain a record of actions searchable by username. All audit records will record a **date and timestamp** as required by MARS-E. **Authorized solution users** will be able to access and view audit records. Audit records are maintained in human-readable format. Audit records will include auditable events as identified in MARS-E security control AU-2. If **others are identified by the department** that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

SM052	The solution should have data encryption standards in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

Optum encrypts data at rest, data during transmission, and back-up data. We will deploy encryption methods that are in accordance with Department, State and federal security and privacy laws, policies and procedures. At minimum the encryption employed in OPAHHS:

- Encrypts all data during transmission between the web browser and the web server using SSL 256-bit encryption. This includes all individually identifiable health information, financial information and messages sent by the secure messaging option.
- Provides data encryption for the environment hosting the DHHR solution that uses FIPS 140-2 compliant encryption modules. We use standard encryption algorithms, such as the

Advanced Encryption Standard (AES) or RSA. Key lengths vary by encryption cipher types, symmetric and asymmetric. Symmetric encryption algorithms use a minimum key length of 256-bits, while asymmetric algorithms use a minimum key length of 2048-bits.

- Stores passwords and challenge responses using a one-way hashing algorithm rather than clear text.
- Encrypts all types of media, including backup tapes, disk arrays, laptop disks and removable media.

SM053	The Vendor should provide documentation on how the solution governs the confidential nature of information about applicants and members, including the legal sanctions that can be provided, to the State, applicants, members, and other persons and agencies to whom information is disclosed.

The Security, Privacy and Confidentiality Plan will provide documentation on how OPAHHS maintains confidentiality of PHI and PII regarding members and applicants. Legal sanctions for failure to protect information are prescribed by HIPAA. Disclosure standards will be inherited from DHHR in regards to Use Limitation, Individual Participation and Redress, Transparency and Authority and Purpose.

SM054	The Vendor should be prepared to demonstrate how the solution of interest supports regulations governing the safeguard of information about applicants and beneficiaries including, but not limited to:

Based on DHHR standards and approval, Optum will mask critical and sensitive data fields, PHI and PII data. The EDS will enforce data masking and data controls based on business rules that comply with governance. Our solution enforces the rules at the user level using role-based security profiles and the principles of need-to-know and least privilege.

We understand a user may have one or more roles, with each one corresponding to a discrete set of job functions. Our reporting and analytics solution uses role based access to control the applications users can access, the data they can view, and the actions they can take on that data. For example, one report may display differently for two users who have different PHI access. The EDS will render data differently based on the user PHI role. Figure 94 shows a sample no-PHI role report.

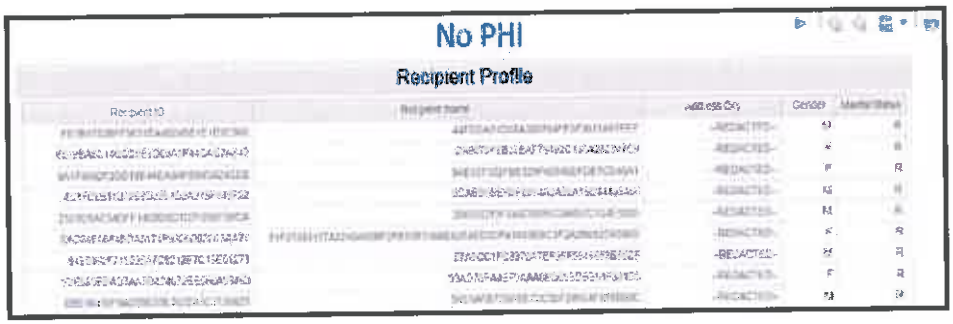


Figure 94: Example No-PHI Role Report
The EDS will use attribute classification to mask PHI for users that DHHR has not authorized to view PHI.

This report masks PHI, such as the recipient name and ID, for users without authorization to view PHI. The EDS will use attribute classification to mask and encrypt PHI. Users authorized to view PHI would be able to see the PHI in the report. We will work with DHHR to classify the data fields for each user role.

SM055	Names

Names will be obfuscated according to DHHR standards. Obfuscation could include nulling or masking the field, substitution, shuffling or other deidentification as identified by DHHR business rules.

SM056	Addresses

Addresses will be obfuscated according to DHHR standards. Obfuscation could include nulling or masking the field, substitution, shuffling or other deidentification as identified by DHHR business rules. Zip codes will be deidentified according to CMS guidelines or prevailing DHHR business rules, as appropriate.

SM057	Medical services provided

We will grant access to medical services provided on a need-to-know basis. As roles are developed during DDI, role permissions will be established. Some roles will not have access to medical service information. Users will be assigned to the appropriate role based on discrete business functions.

SM058	Social and economic conditions or circumstances

We will protect socioeconomic conditions and circumstances by RBAC assignments and field based encryption, where appropriate.

SM059	Agency evaluation of personal information

Agency evaluation of personal information will be protected by RBAC assignments. Personal information that can be categorized as PII or PHI will be additionally protected through data masking and obfuscation according to the business rules of the Department or guidelines provided by CMS.

SM060	Medical data, including diagnosis and past history of disease or disability

Any information related to medical data, including diagnosis and past history of disease or disability, will be protected by RBAC assignments.

SM061	Any information received for verifying income eligibility and amount of medical assistance payments

Information related to income eligibility or payments will be protected by data field security and RBAC assignments.

SM062	Any information received in connection with the identification of legally liable third party resources

Access to information regarding legally liable third parties will be protected by RBAC assignments. It is not uncommon this information is restricted to only those team members who work with Third Party Liability or Recipient Audit.

SM063	Others as defined by the Department, State, and federal security and privacy policies

Information will be safeguarded based the information classification as determined by the data owner. Once the classification is determined the appropriate controls will be determined. Data may be protected by obfuscation, materialized views, roles or any combination that would be required to appropriately secure the data based requirements as defined by the Department, State or federal security and privacy policies. If others are identified are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

SM064	Others as defined by the Department

If others as defined are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

SM065	The Vendor should be prepared to demonstrate that the solution supports safeguarding income information that is received from the Social Security Administration (SSA) or the Internal Revenue Service (IRS).

Income data that is received from the SSA or the IRS will be safeguarded with controls to protect sensitive data. We will use Microsoft Azure's Cloud offering. This gives Microsoft's contractual guarantee of compliance with a wide range of government security standards, including FedRAMP and IRS 1075. We will implement additional controls to comply with SSA and IRS 1075. All data is encrypted during transmission between the Web browser and the Web

server using TLS (transport layer security, the successor to SSL). Data at rest is encrypted by Microsoft's transparent data encryption. Intrusion detection and prevention tools are implemented. Audit trails are enabled to trace all data transactions and actions.

SM066	The solution should disable accounts after three consecutive invalid log in attempts and protect against further user authentication attempts using a Department approved lock-out mechanism.

Azure AD will be configured to disable accounts after three consecutive invalid log in attempts. Accounts will not be automatically unlocked.

ATTACHMENT I: IMPLEMENTATION SPECIFICATIONS APPROACH

Instructions: The Vendor should provide a narrative overview of how the proposed system will meet the specifications and narrative in this RFP. Use these response sections to provide specific details of the proposed approach to meeting the implementation specifications in each process area. Be advised, while some sections only require narrative around specifications others may also contain pointed questions. Responses should reference specifications and relevant mandatory requirements using the appropriate IDs from ***Appendix 1: Detailed Specifications*** and ***Attachment F: Mandatory Requirements***.

Responses in the sections below should be focused on the State business processes and requirements. The State also expects the Vendor to propose its approach for meeting the narrative included in this RFP.

The Vendor is required to respond to the headings below to provide detail regarding their methodology for each project management component.

1. PROJECT MANAGEMENT METHODOLOGY

The Vendor's proposal should describe the Vendor's methodology, tools, and techniques used to support projects from requirements through finished deliverables, including deployment of the new solution, project management, checkpoints, and periodic status reporting. Describe policies and procedures employed to ensure timely completion of tasks in a quality fashion.

Optum Response:

Approach to Project Management

Optum's approach to project management practices incorporates industry standards, as well as structured and repeatable processes and procedures. Our practices are derived from our collective, specialized experience delivering and supporting enterprise data solutions (EDS) and analytics solutions. The combination of our experienced team and policies will reduce risk and simplify project control.

Optum has maintained a 100 percent success rate in completing the design, development, and implementation of our data management and analytics solutions on time and within budget. We accomplished this unique industry record by our management and commitment to collaborative, transparent, and fully engaged relationships. We will use the same project management approach to provide an environment that offers the following advantages to DHHR:

- On-time, in-scope, and in-budget project delivery
- Faster resolution of risk issues to address unique multi-supplier challenges
- Continuous transparency of project status and progress
- Collaborative culture, breaking down communications barriers
- Faster training and improved adoption of data analytics and reporting tools
- Smoother documentation and fewer deliverable review cycles
- Successful CMS certification

Our strategy and approach for supporting these advantages includes alignment with your foundational pillars, including:

Achieving Project Success: We know that a well-planned project will help reduce risks, and the occurrence of uncertainties. We will use a proven project management framework that

provides the processes, procedures, and tools that we will use to manage the project. To help us achieve project success we follow an implementation methodology governed by the Optum Delivery Model (ODM), which integrates the principles of the Project Management Institute (PMI) and the Scaled Agile Framework (SAFe).

Maintaining Transparency: Through transparency, we will achieve a level of trust with you, your IV&V vendor, and your PMO vendor. To earn the trust, we must remain true to our promises, do what we say, and present facts. As we manage the implementation of the OPAHHS solution, we will establish clear communication protocols to enable you to understand the program and its status. The processes and procedures of the ODM framework focus on transparency using effective communication, and participation. We will measure and report progress, task and milestone completion, and deliverable acceptance regularly. Key elements of our transparency include status reporting and status meetings. Just as critical to our framework is collaborative participation in deliverable reviews, sprints, or demonstration sessions that will offer you visibility into progress of the project.

Our team knows from experience that the key to effective transparency is sharing when tasks are not going as planned, when success is trending down or a roadblock arises. It's easy to share good news. Transparency and collaboration demand sharing the facts, good, bad or neutral and then working collaboratively to move forward informed by an accurate assessment of the current state.

Demonstrating Readiness: We recognize the importance of a smooth transition between DDI and operations. Operational readiness and deficiency remediation are standard activities for Optum commercial and state government contracts. Before we deploy OPAHHS, we will verify the new solution functions as expected through operational readiness review activities. During this time, we will verify we have installed and configured the solution in the production environment. We will also make sure we have trained your users to use it. We will use our documented test cases to test the system, integration, and performance of OPAHHS functionality. This will include executing stress, performance, and operational readiness testing to validate each release is operationally ready for production.

Implementation is a multi-faceted process affecting a broad range of stakeholders. In our experience, successful implementation starts with collaborative planning between our team and the State. We involve the State in developing the go-live checklists, cutover playbook, and details of readiness testing. We share plan progress and intermediate results with the State. Only in collaboration with the State do we execute go-live.

Fostering Collaboration: Open and transparent communication and collaboration are essential for project success. This is especially true in enterprise environments like DHHR health care initiatives and modernization projects. Because DHHR may have concurrent projects with parallel work streams and multiple suppliers, clear and concise communication will be critical. We have a long history of active collaboration and communication to meet challenges for client contracts in multi-supplier environments. Our collaborative approach to contract management will provide the opportunity to build strong organizational relationships and provide additional strength to the program. With a close proximity to DHHR, our team will work closely with your assigned PMO manager and strive to maintain open lines of communication and transparency across all stakeholders. To help reduce barriers in communication, our project status dashboard report provides at-a-glance views of progress for all phases and milestones. For example, during our Indiana EDS project we use SAFe methods to present detailed status that provides quick transparency in an accurate and responsive manner.

These foundational pillars are a central tenant of our project management approach, anchored by solid methodology, tools, and techniques, governed by policies and procedures that align with DHHR's Project Management Life Cycle (PMLC). This approach to a collaborative management of the project helps you meet your goal for a strong governance, management approach, and integrated change control processes to govern the DHHR data management enterprise.

Methodology, Tools, and Techniques

Our project management methodology is based on industry standards such as the Project Management Institute's Project Management Body of Knowledge (PMBOK), Scrum Alliance, and the ISO/IEEE 12207-2008 System and Software Engineering - Software Lifecycle Processes, where applicable. These standards combined with our own best practices drive superior outcomes and information transparency. Shown in Figure 95, are the industry standards, processes, and procedures that will accommodate project management activities across all phases of the project, throughout the life of the contract.

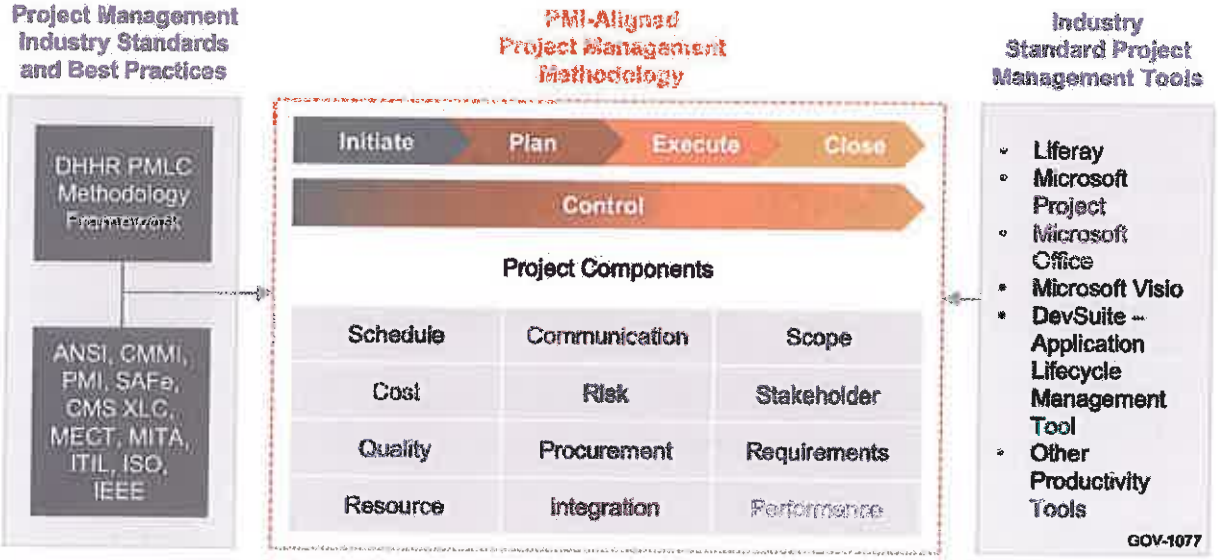


Figure 95: Optum Project Management Framework
Our framework aligns with PMI, SAFe, CMS, DHHR PMLC, and other State and industry standards and tools needed to drive quality, speed of delivery, and provide transparency for the Department.

Methodologies

The following table outlines the project management disciplines that provide guidance for the procedures, processes, and tools we will use to implement our solution.

PMBOK Knowledge Area	Process and Procedure, Guidance, and Tools
Communication Management	Communication Management Plan, checkpoint gate review process, documentation and deliverable management process, Liferay and status reporting tools (MS Word and Liferay)
Schedule Management	Project Work Plan, Project Management Plan, Schedule Management Plan, Implementation Plan (MS Word, MS Project)
Cost Management	Cost Management Plan, Resource planning and estimation tools (MS Excel)
Integration Management	Change Management Plan, organizational change processes, action item lists, meeting minutes (MS Word, MS Excel, Liferay)
Risk Management	Risk and Issue Management Plan, IRAAD (Issues, Risks, Action Items, Assumptions, Decisions) (MS Excel, IRAAD Spreadsheet)

PMBOK Knowledge Area	Process and Procedure, Guidance, and Tools
Scope Management	Contract, Project Work Plan, Requirements Traceability Matrix (RTM) and Detailed System Design (DSD) documents, Scope Management Plan, Data Conversion Plan (MS Word, DevSuite ALM)
Quality Management	Subcomponent plans-Quality Management Plan, Change Management Plans; Master Test Plan (Testing Management Plan), test phase processes, test scripts, test results, user acceptance testing, user training (MS Word, DevSuite)
Resource Management	Human Resources Plan, staff training
Stakeholder Management	Stakeholder Management Plan, Stakeholder Analysis, stakeholder register, meetings, project status reports (MS Office)
Procurement Management	Subcontractor statements of work, subcomponent plans-Change Management Plan, Human Resources Plan, and Communication Management Plan

The Optum project management methodology and project implementation strategy follow the PMBOK framework guidelines. The DHHR PMLC tasks align with the Optum project phases as illustrated in the following table.

PMLC Task Group	Description	Optum Project Phase
Project Initiation and Project Planning	The first phase in the PMLC, Project Initiation focuses on the startup of a new project. Project Planning entails the creation of numerous planning documents that will guide project operations over the life of the project.	Initiation
Solution Planning	Solution Planning entails the creation of numerous planning documents that will guide system implementation over the life of the project.	Planning
Solution Design, Testing, and Operations	Solution Design, Testing, and Operations entails configuration and testing for the project.	Execution
Solution Deployment	Solution Deployment entails all aspects of implementation of the new solution.	Execution
Project Monitor and Control	Project Monitor and Control includes continuous supervision of project activities by the contractor and performance reporting to the State and the IV&V contractor.	Monitor and Control
Turnover and Closeout	Turnover and Closeout includes the project activities intended to facilitate the smooth transition of operations and maintenance of the system to the new Vendor or the DHHR at the conclusion of the project engagement.	Closing

Tools

We leverage our experience on projects similar to the EDS and have evolved a set of tools that are best suited to this project and best value to the State. Each tool we use has a record of success, a history of regular maintenance and updates to respond as security requirements and technology change over time, are compatible with our project management methodology, and integrate with the other tools as necessary.

Our suite of tools, presented in the following table, are a key component of our delivery model used for achieving project success.

Type of Tool	Purpose	How it is Used
Project repository	Deliverable and artifact document storage and management	Provides secure storage and management of deliverables, artifacts, and other Optum work products such as process guidance, manuals, and project documentation

Type of Tool	Purpose	How it is Used
Project schedule	Deliverable scheduling	Supports project deliverable scheduling to clearly identify logically sequenced tasks and milestones, and track deliverable progress
Software lifecycle	Software artifact and deliverable management	Manages SDLC artifacts and deliverables such as the traceability matrix, test cases, and Agile work products
Software configuration	Source code management	Provides version control and source code artifact management

Techniques

We have 25 years of experience in delivering complex implementations for our clients, many of which have involved multiple organizations and vendors. Our goal is to cultivate a collaborative environment with all stakeholders. We view open and transparent communication as the cornerstone of project success. We understand enterprise coordination, and we have adapted our project management processes to include best practices and techniques for these exact situations.

We will follow a disciplined approach to developing and managing deliverables, artifacts, and documentation. This approach will help us fulfill your goals and objectives in a cost effective way. Our project work plan defines the schedule for submission of deliverables identified in the Attachment E: Initial Work Plan.

Our detailed project work plan denotes detailed tasks, task start and end dates, estimated hours of work, duration of time, critical task dependencies, and identification of resource requirements for the scope of work identified in the contract. We used a deliverables management list from the RFP as input to the schedule to clearly identify and address each project phase deliverables and milestones.

The proposed project work plan schedule provides the details necessary to deliver the OPAHHS solution on time and within the timelines and scope of each phase and task group in your RFP. The schedule incorporates a work breakdown structure (WBS) including tasks, duration, hours of accountable resources, and critical dependencies for project milestones and deliverables.

The work plan contains each required deliverable and reflects the tasks associated with preparing and submitting the deliverable to DHHS. We have integrated the tasks in the schedule, defining predecessor and successor relationships with one another, as applicable.

We designed our risk management strategy to maximize project and solution performance by minimizing risk. Achieving that end requires identifying and understanding risks.

We will work with you to document and address risks and issues identified throughout the project without compromising project success. We will lead the assessment and resolution of any risks assigned to us according to our internal risk management process.

We will document and assess risks identified during the course of the project. Each project member will participate in the risk management process and be responsible for elevating potential risks appropriately and on time. The project manager will maintain a risk tracking detail for any risks that the project could potentially realize.

Quality is embedded in our culture, and it is a core commitment to our customers. The nature of our work demands we constantly challenge ourselves and the status quo. Our quality management approach centers on four guiding principles:

1. Prevention over inspection
2. Management responsibility

3. Transparency
4. Continuous improvement

We will leverage our four principles, industry-accepted standards, and best practices to help us meet your quality expectations. We drive consistent, predictable results and efficiencies through the re-use of processes, procedures, and templates. We enforce and reinforce our agreed-upon standards so that our extended teams consistently follow them and produce results that conform to your expectations.

Experience has taught us that effective processes must anticipate and quickly respond to change. We follow a practical approach to change management, which allows you the ability to make adjustments to the project while balancing the need for control and quality. Our approach is designed to reduce negative impact on project schedules, costs, and quality. It provides a framework for formally introducing, approving, and managing changes to the project's scope.

Establishing project management disciplines and strategies at the onset of the project will help drive consistency across the project and support organizational change. When organizations introduce a change (e.g., technology or system upgrades; process reengineering; organizational restructuring), the ultimate outcome is that individuals have to do their jobs differently. We will integrate support for organizational change management (OCM) into our overall implementation strategy and project management framework to enable a balanced implementation experience for stakeholders. Our OCM provides a supportive, structured, and systematic approach to deliver business benefits by preparing the organization to operate in new ways, as defined by changes to people, process, and technology.

We designed our implementation training strategy to introduce users to OPAHHS, empower them to make data-driven decisions, and help them be more effective in their everyday roles. To achieve this, we will use the industry-standard ADDIE methodology for instructional design, which follows the training phases of: Analyze, Design, Develop, Implement, and Evaluate. The ADDIE methodology provides an integrated approach to deliver a stronger value proposition whereby users become more effective, proficient, and empowered in using the new solution.

Details of our Approach

In the requirement responses below, we provide specific details of our approach to meeting the implementation specifications for project management, implementation, deployment and certification.

Appendix 1: Project Management

Optum will meet the Project Management requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

PM001	The solution should align with the Department's vision for the to-be Enterprise Data Solution (EDS) environment.

We are familiar with the challenges that you face in dealing with data in silos across your enterprise. We are also well aware of your desire to manage and ultimately leverage these data through an enterprise data warehouse. We have built Medicaid and social services data warehouses in several states and have helped these clients solve these same problems and realize these same goals. We are eager to help do the same for you.

We recognize the patterns you have described in your to-be reference architecture. It is based upon best practices to which we subscribe. Namely, we manage detailed data in a foundational layer, while standing up purpose-specific data marts and collections, which are in turn made available to users and subscribing systems through a presentation layer. The data foundation

part of the reference architecture facilitates the most efficient collection, quality enhancement, harmonization, and storage of data. Our modeling techniques and experience in this space will allow you to convert and maintain data from the existing DW/DSS (for historical data) and new sources going forward. This well-organized foundational data will support data marts, which will serve existing and new business processes going forward. Our data models, marts, and presentation methods are extensible, meaning we can support new programs and datasets often by adapting designs in place or ones that we have seen in Michigan, California, Indiana and in other state contracts. The baseline solution we will build for you is aligned with your goal of consolidating your data from across your enterprise.

PM002	The solution's initial data load should consist of all data contained within the existing data warehouse decision support system (DW/DSS) at the time of the implementation of the Enterprise Data Solution (EDS).

Our experience in performing data conversions and initial loads is extensive. In all of our engagements, we develop and manage to detailed project plans that map out the very important work of initial data conversion and loads. During the initial planning for the conversion of existing DW/DSS to the new EDS, we have broken down the required tasks, sequenced them, and provided experienced based estimates for their duration. Our project plan for converting and loading the initial data is based upon the DW/DSS system as you described it in your RFP.

PM003	The solution's initial data load should be inclusive of all data sources identified by the Department.

Our proposal and attendant work plan is based upon the DW/DSS as described in your RFP. Optum has reviewed the current DW/DSS data types to integrate within the DW/DSS at the time of the EDS implementation including MMIS, PEIA, and HSC.

PM004	The solution should support daily, weekly, monthly, and as needed data loads from all data sources identified by the Department.

Through our longitudinally flexible data ingestion process, we will support the ingestion of agreed-to data whether they are daily, weekly, monthly, or on-demand. Our skills in managing data that are snapshot, transactional, and span-based set us apart from those who demand data on their preset schedule. Since we know the business processes involved, we are ready to store data using techniques from slowly changing dimensions all the way to transactions with adjustment activity.

PM005	The Vendor should assist the Department in obtaining, integrating, and maintaining data that includes but is not limited to:

Our data warehouses are extensible and we will assist the department in obtaining, integrating, and maintaining data. The future data sources that you list are, in many cases, already part of one or more of our existing operational warehouses. In addition, the hosting strategy and the software we are proposing combine collaborative development environments with powerful and secure testing and deployment capabilities.

PM006	Medicaid data

We will obtain, integrate, and maintain the Medicaid data as described in your RFP. Medicaid data warehousing is our long-standing core competency and we are eager to put this experience to work for DHHR.

PM007	Medicare data

We have the capability and experience to obtain, integrate, and maintain Medicare data into the solution. For example, we integrate Medicare data into the All Payers Database for the State of New York Department of Health Services. Should you approve adding Medicare data to the EDS we will use the EDS project change control management process.

PM008	Commercial payer data

We have the capability and experience to obtain, integrate, and maintain Commerical payer data into the solution. For example, we currently working on the bringing in commercial payer data into the All Payers Database for the State of New York Department of Health Services. Should you approve adding Commercial payer data to the EDS we will use the change control management process.

PM009	West Virginia Children's Health Insurance Program (WVCHIP) data

We will obtain, integrate, and maintain the WVCHIP data as described in your RFP as part of the existing DW/DSS. WVCHIP data will then be part of the on-going MMIS data feed.

PM010	Managed Care Organization (MCO) data

We will obtain, integrate, and maintain the MCO data from the MMIS as described in your RFP as part of the existing DW/DSS. MCO data will then be part of the on-going MMIS data feed.

PM011	Higher education facilities and universities data

We have the capability to obtain, integrate, and maintain Higher education facilities and universities data into the solution. Should you approve adding Higher education facilities and universities data to the EDS we will use the change control management process.

PM012	Administrative Services Organization (ASO) data

We have the capability to obtain, integrate, and maintain Administrative Services Organization (ASO) data into the solution. Should you approve adding ASO data to the EDS we will use the change control management process.

PM013	Health Statistics Center (HSC) data

We will obtain, integrate, and maintain the Health Statistics Center (HSC) data as described in your RFP as part of the existing DW/DSS.

PM014	Public Employees Insurance Agency (PEIA) data

We will obtain, integrate, and maintain going forward the PEIA data as described in your RFP as part of the existing DW/DSS.

PM015	West Virginia Health Information Network (WVHIN) data

We have the capability to obtain, integrate, and maintain West Virginia Health Information Network (WVHIN) data into the solution. Should you approve adding WVHIN data to the EDS we will use the change control management process.

PM017	Others as defined by the Department

If other data sources are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

PM018	The solution should support the integration, management, and use of data from the following data sources including, but not limited to:

OPAHHS supports the integration, management, and use of data sources that you list and, in many cases, are already part of one or more of our existing operational warehouses. In addition, the hosting strategy as well as the software we are proposing combine collaborative development environments with powerful and secure testing and deployment capabilities. We are not only bringing the capability to preserve your existing DW/DSS functionality and reach, but also are offering you a solution that will evolve with your program.

PM019	Medicaid data

OPAHHS supports the integration, management, and use of Medicaid data as described in your RFP as part of the existing DW/DSS.

PM020	Medicare data

OPAHHS supports the integration, management, and use of Medicare data. For example,we currently support, integrate, and manage Medicare data into the All Payers Database for the State of New York Department of Health Services. Should you approve adding Medicare data to the EDS we will use the EDS project change control management process.

PM021	Commercial payer data

OPAHHS supports the integration, management, and use of Commerical payer data. For example, we currently working on supporting, integrating, and managing commercial payer data into the All Payers Database for the State of New York Department of Health Services. Should you approve adding Commercial payer data to the EDS we will use the change control management process.

PM022	West Virginia Children's Health Insurance Program (WVCHIP) data

OPAHHS supports the integration, management, and use of WVCHIP data as described in your RFP.

PM023	Managed Care Organization (MCO) data

OPAHHS supports the integration, management, and use of MCO data as described in your RFP.

PM024	Higher education facilities and universities data

OPAHHS supports the integration, management, and use of Higher education facilities and universities data. Should you approve adding Higher education facilities and universities data to the EDS we will use the change control management process.

PM025	Administrative Services Organization (ASO) data

OPAHHS supports the integration, management, and use of ASO data. Should you approve adding ASO data to the EDS we will use the change control management process.

PM026	Health Statistics Center (HSC) data

OPAHHS supports the integration, management, and use of Health Statistics Center (HSC) data as described in your RFP.

PM027	Public Employees Insurance Agency (PEIA) data

OPAHHS supports the integration, management, and use of Public Employees Insurance Agency (PEIA) data as described in your RFP.

PM028	West Virginia Health Information Network (WVHIN) data

OPAHHS supports the integration, management, and use of West Virginia Health Information Network (WVHIN) data. Should you approve adding West Virginia Health Information Network (WVHIN) data to the EDS we will use the change control management process.

PM029	Hospital data

OPAHHS supports the integration, management, and use of Hospital data. For example, we currently support, integrate, and manage hospital discharge data into the All Payers Database for the State of New York Department of Health Services. Should you approve adding Hospital data to the EDS we will use the change control management process.

PM030	Others as defined by the Department

Others as defined by the Department in addition to the base OPAHHS solution can be addressed through the EDS project change management process.

PM031	The solution should have the ability to support data quality assurance and control activities.

The Optum data quality assurance and control processes and procedures have been developed using industry standards such as the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), Institute of Electrical and Electronics

Engineers (IEEE) and Project Management Body of Knowledge (PMBOK)/Project Management Institute (PMI) along with Optum best practices that support effective and quality driven implementations.

PM032	The solution should be implemented and fully functional prior to the contract close of the existing data warehouse decision support system (DW/DSS).

We will work with you to agree upon a project plan to deliver the baseline EDS scope of your existing DW/DSS augmented by our OPAHHS analytics and our Fraud and Abuse detection solution before the close of the DW/DSS contract extended to October 31, 2021.

PM033	The Vendor's quality management approach should be consistent with the Department's policies and procedures.

Optum's Quality Management team actively oversees the activities, procedures, and tasks needed to maintain a desired level of excellence. This is an on-going process through the life of the project. The Quality Management Plan will describe the standards, processes, and procedures that define Optum's quality management approach. These activities provide consistent delivery of quality in the EDS project. Through these activities, Optum promotes continuous improvement by recognizing and communicating areas for quality improvement consistent with the Department's policies and procedures.

PM034	The Vendor should submit each deliverable to the Department in final form and be ready for signature approval.

Optum follows a structured process for deliverables as defined below.

- For each deliverable, we determine the best starting point. For example, we begin with a previously accepted comparable EDS deliverable, an ODM/OSAM standard, or a sample suggested by DHHR.
- We review the base document and our planned changes with the State and document agreed upon acceptance criteria. At that time, we also confirm the expected delivery date for the final document. Our team is mindful that the State may not have resources available to review many deliverables at one time and may request changes to the originally planned dates.
- We modify the base document to reflect State requirements and specific ODM/OSAM implementation considerations.
- Our team schedules a walkthrough/review of the document with the DHHR team.
- In accordance with the Project Schedule, on or prior to the planned delivery date we submit the final document to DHHR in final form and be ready for signature approval.

PM035	The Vendor should submit each project deliverable to the Department in accordance with each date in the project schedule.

We follow a structured deliverable process that includes submission of each deliverable according to the agreed-upon dates documented in the project schedule.

PM036	The Vendor should work with the Department to develop acceptance criteria for each project deliverable.

Our structured deliverable process includes the development of acceptance criteria for each project deliverable in a collaborative process with the Department for each deliverable. In our experience with DHHR on other project, this process has simplified the deliverable review and acceptance process as the Department and Optum are aligned on what is expected for each deliverable.

PM037	The Vendor should work with the Department's project management vendor regarding all project related activities.

With a close proximity to DHHR, our team will work closely with the state PMO to maintain open lines of communication and transparency across all stakeholders. To help reduce barriers in communication, our project status dashboard report provides at-a-glance views of progress for all phases and milestones.

Critical to our framework is collaborative participation that will give the state PMO visibility into the status of the project, including participation in deliverable reviews, sprints, and demonstration sessions.

PM038	The Vendor should conduct deliverable walk-throughs for all project deliverables prior to their submission, unless otherwise approved in writing by the Department.

Our structured deliverable process includes scheduled walk-throughs of project deliverables prior to their submission to the Department for approval.

PM039	The Vendor should submit all meeting materials to the Department 24 hours prior to each meeting.

We will submit meeting materials to the Department within 24 hours of the start of each meeting. As part of our standard project management approach, we submit meeting materials in advance of each meeting.

PM040	The Vendor should capture meeting minutes at each meeting.

Optum will capture minutes of each meeting. The minutes include a list of attendees, a summary of discussions, documentation of any agreements and details of assigned action items and next steps.

PM041	The Vendor should distribute meeting minutes within 48 hours after a meeting occurs.

Following a project meeting, the Optum team will review the captured meeting minutes and conduct an internal quality review to validate items were captured completely and correctly. The minutes will be formatted according to the agreed-upon format, and then distributed to all invitees within 48 hours after the meeting.

PM042	The Vendor should store and maintain all project documentation in an agreed upon document repository such as a SharePoint location.

Our team will work with the DHHR team to determine the document repository solution. We have considerable experience with SharePoint and can work with the State's SharePoint implementation or we can deploy a separate Optum-managed repository to meet this requirement. It is important to agree upon a solution at the onset of the project, as the solution needs to be in place at contract start to support start-up documentation and early deliverables.

If Optum uses our own document repository, we will use Liferay as a content management system, document management, and as a document repository. Liferay manages version control. Technical, design and implementation documentation will be separated from operational documentation and access will be authorized based on a person's need to know.

PM043	The Vendor should make all project documentation accessible to all stakeholders identified by the Department.

If we are using a State-managed document repository, we will work within State guidelines for granting appropriate access to stakeholders. This could be for authoring, view only, or subject area owners.

If we are using the Optum-provided Liferay solution, we will work with the Department to make all project documentation available and will work to develop access groups for individual documents and classes of documents.

PM044	The Vendor should utilize a change management methodology that is based on industry standards and best practices and is approved by the Department.

Our change management methodology is discussed in detail in Attachment I, Section 1.5, Change Management. We follow a practical approach to change management, which gives you the ability to make adjustments to the project while balancing the need for control and quality. Our approach is designed to reduce negative impact on project schedules, costs, and quality, and provides a framework for formally introducing, approving, and managing changes to the project's scope. A key element of our approach is our Change Management Plan.

Our baseline plan is based on the PMI guides and standards for project management. We use the PMI PMBOK to define our project management framework and change management processes and procedures. This includes the documentation, tracking systems, and approval levels necessary for authorizing changes.

The Change Management Plan is Deliverable D002 and will be submitted to and approved by the State during the Initiation Phase of the project.

PM045	The Vendor should propose a change management methodology including, but not limited to:

Our change management methodology is discussed in detail in Attachment I, Section 1.5, Change Management. That narrative and the response to Requirement PM044 describe our proposed methodology.

PM046	Approach across all project phases

Our staff will consult with DHHR in regard to all approved integrated change management forms and processes as these forms and processes relate to the management, oversight, development, implementation and/or operation activities in all phases of the project.

PM047	Roles and responsibilities

The change control process, including roles and responsibilities, will be fully documented in the approved Change Management Plan.

While not inclusive of all change control responsibilities, the following table presents each of the roles and provides the key responsibilities of each role.

Role	Responsibilities
Optum Account Manager	• Provides the leadership support to implement the change management process • Participates in Change Control Board (CCB) meetings
Optum Project Manager	• Assigns and monitors the resources and tasking of change management activities • Reviews Change Requests (CR) • Obtains verification of compliance with change management process from the Optum Quality Management Office (QMO)
Optum Change Control Manager (CCM)	• Develops and maintains the D002 Change Management Plan and validates compliance with the plan • Assigns priority values to complete CRs – Critical, High, Medium, Low • Facilitates Change Request Review (CRR) meetings to evaluate CRs based on details gathered from impact analysis • Coordinates with the Optum PMO to make updates to relevant document • Facilitates CCB meetings
CR Requestor (Optum or DHHR)	• Develops CRs using the standard template, documenting mandatory elements • Routes CRs through the required internal approval process prior to submission
Optum Line of Business Manager	• Manages configuration activities for development, modification, and enhancement of solution components or applications managed
Optum Primary Lead (Line of Business Managers or Technical Project Managers)	• Receives input and information from team members on potential changes • Facilitates initial impact assessments • Submits the formal CR

Role	Responsibilities
	• Responsible for making sure project stakeholders are engaged as necessary in all events related to the CR
Optum PMO Financial Lead	• Project manager dedicated to the schedule, IRAAD, and Change Control during DDI • This responsibility changes during operations to the change control manager who supports management of CR cost reporting activities
Project Team Members (Optum and DHHR)	• Leads or participates in CR activities as needed • Provides routine updates to the Optum CCM • Documents CR progress and resolution activities • Identifies follow-up activities as part of the resolution
State PMO	• Attends weekly CCR meetings to review CRs • Serves as liaison to DHHR for CRs that are initiated and implemented • Provides recommendation for moving CRs to the next approval level at the CCB meeting • Reviews estimate/impact analysis/resolution for each CR
CR Review Team (CRRT)	• Membership agreed upon by Optum and DHHR • Reviews and analyzes the CRs prior to CCB meetings to identify completeness, providing business case and supporting documentation; urgent change requests go directly to the CCB • Provides recommendation for moving CRs to the CCB meeting • The CRRT members include the State PMO, Optum PMO, Optum CCM, and any additional key stakeholders relevant to the change control topic
Change Control Board (CCB)	• Hosts periodic (usually weekly) CCB Review Meetings to review CRs • Is the governing body for review and approval of all CRs • The CCB will prioritize CRs and recommend release schedule changes as a result of approved CRs being implemented • CCB Review Meetings members include State PMO, Optum PMO, Optum CCM, Optum account manager, DHHR delegates, and key stakeholders relevant to the change control topic
Optum Project Management Office	• Optum team responsible for capturing, preparing, and distributing the results of CRRT activities and CRs validated by the group • Optum team responsible for capturing, preparing, and distributing the results of CCB activities and decisions rendered by the board • Posts meeting notes to Liferay after review by the Optum QMO for accuracy and completeness within three days of the CRRT or CCB meeting
Optum Quality Management Office (QMO)	• Periodically reviews the progress of change management activities, receives reports of measures, and evaluates the results of process audits
Project Stakeholders	• Participates in change control activities
Subject Matter Experts (System, Technical, Functional)	• Optum or State team member responsible for participating in CCB meetings and providing a Subject Matter Expert (SME) perspective on the feasibility, impact, and levels of complexity and difficulty of a CR • Optum or State team member responsible for participating in CCB meetings and providing a functional/business perspective on the importance, business/programmatic urgency, and impact of a CR

PM048	Tools necessary to support change management

Effective management and reporting of changes are pillars of sound project management. A variety of tools support this effort. The Change Management Plan provides the processes, procedures, and context for change management. During project initiation, we will tailor a change request form to DHHR requirements. This form initiates the change request process and can be submitted online in our ServiceNow application by the change requestor. ServiceNow provides the ticketing function as well as comprehensive incident management for tracking and reporting. ServiceNow also supports the Configuration Management Database.

During DDI, we will use IRAAD (Issues, Risks, Action Items, Assumptions, Decisions) spreadsheets. IRAAD is a project management tool to record and help monitor progress on reported IRAAD items. IRAAD items will also at times, lead to a change request, which would be entered into ServiceNow for detailed change tracking.

The CCB agenda, meeting minutes, and related change process documents will reside in the Liferay document repository with other project management documents.

PM049	Reporting

The Optum Change Control Manager (CCM) will generate weekly CR statistics and provide CR quality metrics reports to both Optum and DHHR leadership. These metrics include the following:

- Summary of active CR's through Workflow Process
- Open/New/Closed/Denied Change Requests by Requestor
- Change Requests Confirmed by CRRT/Pending Approval by CCB
- Change Requests Approved by CCB (no funding required)
- Change Requests Pending Steering Committee Approval (require funding)
- Total Amount of Funding for Change Requests (Month, Quarter, Year)
- Other metrics or detailed information as requested and agreed upon

PM050	Others as defined by the Department

Other requirements defined by the Department in addition to the base OPAHHS solution can be addressed through the EDS project change management process.

PM051	The Vendor should propose an organizational change management methodology in support of the Enterprise Data Solution (EDS) implementation.

Our organizational change management methodology is discussed in detail in Attachment I, Section 1.6, Organizational Change Management.

Optum will support various aspects of OCM strategies in changes resulting from new federal or State regulations, legislation, or change requests. This can include impacts on business process, system operations, and job descriptions, as well as other potential aspects of the EDS environment.

Our project management activities integrate and dovetail into four OCM strategies to define and implement changes that will impact the organization.

1. **Understand:** We gather a better understanding of the organization by reviewing current processes, policies, and artifacts and determine the impact of the change on the organization.
2. **Prepare:** We prepare for the change, focusing on change management processes (see Attachment I, Section 1.5, Change Management), to make sure information about the change is well communicated and awareness is accomplished.
3. **Manage:** We follow our change management process, making sure change is implemented and staff have the knowledge and ability to perform their duties as needed.
4. **Reinforce:** Reinforcement is the set of activities to be done at closeout of a change, specifically to initiate any necessary corrective action, celebrate success, and end ownership of the change by recognizing the implemented change is now part of normal operations. We close out the transition and focus on making sure that the changes are successfully implemented and reinforcement is complete.

PM052	The Vendor should conduct requirements analysis sessions with the Department during which the Vendor will review, refine, and seek approval for all requirements included in this Request for Proposal (RFP)

We will develop an RTM master before contract award mapping your RFP requirements to the CMS federal mandates. After the requirements validation sessions, we will finalized the RTM for your EDS implementation.

During project planning, we will work with DHHR and your stakeholders to perform requirements analysis. During these sessions, we will review each requirement with you to make sure we have the same understanding of the requirement. Once a requirement is agreed upon in its meaning, purpose, and scope, then we will seek approval from DHHR.

PM053	The Vendor should work with the Department to design the system in accordance with the following design phases:

During system design, we will follow the approved requirements and general design documentation, which details our approach to system design activities. We will conduct JAD sessions at the beginning of each release to gather your input and confirm that we deliver the solution that meets the defined and approved requirements.

PM054	Preliminary System Design

Preliminary System Design (PSD) documentation will be created to define and describe the solution at a high-level for easy understanding. This high-level design document will include a diagram of the overall architecture including hardware and software components needed to satisfy the requirement, as well as overall flows of data and/or communication between components.

PM055	Detailed System Design

We develop detailed system design documents (DSD) for various components within all of our implementations. We develop DSDs to address each technical functional requirement included in the overall design of our solutions.

The DSD will include design information or system architecture, hardware and software required for the EDS as well as a description of the different components of the EDS. In other implementations, we develop source-to-target mapping documentation that documents data flow to and from our EDS systems. This process will be included as part of our overall DSD documentation. It will focus on the design of key functional components required to successfully implement desired features and functionalities of the EDS described in the RFP.

As with all phases of design, this process will be collaborative so DHHR and your stakeholders understand the proposed solution, and have the opportunity to provide input so the final solution meets the defined and approved requirements. Once the DSD is reviewed by DHHR and your stakeholders without additional modification, we will request approval from the Department.

PM056	Final System Design

The Final System Design (FSD) will include the PSD, DSD, and a System Specification document. These documents will demonstrate the overall solution from high-level conceptual design to detailed technical specifications so DHHR and your stakeholders can review and understand the entire solution. The FSD will also include firewall/architecture, operating system, CPU, Memory, disk capacity, and network components.

As with the former design phases, the FSD is a collaborative effort with DHHR and your stakeholders. Once the FSD is reviewed by DHHR and your stakeholders without additional modification, we will request approval from DHHR.

PM057	The Vendor should be responsible for all costs associated with requirements analysis and solution design.

We acknowledge and agree that Optum is responsible for costs associated with the requirements analysis and solution design activities as required by the RFP and described in our proposal.

PM058	The solution should be developed and implemented in accordance with the project work plan.

The solution will be developed in accordance with our defined SDLC methodology and will conform to the approved project work plan.

The solution design components in the project work plan will include the following:

- **Preliminary System Design:** Outlines the overall functions that will be developed, their interactions, components, and high-level architecture
- **Detailed System Design:** Provides the details of the design for each component, interactions, and place in the overall technical architecture
- **Final System Design:** Provides the actual implementation details of each component and sub-component from a functional and technical perspective, including the final architecture implementation

PM059	The Vendor should detail their approach to both requirements validation and joint application design in support of requirements analysis and solution design activities.

Requirements Validation

We will follow a collaborative process for requirements analysis and validation. We have an in-depth understanding and significant experience managing requirements. We manage requirements for each of our nine EDS and analytics clients and our other federal and state agency engagements. We will work closely with DHHR and your PMO on these activities. Our Requirements Management Plan (RMP) directs our approach to requirements analysis. We use the RMP as a tool for establishing how requirements will be collected, analyzed, documented, and managed throughout the lifecycle of a project. The RMP will follow DHHR and Optum agreed upon acceptance criteria and meet content requirements from the most current version of the MECT.

Requirements Confirmation

We will conduct requirements confirmation activities to review and validate business functional and non-functional requirements. These activities will include joint sessions that consist of the review, refinement, and confirmation our understanding of your RFP requirements. The number of sessions and topics will be defined in accordance with our approved work plan and the availability schedule of State stakeholders. During these sessions, we will also address gaps in requirements and work collaboratively with DHHR to modify the requirements to meet expectations or to develop a plan to address the gaps in another project iteration depending on its scope, impact, and priority.

Joint Application Design

During application design we will work closely with you to provide full transparency into the solution as well as adequate time to review and respond with suggestions during joint application design sessions. Based on collaborative feedback, the initial design may be modified and iterated with additional collaborative review sessions with DHHR. Once the design is agreed upon, we will request approval of the design specifications from DHHR.

PM060	The Vendor should maintain a requirements traceability matrix (RTM) throughout the lifecycle of the project.

A key activity in our approach to requirements is the tracing of requirements. We will develop an RTM to make sure that all requirements defined within the RFP have been addressed. Upon your approval, these final requirements will become the basis for traceability throughout the project. The requirements are then used to refine and rebaseline the project work plan as necessary. The RTM will follow DHHR and Optum agreed upon acceptance criteria and meet content requirements from the most current version of the MECT. The RTM will include:

- An initial version that will include finalized specifications identifying traceability of subsequent testing. This version is approved upon completion of requirements validation sessions.
- An interim version that will include additions or updates approved through change control and clarifications based upon final design specifications.
- A final version updated with relevant test cases and test results and related supporting documentation.

Optum will keep the RTM up to date tracing business requirements to design configuration specifications and test artifacts throughout the project life cycle in order to support CMS certification.

PM061	The Vendor should provide all stakeholders identified by the Department access to the requirements traceability matrix (RTM).

As with other key project artifacts, we maintain the RTM on the Liferay repository and provide access to the Department and Department-authorized stakeholders.

PM062	The Vendor should document in the requirements traceability matrix (RTM) where each requirement is accounted for within the following areas:

We will use the RTM to provide traceability of requirements defined in the RFP. The RTM will provide DHHR a record of the business specifications and helps define a baseline for the scope of the project.

PM063	Design documentation

We will document applicable RFP requirements for design documentation in the RTM.

PM064	Code modules

We will document applicable RFP requirements for code modules in the RTM.

PM065	Test conditions

We will document applicable RFP requirements for test conditions in the RTM.

PM066	Test scenarios

We will document individual solution requirements and how they relate to RFP requirements in the RTM.

PM067	Test cases

We will document applicable RFP requirements for test cases in the RTM.

PM068	Certification criteria

We will document applicable RFP requirements for certification criteria in the RTM.

PM069	Medicaid Information Technology Architecture (MITA) business areas and processes

We will document applicable RFP requirements for MITA business areas and processes in the RTM.

PM070	Medicaid Information Technology Architecture (MITA) Standards and Conditions

We will document applicable RFP requirements for MITA standards and conditions in the RTM.

PM071	Others as defined by the Department

If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

PM072	The Vendor should demonstrate through the requirements traceability matrix (RTM) that all documented and approved specifications have been traced throughout the development lifecycle.

The project manager, along with the project team, will trace requirements throughout the development lifecycle to demonstrate requirements have been included in design, development, testing, and implementation phases.

PM073	The Vendor should work with the Department to fully understand the scope, purpose, and implications of each Request for Proposal (RFP) specification.

We will review and confirm our understanding of your requirements through joint requirements analysis sessions at the beginning of each phase or module. We will document requirements using our requirements gathering tools and produce system requirements specifications and other key deliverables.

PM074	The Vendor should identify and work with the Department to resolve gaps between the Vendor and the Department's understanding of a specification.

During the requirements validation process, we will review and validate business functional and non-functional requirements. We will review, refine, and confirm our understanding of your requirements through joint sessions. During these sessions, we will also address gaps in requirements and work collaboratively with the Department to modify the requirements to meet expectations or to develop a plan to address the gaps in another project iteration depending on its scope, impact and priority.

PM075	The Vendor should conduct the following types of testing in support of the solution:

We understand the importance thorough testing plays in the software development life cycle. This includes the use of multiple testing types and environments to verify agreed to requirements are met. We detail our approach to testing and understanding of all testing types in our response Attachment I, Section 4.

PM076	Unit testing

Unit testing is essential to make sure small code issues do not become big system issues. Our unit testing verifies the individual components of the EDS are tested before exiting the development environment. When we conduct unit testing our developers are focused on the validation of a single function. We perform unit testing on code using a combination of automated testing tools that execute test scripts, and manual simulated scenarios. We analyze automated test results, looking for anomalies in data or logic.

PM077	Integration testing

Solution components routinely interact with each other. Our integration testing validates all of the completed parts of the EDS work together and meet the requirements. Our developers perform integration testing to check that new functionality did not break any shared components. As in all testing, we leverage automated testing tools where possible. We perform integration testing early in the development process before issues are encountered in the more complicated system integration testing (SIT).

PM078	Iterative functional testing

Breaking work into logical iterations allows us to deliver functionality to you sooner. Our QA team performs iterative functional testing to verify that all the functionality delivered in the release meet the approved requirements.

PM079	System integration testing (SIT)

SIT is a major testing phase and requires a comprehensive approach to testing. It verifies all the functionality of a release work together as a whole solution. Properly conducting SIT requires the use of many testing types including, integration, system integration, end-to-end, interface testing, and others. Our QA team will work with you to conduct SIT using the appropriate testing types and automated tools where possible. Our comprehensive approach to SIT means functionality is delivered to UAT with as few issues as possible.

PM080	Interface testing

Interface testing validates the exchanges of data essential to an EDS. Interface testing requires working with outside partners to verify their data exchanges work as expected. During test planning, we will work with you to identify and prioritize the interfaces for testing. Our QA team will then coordinate with the interface owners to define the test.

PM081	Regression testing

When new code and functionality is added to a system, it is important to verify that new functionality did not break any existing parts of the solution. Regression testing happens in all phases of testing to make sure existing, tested features are not broken by a new release. Our QA team will work with you to define specific regression tests and automate them where appropriate.

PM082	End-to-end testing

We provide end-to-end testing to identify system dependencies and verifies that data integrity and functionality is maintained across the entire system. End-to-end testing also verifies the workflows used by the business on a daily basis.

PM083	Security testing

We will work with you to identify appropriate areas including elements of confidentiality, integrity, authentication, availability, authorization, and non- repudiation. Our approach to security testing validates the application from server configuration to end user interactions meets the agreed to requirements.

PM084	Performance testing

We use performance testing to make sure the EDS is available to end users and performs according to defined metrics. We will work with you to set expectations and define performance targets. Because performance testing needs to represent the real world, we will conduct performance testing in a production-like environment. Our performance testing process includes:

- Determining ETL workflow requirements
- Identifying critical transactions and their volumes
- Establishing a performance baseline
- Conducting performance test
- Measuring and sharing the results for performance test

PM085	Usability/Accessibility testing

Usability is a cornerstone of Optum's Web interface design. After the design is implemented, we use automated and hands-on testing to evaluate all aspects of the design, including an eye toward Sections 504 and 508 compliance.

PM086	Browser testing

We understand different users have different preferred tools for accessing the EDS. We will work with you to define which of these tools need to be tested. We will perform browser testing

based on a sampling of functionality to make sure users can perform the needed task regardless of the browser they choose.

PM087	User acceptance testing (UAT)

Throughout the project, delivery process will work with you to proactively define the UAT test scripts. When it is time for UAT, we will partner with your users to make sure tests are run successfully. If defects are identified, we will work with you to prioritize the defect and get it resolved. We track all the testing performed and create a final UAT report for DHHR review and approval. Our team will work closely with you to provide the support you need during UAT.

PM088	Data conversion testing

Data conversion testing and reconciliation is an integral step to the success of the project. The testing will include the production of reconciliation reports including quantitive reports (i.e., high-level counts, totals) and qualitative reports (i.e., fine grain details including alignment of claim totals by claim type). Testing will also include converting data into the target systems in compliance with the agreed upon conversion and business rules.

PM089	Operational readiness testing (ORT)

The goal of ORT activities is to make sure the system is ready to support the day-to-day operations of the EDS as defined. ORT is performed in a mock production environment where we will help you verify the EDS is ready to support your agreed to production requirements. To perform this test will create a test scripts for your approval.

PM090	Parallel testing

We will use parallel tests to verify all functionality being replaced by the new EDS. We do this by running scenarios through the new and old systems and making sure the results are the same, or that the differences were expected.

PM091	Other testing as identified by the Department and/or Vendor

Our team, methodology, and tools has the capability to include other testing types. We have analyzed and defined our testing activities and initial work plan based upon your RFP-defined test types. Early in the testing phase, we will work with you to create a detailed Test Management Plan. This plan will document the agreed to approach to testing and testing types. Others as defined by the Department in addition to the base OPAHHS solution can be addressed through the EDS project change management process.

PM092	The Vendor should be prepared to assist the Department with User acceptance testing (UAT).

We value collaboration and are prepared to assist you with UAT. This includes:

- Authoring the UAT test cases
- Identifying existing converted test case data or creating new test case data for those UAT test cases under test
- Providing DHHR users with appropriate training to complete UAT
- Coordinating with the infrastructure team to set up and configure the UAT environment
- Setting up working sessions and live scribe sessions with business analysts, developers and members of the Optum QA team
- Supporting DHHR users for ad hoc testing activities
- Supporting all aspects of the DevSuite testing tool which includes uploading test cases, updating test results, and logging defects on behalf of the Department
- Retesting of the fixed defects prior to retesting
- Supporting regression testing for UAT test cases

- Collaborating with the Department to prioritize defects

We will also support you by creating an overall UAT Plan. The UAT Plan includes documentation of UAT test cases, procedures, timelines, and processes supported by the Optum QA team.

PM093	The Vendor should be prepared to conduct User acceptance testing (UAT) in all cases whereby the Department does not elect to conduct UAT.

We understand that in some cases you may not have the resources or ability to complete UAT. In these cases we will work with you identify QA resources to complete UAT. These cases will be documented and agreed to in the Test Management Plan and UAT test plan. When we complete our testing, we will provide you with a final report of the test results for your approval before moving functionality into production.

PM094	The Vendor should complete regression testing subsequent to, but not limited to, the following:

We follow the Optum delivery process. This is a disciplined, repeatable process that every piece of functionality goes through. It confirms that all changes, whether introducing new code or fixing issues with existing code are regression tested and verified at each point of the development life cycle. We couple this process with test automation where appropriate to make sure testing is done in a consistent and efficient manner.

PM095	Deployment of new solution components

When new solution components are deployed, they are thoroughly tested. These components are first tested by our developers through unit testing and then our QA team performs functional testing to verify the new components meet the approved requirements.

PM096	Integration of each solution component into the primary solution

Every new piece of functionality needs to work with the solution as a whole. Our QA team will perform integration testing to make sure new components meet the approved requirements and work with other solution components. We will also perform regression testing to make sure new components did not break any existing functionality.

PM097	Every migration of new build versions to each test environment

We use a disciplined promotion process. When code is promoted through environments, we will run a subset of previous tests to verify the solution is still working as intended. This smoke testing makes sure the new environment is ready for use in other testing efforts. We will automate this testing where possible.

PM098	Solution fixes

Solution fixes will follow the standard SDLC. This includes starting fixes in the development environment, performing the appropriate testing, and promoting the fix through the subsequent environment before being released to production.

PM099	Solution patches

Like solution fixes, solution patches will follow the standard SDLC. Patches are first deployed in the development environment. In the development environment, they are fully tested before being applied to other environments.

PM100	Solution releases

Every release will have undergone extensive testing before being promoted to production. This testing will verify all pieces of a release are working as designed. Additionally, before any release is promoted to production it will have gone through UAT. We will work with you to compile a report of UAT results. DHHR will approve the test results before code can be implemented in production. This allows you to verify what we are delivering is what was agreed upon.

PM101	Others as defined by the Department

Our team, methodology, and tools has the capability to meet other regression testing parameters the Department may identify. Others as defined by the Department in addition to the base OPAHHS solution can be addressed through the EDS project change management process.

PM102	The Vendor should utilize a subset of system integration testing (SIT) scenarios representative of maximum functional and technical solution coverage for the purposes of regression testing.

Every new component undergoes a thorough round of system integration testing. Once that system integration is completed, a subset of those system integration test cases are added to the regression testing suite. We will work with you to identify the SIT test cases that encompass the maximum functional and technical solution coverage.

PM103	The Vendor should obtain approval from the Department on which system integration testing (SIT) should be used for regression testing.

We will document the SIT test cases we propose adding to the regression testing suite and provide it to you for review and approval. The process for documenting, adding, reviewing, and approving test cases will be covered in the Test Management Plan.

PM104	The Vendor should utilize end-to-end test cases in support of regression testing.

Where possible we will seek to perform end-to-end testing as part of regression testing. We will work with you and your business partners to identify where end-to-end testing can be incorporated into regression testing. We will seek to automate these tests where possible.

PM105	The Vendor should perform security testing on functional, technical, and infrastructure components to ensure the solution meets all State, Department, and Federal security requirements.

Our security team will work with you to test the functional, technical, and infrastructure components of the system to make sure they meet all agreed to requirements. We will deliver and test a solution that meets CMS and other federal agency data security rules and regulations, State, and DHHR-specified security protocols. We will focus our testing on the many layers of the solution including: infrastructure, operating system, data, services, application, network, and peripheral levels.

PM106	The Vendor should propose security testing scenarios and/or cases to the Department for their approval.

Our security team will work with you to propose security test cases. These cases will cover the agreed to requirements to validate areas such as user access, data security, and platform security. Security testing will be covered as part of the Test Management Plan. The Optum security team will submit our proposed scenarios for DHHR review and approval.

PM107	The Vendor should supply, on an annual basis, a report of the results of a security risk assessment, including all tools used for the assessment, and an action plan detailing the approach for remediation of security risk vulnerabilities.

Optum will direct an annual security risk assessment conducted by a third party vendor. One requirement of that assessment will be that it provide, in addition to a Plan of Action and Milestones (POAM), a list of tools used to validate the security risk.

Generally, the POAMs will follow the MARS-E guidelines as well as those identified in NIST 800-30. For MARS-E, we have to provide the audit results with POAMs within 30 days of the assessment being finalized. We will have to report the POAMs to CMS every three months. We will use the CMS template for POAM reporting.

PM108	The Vendor's performance testing methodology should allow for performance tests to be representative of the expected peak period volumes for solution operation.

Our team of performance testing experts will work with you to define your expected peak usage and design our tests accordingly. Our performance testing process will:

- Identify usage requirements
- Baseline current performance
- Conduct performance test
- Tune performance to meet requirements based on the results of the testing

Performance test scenarios will include a combination of manual and automated tests.

PM109	The Vendor's performance testing should occur on a production ready version of the solution.

Performance testing is one of the last types of testing to occur. We will conduct performance testing in a production ready version of the solution.

PM110	The solution's performance testing environment should mirror the final production solution specifications.

Performance testing will be conducted in an environment that mirrors the production solution specifications. This will make sure that performance observed during testing represents production expectations.

PM111	The Vendor's usability/accessibility testing should include testing of the user interface for the following users:

We understand there is wide variety of users that will use OPAHHS. Each of these user groups will have different needs. Throughout the requirements process we will work with you to understand how each of these groups will use the EDS. We will incorporate these users into our test planning and verify the EDS accordingly. Our interface testing approach verifies the application is built according to requirements, while making sure critical real-life scenarios are tested.

PM112	Internal users

We will work with you to identify and include test cases to verify the OPAHHS user interface works for internal users. We will target test cases based on the functions that internal users will need to perform. Whether they need to create reports, or simply view reports, we will create test cases to cover their use of the system.

PM113	External users

As part of end-to-end and regression testing, we will work with you to identify the external users of the system. Our QA team will then work with the external users to verify connectivity and the necessary test cases.

PM114	Power users

We will work with you to identify the system power users, and define appropriate test cases for their work processes. Our testing with power users includes verifying they have access to the appropriate administration elements and data. In some cases, these uses may access the EDS through other applications such as R Studio or SAS.

PM115	Users with limited computer skills

OPAHHS was designed with a wide variety of individuals in mind. It has been created in a way that users with basic PC knowledge should be able to easily use the solution.

PM116	Prospective new users

As part of test planning, we will define test scenarios that incorporate prospective new users. These test cases may include situations such as registering for an account or making sure these users have limited access to the system. In the test definition phase, we will partner with you to define the appropriate scenarios.

PM117	Users who will require solution training to complete their daily work

We will test the EDS to make sure it works for all defined user types. This testing will include verification of the any agreed on integrated help pages. For more details on our approach to training, see Training Approach Section 1.7 of our proposal.

PM118	Users with disabilities

We will work with you to define test cases that account for users with disabilities. We will include these test cases in our testing suite for completion. This includes working with you to verify which functionality needs to be verified for 504 and 508 compliance.

PM119	Others as defined by the Department

Our usability/accessibility testing has the capability to meet other users the Department may identify. The testing of the user interface for other users is predicated on the users' ability to access our solution within the approved configuration. We will discuss additional users other than those identified in the RFP with consideration to feasibility, schedule, and resources, and work with you to accommodate others within the approved implementation timeframes. If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

PM120	The Vendor's usability/accessibility testing approach should account for testing for compliance with sections 504 and 508 of the Americans with Disabilities Act (ADA).

The OPAHHS Web components were built to comply with Sections 504 and 508 of the Americans with Disabilities Act. During the test planning phase we will work with you to define the functional areas requiring testing as well as the level of compliance required. We will use industry best practice methodology to verify compliance. Any identified defects will go through the defined defect resolution process.

PM121	The Vendor's browser testing should be performed using a minimum of a subset of system integration test scripts that ensures maximum solution coverage.

Our browser testing will use a subset of the system integration test scripts. These test scripts will be documented and approved by the Department before testing begins. We will use automated browser testing tools where possible.

PM122	The Vendor should supply the data, environments, and test scripts necessary to support user acceptance testing (UAT).

We will support DHHR extensively during the UAT phase. After successful completion of SIT, our testing team coordinates UAT with Department users (typically one or more business units) to validate the EDS against baselined business requirements and approved change requests. UAT occurs within a production-like environment. To support a successful UAT, Optum will work with the Department to supply appropriate data, environments, and test scripts for UAT.

PM123	The Vendor should work with the Department to define user acceptance testing (UAT) cases representative of the full solution environment.

During the test definition phase, we will work with DHHR to define UAT cases that are representative the full solution. These test cases may leverage existing SIT or end-to-end test cases or they may be new test cases entirely. The goal of UAT it is to make sure all critical functionality pass testing or have an agreed upon remediation plan.

PM124	The Vendor should be responsible for working with the Department to define the user acceptance test (UAT) scenarios the Department deems as critical for UAT.

We will work with you to create a detailed UAT plan. This plan will contain all of the proposed UAT test cases, procedures, timelines, and processes needed for testing. DHHR will approve this test plan including the determination of how critical the test case is to UAT. By collaborating on UAT test development it helps confirm testing is completed in an efficient manner.

PM125	The Vendor should be responsible for drafting all user acceptance testing (UAT) cases.

As part of the UAT plan and test case development, we will provide a draft of the UAT test cases. We will rely on our experience testing EDS implementations in other states to provide a draft of critical UAT test cases. These draft test cases will be provided to DHHR review and approval before being integrated into the UAT test plan.

PM126	The Vendor should review all user acceptance testing (UAT) results with the Department, and a strategy for mitigation should be agreed upon for each defect based on the defect's severity, priority, and impact.

At the end of UAT Optum will provide a UAT report to DHHR. This report will detail the tests performed and the results. Optum will review this report with DHHR. Where defects are identified, we will work with DHHR to develop a mitigation strategy based on the defect's severity, priority, and impact.

PM127	The Vendor should discuss and obtain the Department's approval on data conversion exception tolerance levels prior to the commencement of data conversion testing.

As part of the data conversion rules, both Optum and the Department need to make sure there is consensus on the threshold or tolerance levels of discrepancies between source system totals/counts and target system totals/counts prior to the commencement of data conversion testing.

PM128	The Vendor should review and obtain the Department's approval of data conversion test results prior to commencement of production data conversion.

At the end of data conversion testing, we will review the results with you and provide them for your approval. We will get the approval before starting the final production data conversion.

PM129	The Vendor should propose a source code management tool for review and approval by the Department.

Optum plans to use Git and GitHub for source code management. Git is designed for coordinating work among programmers and to track changes in any set of files. GitHub will be used to control software changes, facilitate code review and manage software releases.

PM130	The Vendor should work with the Department to define an operational readiness testing (ORT) approach that encompasses all Department and Vendor responsible solution operational processes and procedures.

We will work with DHHR to create an Operational Readiness Plan. This plan will document the overall approach to ORT testing, including the operational processes and procedures.

Optum will work with DHHR to create ORT Scripts to validate all the EDS solution components are ready for operations. We will provide DHHR with the results of the ORT for your review and approval before final cutover to the EDS solution.

PM131	The Vendor should propose and execute a plan for a phased approach to the solution's development, including all of the solution's components and modules.

We propose a plan that includes a phased approach to implementing your EDS. Execution will be supported by the delivery model discussed earlier in this section and methodology described in Section 2. Our Project Work Plan, included in Attachment E, reflects our proposed phases that align with your Project Management Lifecycle (PMLC). The plan includes infrastructure and software components, module release phases, and activities to deliver according to the defined deliverables and milestones in the RFP.

PM132	The Vendor should propose a solution development plan that includes but is not limited to the following elements:

The plan we propose to execute for our solution development will include all the elements of a phased approach, anchored by our ODM, DevOps tools, and the deliverables, milestones, and

resources within our Solution Development Plan. For example, the detail system design document will include elements related to machine configurations.

PM133	Code base management

Our Configuration Management Plan will address code base management. The plan will define the process for identifying, controlling, and managing the code base within the EDS. The code base is managed and the plan will be reviewed and approved by DHHR.

PM134	Source code security analysis

Within the Security Plan, we will define the security controls that will identify the software source code security analysis process. The plan is based on a template provided by CMS, and is the responsibility of the Information Security Architect/Privacy Data Protection Officer. The analysis is also identified at a high level, in the DSDs security design description, which will define the EDS access control.

PM135	Development standards

Our technical team will follow the development standards identified within our Optum Delivery Model. These standards are applied across our technical and management standards and include MITA and CMS standards and conditions, industry accepted standard and best practice and applicable ANSI, CMMI, and security standards. The development standards will also follow other relevant State and federal regulations, and State of West Virginia Information Security Standards and Policies.

PM136	Individual developer machine configuration requirements

The DSD deliverable will cover elements related to machine configurations. The individual developer machines configurations will be identified in the solution design component of the document.

PM137	Build machine configuration requirements

The DSD deliverable will cover elements related to the build of machine configurations. Our developers will be responsible for builds under the guidance of the technical lead and will include configuration requirements.

PM138	Code check-out and check-in procedures

Our Configuration Management Plan will address code check-out and check-in procedures. These procedures will identify the details for our source code management tool and the processes and procedures developers will follow. The procedures will be managed and maintained the technical lead and the plan will be reviewed and approved by DHHR.

PM139	Developer tool expectations

The DSD deliverable will provide a description of the DevOps tools we will use during the software development activities. The description will include tools descriptions and the basic tool functions and expectations.

PM140	Others as defined by the Department

If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

PM141	The Vendor should develop the solution using an iterative development approach.

Our solution implementation will center primarily on EDS configuration and a blend of iterative development to align with your RFP-defined deliverables and project phases. We will use our iterative development approach to focus on conversion and report development of your RFP requirements. This blended approach will include two primary phases for component delivery, centered on the foundational development and configuration of the components for Medicaid data sources and development of required EDS reports, followed by the FADS components.

These components will follow our blended iterative development approach, and support efficient delivery and rapid deployment using the concepts and principles of Agile methodologies. This approach will provide DHHR the benefits and advantages of early feedback, continuous improvement and increased visibility into configuration cycles.

PM142	The Vendor should review and test in logical functional groups of system components or modules.

Within our phased approach to implementation of the EDS we will review and test logical functional groups of the EDS components. Our phased approach to testing includes testing throughout both solution implementation and operations. Testing tasks will be reflected in the Project Work Plan, with details defined the Master Test Plan deliverable. We have grouped the components in a manner to make sure critical components (such as Medicaid source data) are reviewed and tested first. The second phase of logical testing will include additional data sources and FADS module.

PM143	The Vendor should ensure that all design documentation is kept current throughout the contract.

Detailed in our Documentation Management Plan, we will define the process guidance that we will follow to make sure design documentation is kept current throughout the contract, as applicable. The plan will define our approach to the management and version control of all design documentation. The DHHR-approved plan is managed and controlled by the documentation management lead and will provide DHHR details on the timely update and delivery of design documentation throughout the contract.

PM144	The Vendor should support all data conversion related activities.

Optum will use the potential data sources and entities listed in the to-be EDS environment as a baseline for conversion sources. For these sources, conversion-related activities like data staging of the sources all the way to data load publishing to the target source and the associated maintenance of the conversion will be supported and also tracked, monitored, and reported through the project plan. Please see Attachment I, Section 2.3, Data Conversion, Strategy, Approach, and Timeline, for additional detail on conversion-related tasks.

PM145	The Vendor's data conversion strategy should minimize risk and the disruption to other enterprise solutions affected with the solution's development and implementation.

A critical step of the data conversion strategy is data discovery sessions. During these sessions, relevant data attributes that have dependencies on other enterprise solutions will be tracked and systematically managed to minimize risk and disruption while trying to build a solution that holistically integrates the data across systems.

We perform exhaustive source data research and target data requirements analysis as part of our conversion activities. We will provide the conversion results in a dashboard conversion report. This will provide DHHR visibility into our activities and promoted confidence in the quality of the data and the conversion results. Our extensive experience performing data conversions will reduce risk for this project while improving your data quality. Please see Attachment I, Section 2.3, Data Conversion, Strategy, Approach, and Timeline, for additional detail on the conversion strategy and detailed approach.

PM146	The Vendor should be responsible for the data cleansing of all data being migrated from the existing data warehouse decision support system (DW/DSS) and converted to the new solution.

During data conversion, standard data cleansing tools, such as Address Doctor, will be used to cleanse the data. During this stage, additional custom cleansing rules will be applied to confirm source system data quality issues are addressed so that discrepancies are not carried over to target systems. Please see Attachment I, Section 2.3, Data Conversion, Strategy, Approach, and Timeline, for additional detail on data quality.

PM147	The Vendor should propose an industry standard data conversion methodology that includes but is not limited to:

For 25 years, beginning with the first state government EDS for Michigan, Optum has established a 100 percent proven record of delivering data warehouse and analytics which included conversion and data transfer on time and within budget. For the State of California, which is the largest Medicaid/CHIP data warehouse in the nation, Optum was successfully completed the largest data conversion efforts ever for a state EDS.

These past data conversion and transfer successes have been due to our adoption of data conversion best practices and industry standard data strategies. The detailed data conversion strategy is described in Attachment I, Section 2.3, Data Conversion, Strategy, Approach, and Timeline.

PM148	Data analysis techniques

During conversion, data profiling is a critical analysis technique to inspect large volumes of data to understand anomalies and to assess data quality. Data profiling is used both strategically, to determine suitability of the candidate source systems for data migration purposes, and tactically, to identify problems for later solution design and to set expectations regarding the complexity and duration of data conversion initiatives. Typically, using tools to discover potential data quality rules or validating stated data quality rules against the data are both tasks that fall under data profiling activities. The focus of this initiative is as follows:

- Find out the suitability of data in existing source systems for data conversion
- Collect statistics and information about the data in the source systems
- Get metrics on data quality, including whether the data conforms to a particular standard or pattern
- Understand data challenges early in the project lifecycle so that late project surprises are avoided

PM149	Checks and balances for ensuring data quality and accuracy

Audit balance and control (ABC) is an integral part of the data conversion process. To confirm completeness and comprehensiveness, which are attributes of data quality, two levels of balancing are performed:

1. **Quantitative reconciliation:** The first step in confirming data quality where high level record counts like total members, total number of claims, total dollar amount of paid claims, etc. These high-level counts and totals help confirm a high-level completeness of the conversion.
2. **Qualitative reconciliation:** The second step of data reconciliation is the qualitative comparison to confirm accuracy of the conversion. This is a more fine-grained balancing, which requires analyst discretion and detailed discussion with stakeholders, as it is more of an art than a science.

PM150	Data conversion tool sets

Optum selects high-performing tools, such as Azure Block Blobs and Informatica, to support the conversion process and adding new data sources. This capability highlights one of the many advantages of our modular COTS solution. We use Block Blobs for data transfer and Informatica for data transformation and cleansing. Azue Block Blobs is a storage service that Microsoft Azure provides for object storage. Informatica is the market-leading software suite of extract, transform, and load (ETL) tools to acquire, transform, load, and cleanse data. The following table highlights the Informatica tools used for data conversion activities.

Informatica Component	Key Functionality
PowerCenter Advanced Edition, with SQL Server, Tableau and Azure Blob connections	Extract, transformation, and load as well as data ingestion
Data Quality Advanced Edition	Data quality and profiling
Axon Data Governance; Enterprise Data Catalog; Metadata connectors for SQL Server, erwin and Tableau	Data governance and metadata management
Test Data Manager	Test data subset preparation and persistent data masking
Address Doctor / Geo Coding	Address validation and longitude and latitude coding
Master Data Management	Master data management and integration of common data coming from multiple sources

The keys to successfully add new data sources and complete the data conversion/migration are incorporated into our proven lifecycle methodologies, COTS products, business processes, and validation protocols. We will bring our history of experience, as well as our proven tools and processes to support the EDS project.

PM151	The Vendor should complete a full analysis of the Department enterprise to understand what source solutions and corresponding data will need to be integrated into the solution.

Optum will perform source data research and target data requirements analysis as part of our conversion activities. Our data mapping provides our clients with confidence that we address and convert data elements accurately. Once the analysis is complete Optum works with DHHR to schedule, staff and prioritize any new data sources.

OPAHHS uses the same enterprise ETL and metadata management tools and specifications for one-time data conversion, as well as for on-going data transformation. We implement and document a scalable data acquisition service. We acquire all necessary historical and operational source system data in a timely and secure manner.

PM152	The Vendor should complete an assessment of the as-is and to-be environment to understand what reports will be needed in support of operations.

Optum will complete an assessment of both the DHHR as-is environment and the to-be environment that shall map the OPAHHS solution's capabilities as-is to meet the Department's operational reporting requirements defined in the RFP. Once a report inventory is provided to Optum, assessment meetings will be scheduled. Report assessments will categorize reports into three distinct categories:

1. Reporting requirements that are met by existing OPAHHS reports without any configuration needed
2. Reporting requirements that will be met by existing OPAHHS reports with some configuration
3. Reports that will be met by using the Change Control Process consistent with the agreed upon Change Management Plan

PM153	The Vendor should develop and obtain Department approval of all reports identified as needed in support of operations.

Optum will complete the assessment identified in Requirement PM152, and develop and obtain Department approval of reports for support of operations.

PM154	The Vendor should be prepared to work with the Department to identify and integrate data from the Department-identified primary source solutions.

Optum will work with the Department to identify and integrate data from the primary sources defined by the Department in the RFP. During joint sessions we will focus on collecting data formats and details for the MMIS for fee-for-service (FFS), MCO, and Children's Health Insurance Program (CHIP) related medical, dental, and pharmacy data. We will also collect

formats and details for PEIA's medical and pharmacy claims and HSC's birth and death data. Session details and release phases will be identified in the approved work plan.

PM155	The Vendor should propose and manage a process by which data from additional solutions can be identified and integrated into the Enterprise Data Solution (EDS).

As stated in our response to Requirement PM003, we are ready to work with you, through the project change control process, to include additional data sources that are not already part of the base scope agreed to in our response to Requirement PM002. Our data warehouses are extensible. The work that we estimate as part of the change control process will represent a proportionate, predictable, and scalable pattern. The future data sources that you list are in many cases already part of one or more of our existing operational warehouses. In addition, the hosting strategy as well as the software we are proposing combine collaborative development environments with powerful and secure testing and deployment capabilities. We are not only bringing the capability to preserve your existing DW/DSS functionality and reach, but also are offering you a solution that will evolve with your program.

PM156	The solution should have the ability to support quality measures as defined by the Department.

Optum will work with the Department to make sure the project management quality measures and metrics are met. Quality metrics are monitored based on the controls (i.e., definitions and thresholds) within the associated sections of this proposal.

1.1 Work Plan

The Vendor's proposal should supply a narrative describing the Vendor's proposed processes and methodologies for providing the scope of work described in this RFP. Include any assumptions as well as the Vendor's approach to meeting the Initial Work Plan. The Vendor should include detail sufficient to give DHHR an understanding of how the Vendor's knowledge and approach will:

- Manage the work
- Guide work execution
- Document planning assumptions and decisions
- Facilitate communication among stakeholders
- Define key management review as to content, scope, and schedule

The Vendor should also submit an Initial Work Plan in ***Attachment E: Initial Work Plan*** that demonstrates that the Vendor has a thorough understanding of the scope of work and project requirements.

Optum Response:

A viable Work Plan and WBS provides a step-by-step project schedule structure, which is the blueprint to accomplish individual tasks to meet project phases and task groups timelines to arrive at desired milestones and deliverables. The EDS Work Plan incorporates our long-term EDS knowledge, a well-defined technical solution, project governance, project monitoring and control, and common-sense management approaches. Our Work Plan provides detailed guidance to manage tasks and facilitate communication among stakeholders. The plan integrates those tasks and enables understanding of critical path and key interrelationships to promote overall project success.

100% On-Time, Within Budget

Delivery

Our record of 100% on-time, within-budget for Optum Enterprise Data Solution (EDS) and Fraud and Abuse Detection System (FADS) delivery provides you:

- Earlier availability using proven release strategies
- Meet Deliverables and Milestone timelines
- Timely certification
- Experienced personnel that know how to get the job done

Our detailed Work Plan denotes detailed tasks, task start and end dates, estimated hours of work, duration of time, critical task dependencies, and identification of resource requirements for the scope of work identified in the contract. We used a deliverables management list from the RFP as input to the schedule to clearly identify and address each project phase deliverables and milestones.

The proposed Work Plan schedule provides the details necessary to deliver the solution on-time and within the timelines and scope of each phase and task group in your RFP. The schedule incorporates a WBS, including tasks, duration, hours of accountable resources, and critical dependencies for project milestones and deliverables.

We developed the Work Plan in Microsoft Project using project planning and tracing methods. We use automation to effectively baseline tasks, hours, and resource allocation. Microsoft Project allows us to track the progress of the project, define assumptions and decisions, monitor resource allocations, and produce reports such as Gantt charts for the Work Plan and critical path. Our approach will provide you with a clear and comprehensive view of the project.

The Work Plan contains each required deliverable and reflects the tasks associated with preparing and submitting the deliverable to DHHR. This includes the start and completion dates for each deliverable-related task. We have integrated the tasks in the schedule, defining predecessor and successor relationships with one another, as applicable.

As reflected in the Work Plan, we will submit the deliverables to DHHR for review and approval. The Work Plan allows DHHR 10 business days to review first drafts, five business days for Optum revision work, and five business days for DHHR to review and provide final approval for the baseline. During project planning activities, we will validate the deliverable management cycle with DHHR. Establishing a disciplined deliverable review process facilitates timely feedback and finalization of submitted deliverables. If necessary, we will make revisions to the schedule based on agreement with DHHR. The Work Plan is a living document across the project lifecycle. We will update the plan as required to reflect changes driven by legislative dynamics, DHHR requirements, technology evolution, or lessons learned applied as continuous improvement.

Approach to Timeline

Based on our experience with analytics and EDS solution delivery, we propose a realistic and achievable timeline. This Work Plan supports a lean iterative execution process that delivers the most critical components of the solution sooner so you can take advantage of available data quicker. Our timeline focuses on a two-phase implementation approach. The Project Monitor, Control, and Governance task group provides project oversight and includes organizational change management and certification support. Phase 1 focuses on implementing the EDS core and data sources. The task groups for Phase 1 include Project Initiation, and Planning; Solution Planning; Solution Design, Testing, and Operations; and Solution Deployment. Phase 1 required deliverables will follow the 10/5/5 cycle. Phase 2 focuses on implementation of FADS. The task groups for Phase 2 are Project Planning; Solution Planning; Solution Design, Testing, and Operations; and Solution Deployment. Deliverables will be amended in Phase 2 to follow a 5/3/3 cycle. Operations (one year in duration) follows Phases 1 and 2. Figure 96 shows our proposed timeline.

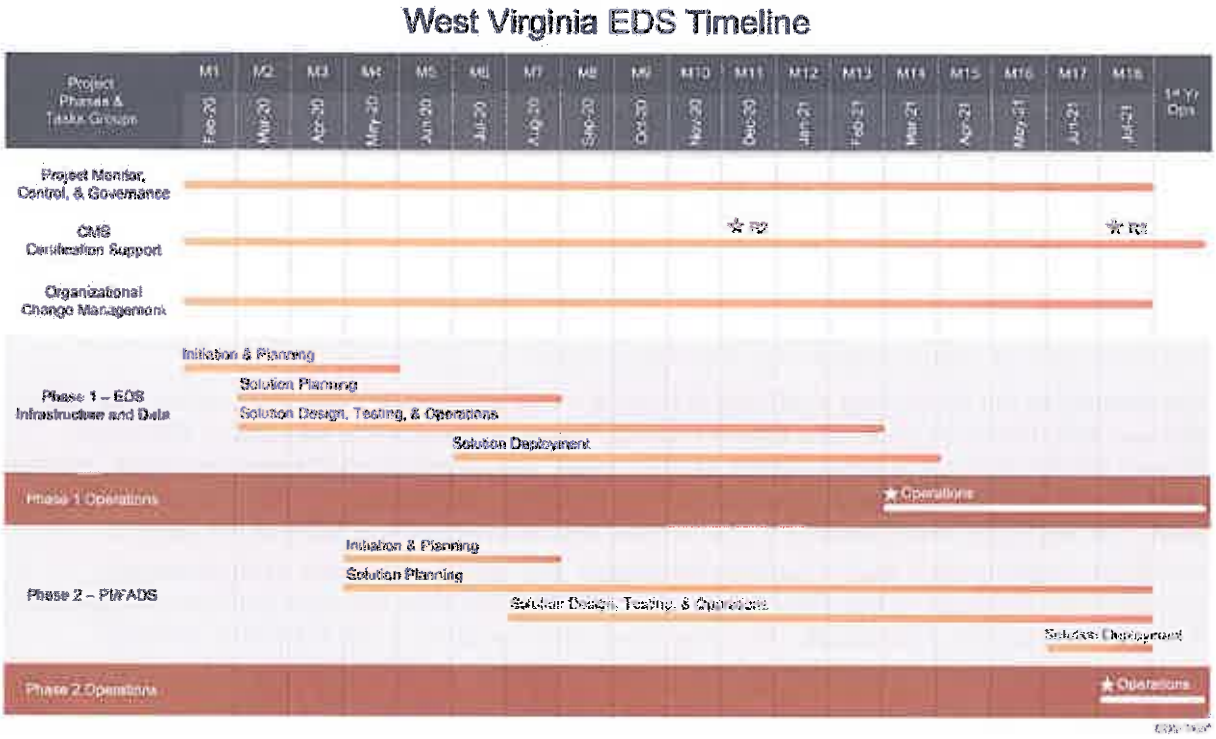


Figure 96: WV EDS Project Phases
Our realistic and achievable timeline is base on our experience implementing similar solutions for other state Medicaid programs.

Phases 1 and 2 are planned for 18 months. The schedule will provide DHHR with access to critical infrastructure of the data warehouse and data sets early in the project, while development and delivery continues on FADS components later. This approach will allow DHHR to take advantage of the data analytics and EDS early in the contract as the additional FADS components are added during a second implementation period.

DHHR Resource Dependencies

Our team recognizes that we will need to share the finite resources of DHHR staff and associated stakeholders. During the planning of this response, we evaluated project tasks, risks,

and benefits relative to the known RFP scope of work. We identified in the schedule those tasks that have Optum and DHHR resource dependencies and durations. As we developed our project schedule, we considered known resource availability to accommodate potential dependencies. For example, Figure 97 shows a substantial deliverable review period to provide DHHR sufficient time to complete scheduled tasks.

Task Name	Start	Finish	Duration	Work	Predecessors	Successors	Resource Names
D003 Deliverable: Communication Management Plan	Mon 3/23/20	Thu 4/30/20	27.74 days	61.2 hrs			
Schedule & Conduct Meeting With DHHR to Confirm Requirements & Determine Acceptance Criteria	Mon 3/23/20	Tue 3/24/20	0.5 days	4 hrs	133		Asst PM/Scheduler/IRAAD[50%],DHHR[0%],Documentation Management Lead[50%]
Scribe Meeting Minutes & Record IRAAD Items Upload to LifeRay	Mon 3/23/20	Tue 3/24/20	0.25 days	2 hrs	133	146	Scribe/Tester/QA
Cycle 1: Communication Management Plan (DRAFT)	Tue 3/24/20	Thu 4/16/20	17.49 days	39.1 hrs			
Develop Draft Communication Management Plan	Tue 3/24/20	Tue 3/31/20	5 days	32 hrs	144	147	Project Manager[63%]
Schedule & Conduct Internal Meeting with QA	Tue 3/31/20	Thu 4/2/20	2 days	2 hrs	146	148	Quality Assurance Manager[6%],Project Manager[6%]
Revise Communication Management Plan From QA Review Feedback	Thu 4/2/20	Thu 4/2/20	0.3 days	3 hrs	147	149	Project Manager[125%]
Schedule & Conduct Meeting With DHHR to Review Communication Management Plan	Thu 4/2/20	Thu 4/2/20	0.19 days	2 hrs	148	150	DHHR[0%],Project Manager[33%],Asst PM/Scheduler/IRAAD
Submit Communication Management Plan to DHHR For Review (10 Days)	Thu 4/2/20	Thu 4/16/20	10 days	0.1 hrs	149	152,250	Documentation Management Lead[0%],DHHR[0%]
Cycle 2: Communication Management Plan (FINAL)	Thu 4/16/20	Thu 4/30/20	10 days	16.1 hrs			
Revise Communication Management Plan From DHHR Comments Log (5 Days)	Thu 4/16/20	Thu 4/23/20	5 days	16 hrs	150	153	Tech Writer[40%]
Submit Communication Management Plan to DHHR for Final Review (5 Days)	Thu 4/23/20	Thu 4/30/20	5 days	0.1 hrs	152	154	DHHR[0%],Documentation Management Lead[0%]
Milestone Deliverable D003: Communication Management Plan Approved by DHHR	*Thu 4/30/20*	*Thu 4/30/20*	*0 days*	*0 hrs*	*153*		

Figure 97: DHHR Resources Commitments Carefully Allocated
Following our best practices, we allocate DHHR staff and stakeholders to the timeline.

During the project planning activities, we will the review the schedule with you. We will collaborate on tasks milestones and deliverables that may have DHHR stakeholder impacts as needed to finalize and maintain a DHHR-approved Work Plan. We recognize that specific tasks will have dependencies that include DHHR stakeholders.

During Design, Development, and Implementation (DDI), we anticipate the following types of activities that will have State PMO and DHHR stakeholder dependencies:

- Collaboration through discovery meetings
- Design/Joint Application Design (JAD) sessions at the beginning of each module or phase
- Collaboration in foundational project planning activities, including review and approval of planning deliverables such as the Work Plan and the Project Management Plan or related plans
- Participation in kick-off meetings, solution demonstrations, and training
- Deliverable review and approval, including participation in joint walkthroughs
- User acceptance testing and reviews of Optum testing results
- Participation in status report review and status meeting
- Project governance and escalation activities
- Certification support activities
- Risk and issue management activities
- Change management and change control board participation and approvals

During operations, we anticipate the following types of activities will have dependencies from State PMO and DHHR stakeholders:

- Walkthrough of design and deployment readiness
- Participation in training as needed
- Deliverable review and approval, including participation in joint walkthroughs
- Supporting user acceptance testing
- Participation in status report review and status meeting
- Project governance and escalation activities
- Risk and issue management activities
- Change management and change control board participation and approvals
- Participation in certification tasks and activities

Schedule Strategies

A best practice of our Work Plan strategies is verifying transparency among all stakeholders to facilitate a shared understanding of the work to be done. For example, we scheduled and participated in multi-vendor meetings frequently to remove barriers in communication for previous engagements. Within our Arkansas schedules, we allocated enough time with DXC and the Independent Verification and Validation (IV&V) vendor to test and confirm that the conversion and load progressed smoothly. These targeted and focused communications provided successful certification with minimal findings.

For activities such as JAD sessions and requirements reviews that require heavy involvement of State PMO and DHHR stakeholders. We also provide flexibility when scheduling meetings with you and your stakeholders. We always strive to work around your open schedule and coordinate with you on the best times to schedule recurring meetings such as on-going status report reviews.

Approach to Managing and Monitoring Project Schedule

Our approach for managing and monitoring the project schedule and timeline focuses on providing regular updates to key stakeholders related to key project tasks and milestones as well as Project Management Body of Knowledge (PMBOK) based Key Performance Indicators (KPIs) in the weekly project status reports. This helps confirm that you receive timely updates with a universal understanding of the overall status of the project. Our project status dashboard report will provide at-a-glance views of progress for all phases and milestones.

The project team members are responsible for participating in a weekly Work Plan schedule review and update meetings or providing updates to the project manager as requested. Throughout the project lifecycle, the Optum project team will provide continuous reporting through both weekly and monthly status reports. Both the weekly and monthly project status reports will include a dashboard of project health at various levels using standard health indicators. The project team leadership will review the schedule with the State PMO and DHHR. The review activities will include:

- Reviewing and comparing the baseline Work Plan to the actual Work Plan
- Evaluating project deliverables statuses
- Assessing upcoming milestones that will be achieved
- Discussing downstream impacts to changes or slippages
- Identifying new approaches (if needed) to get back on schedule such as parallel work efforts, phased activities or releases

- Assessing task-related risks

The Optum project manager will provide regular updates, including variances related to KPIs, key project tasks, and milestones in the weekly project status reports. This will verify that you receive timely updates on the overall progress of the project and prompt awareness of any areas where schedule slippage may occur. Early in the project planning activities, the project team will develop project dashboard reports to provide at-a-glance views of progress and on-going schedule reports to highlight upcoming, variant and overdue activities that need prompt attention. As part of the weekly status reports, we will provide the following:

- Status of project activities
- Planned versus actual task completions
- Schedule variance by activity
- Project milestone and deliverables reports
- Late or at-risk task reports
- Other information requested by DHHR

The initial Work Plan can be found in the tab labeled, Attachment E: Initial Work Plan.

1.2 Issue Management

The Vendor's proposal should describe the Vendor's process for issue management including: issue logging, resolution, tracking of unresolved problems, escalation procedures, closeout, and reporting practices. The Vendor should describe its proposed approach for integration of issue management across sub-contractors, if applicable, as well as other State and Vendor project stakeholders. The Vendor should also detail any planned use of an automated solution to support issue management.

Optum Response:

Issue Management Process

Optum defines an issue as an event, an occurrence, or a situation which may have a material impact on the scope, schedule, cost, or quality of the EDS project. Issue identification occurs when an individual notices a discrepancy between how things are and how they believe things should be. Any project stakeholder can raise an issue at any time.

Issue management provides a framework for managing and coordinating issues that State PMO, DHHR and Optum identify during the project. Issue management will help us:

- Validate that we identify, evaluate, and assign issues for resolution
- Verify that we use the change control process for issues that affect project scope, contract documents, costs, and/or schedule
- Confirm that we document and communicate issues appropriately to stakeholders in a timely manner

Our objective of the issue management process is to provide a systematic approach to identify, analyze, resolve, and report issues that may impact the project. A single occurrence of an issue if referred to as an incident. Managing an Incident means fixing the system and to restore the service as soon as possible. Incidents that re-occur are referred to as problems. Managing a problem means finding the underlying root causes so that the incident does not reoccur.

Our issue management methodology adopts issue management best practices to quickly and efficiently resolve each incident, yet includes problem management tasks to perform root cause

analysis (RCA) to identify, track, and resolve recurring incidents permanently. Problem management reduces the likelihood of incidents re-occurring and ultimately aims to eliminate such incidents.

We perform the following activities as part of issue management:

Logging Identified issues: We will determine and document situations that might impact any component of the project (i.e., project scope, contract documents, costs, schedule, user experience, stakeholders, a specific release or other item related to the project). We will then further categorize the issue as technology, resource, skills, business, environment, or dependency issue.

Issue identification occurs when an individual notices a discrepancy between how things are and how they should be. Any project team member can raise an issue at any time. Issues raised will be brought to the attention of the project manager for consideration and/or entry into the Issue Tracking Log.

Issues can result from insufficient information, miscommunication or a risk event. Existing risks can become issues if a negative impact cannot be mitigated. While an issue cannot become a risk, the failure to resolve an issue can introduce a new risk. An issue can also result in a need for a change in some aspect of the project. If a change is required, the associated process described in the Change Management Plan will apply.

During DDI, the IRAAD (Issue, Risks, Action Items, Assumptions, Decisions) tool will be used to record and track items. During operations, issues are initially recorded by the user, State PMO, DHHR or Optum in the Web-based ServiceNow incident management tool. In either case, reported items that indicate a change will trigger the appropriate change management process.

Analyze and categorize issues: We will analyze and categorize the issue as critical, high, medium or low. Working with the Department we will also develop a categorization for the subject matter of the issue (e.g., technical documentation, data quality or schedule). Also, in order to support integration with other subcontractors and systems we will develop an external impact categorization that supports extracting such issues for sharing with other projects.

During operations we will use ServiceNow to track issues and capture related information for the project. It helps document issues, the issue resolution progress, categorization of issues, and project impacts resulting from the issue.

The Optum project manager will manage issues throughout the project lifecycle. This includes determining whether an item reported is an issue, risk, or change request. We will report open issues during the IRAAD review meetings, and the State PMO, DHHR and Optum management will review those issues. These will also be summarized and discussed as required in the weekly project status reports and meetings.

During operations ServiceNow will provide a central repository of identified issues, risks, actions, assumptions and decisions, as well as their current status.

Resolution: We will evaluate options that can be taken, determine the best course of action, and assign responsibility for executing those actions. We will execute the action plan to completion in coordination with other teams and other relevant stakeholders. Issues will be reviewed weekly and tracked through resolution.

Reporting: Issue reporting serves three major purposes: Alert to new issues; status of on-going issues; and notification of completion/closeout of issues. We will provide periodic updates and information about the issues to appropriate stakeholders. The Risk and Issue Management Plan

and Incident Management Plan will document details of the specific reporting to be provided; including the following reports:

- **Issue Status Report:** includes open issues; latest activity; current status and assigned open action items
- **Action Items Due Report:** Shows issues with overdue (or due in the next week) action items; used to monitor progress on issues
- **Issue New and Closed Report (usually monthly):** Summary of issues opened and/or closed this month

Authorized users can view issues online to determine the current status and view activity and open action items.

Unresolved issues: While most project issues are resolved in a timely manner, some issues require immediate resolution. Others may remain unresolved for a longer period of time. Unresolved issues will escalate based on criticality of need or elapsed time since initial notification.

Closeout: An issue will be closed for many reasons (e.g., resolved itself or by another independent action, resolved through active correction of the issue, moved to a change request to be further updated when the change request is completed). Supporting documentation will be attached to the issue in ServiceNow in order to support future audit and to inform resolution of future related issues.

Escalation: Issues may need to be escalated for different reasons. Individuals and groups may disagree on whether an issue exists. They may also disagree on the time it should take to resolve an issue or on the resolution recommended. The escalation process identifies the individuals to contact and the sequence for contacting these individuals to resolve issues that have been escalated. If the originator or owner of an issue is not satisfied with the issue management, attention to resolution, or resolution provided, the escalation process may be employed.

As Figure 98 illustrates, issue management closely integrates to other practices in our project management approach.

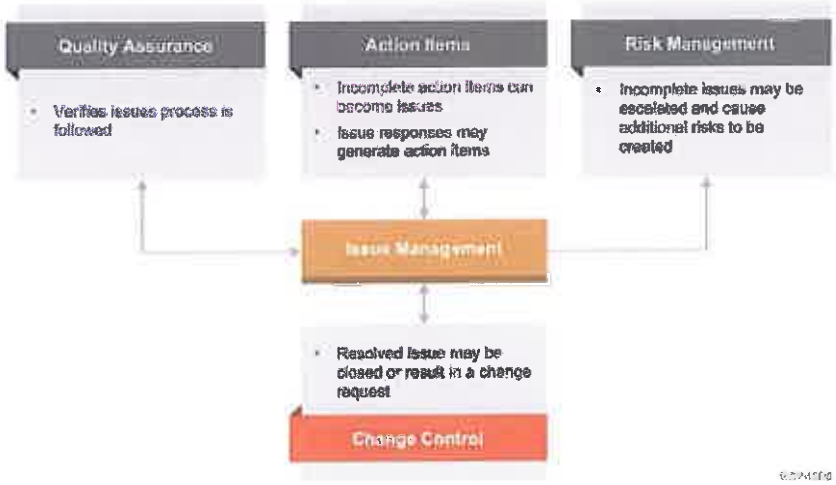


Figure 98: Issue Management Integrates with other management practices
Issue management provides a systematic approach to identify, analyze, resolve, and report issues that may impact the project.

Automated Solutions

Within the project, we will use various tools and techniques to support quality management. Those include:

- **ServiceNow**: Web-based tool for entering, tracking, and reporting on incidents, issues, and problems
- **Microsoft Office Suite**:
  - Word to document guidance on processes, procedures, and status reporting
  - Excel to export issue lists, action items, follow-up lists
- **WebEx**: As appropriate, Optum uses WebEx tools to supplement issue management in areas such as training sessions, escalation discussions, and status meetings

Integration with DHHR Common Governance Structure

Our approach is to achieve standardization for issue management across the entire EDS project. In conjunction with the Change Management Plan, this Issue Management Plan will bring a level of consistency and comparability across the project and achieve integration with the Department's common governance structure.

Integration across Subcontractors

Optum will track in detail the issues, incidents, risks and problems related to the EDS. We will work with the Department to select the best external reporting format, but have used Excel in the past, to extract issues affecting or being impacted by external systems. We will use the external system impact categorization on each issue to flag issues that are awaiting external actions or are expected to have an impact on external systems.

1.3 Risk Management

The Vendor's proposal should describe the Vendor's risk management practices, the expected risk areas, and mitigation plans. In addition, the response should elaborate on the Vendor's internal risk management plan. This should include reference to the use of any specific methodologies, as well as any specific tools being used.

The risk management plan should outline the process, by which, cyber risk management activities are conducted to identify, assess, communicate, and manage shared cyber risk. The Vendor should provide this prior to the first implementation of the Vendor's hosted solution.

Optum Response:

Risk Management Approach

We designed our risk management strategy to maximize project and solution performance by minimizing risk. Achieving that end requires identifying and understanding risks. This helps us manage and mitigate risks so that we minimize their downstream impacts on the project, and ultimately solution performance.

We will work with you to document and address risks and issues identified at the onset and throughout the project. Our risk management process is based on the PMI PMBOK framework and includes the following major tasks:

Risk Assessment:

- Identify current risk
- Assess risk factors

- Analyze/evaluate risk probability and impact
- Classify/prioritize/catalog risk

Risk Response:

- Assign risk ownership
- Determine risk response (i.e., avoid, transfer, mitigate, manage, or accept)
- Develop risk mitigation plan
- Develop contingency plans

Risk Tracking and Control:

- Maintain risk management database
- Conduct risk analysis
- Prepare risk reports

We will document and assess risks identified during the course of the project. Figure 99 illustrates our risk management approach.

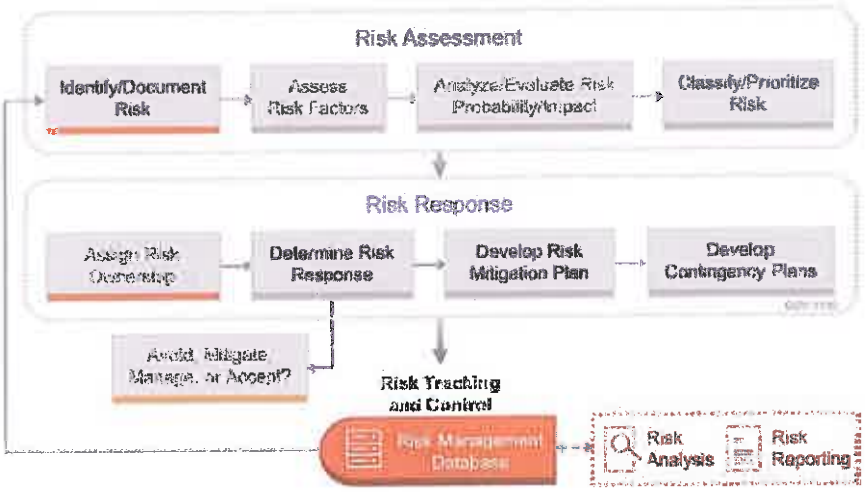


Figure 99: Optum Risk Management Approach
Our risk management approach includes identifying and assessing risks, assigning them to a responsible owner, determining the appropriate response, and resolving risks or developing and implementing a mitigation approach.

The project manager will maintain a risk register to track risks overtime. We periodically review project risks to reassess impact and probability and review these items regularly with the State PMO and DHHR.

Risk Management Practice

Key elements of our risk management practice include the following:

- Identify the preferred communication method for risk management activities
- Identify the risk categorization appropriate for the project in collaboration with existing risk reporting categorization approaches
- Evaluate the risk probability and impact
- Categorize/catalog each risk
- Determine the potential cost/value of risk outcomes

- Collaboratively with the State determine a risk resolution approach for each risk based on likelihood, impact, and potential mitigation
  - **Accept:** Recognize it, but do nothing; impact is minor and/or unavoidable
  - **Mitigate:** Determine tasks to lessen the likelihood and/or the impact
  - **Transfer:** Transfer the risk (e.g., buying insurance)
  - **Avoid:** Take actions to remove the risk, eliminate the factors driving the risk
  - **Manage:** Monitor the risk, observe the driving factors, applicable mostly for risks that are far into the future
- Assign an owner to each risk, responsible for tracking the progress of the factors driving the risk
- Develop risk mitigation strategies for risks we choose to attempt to mitigate, and if appropriate, an action plan should the risk materialize
- Use metrics to determine the effectiveness of mitigation strategies
- Identify the responsible party for implementing mitigation strategies
- Apply risk assessment and reduction tools

We will update the risk assessment in coordination with the State PMO, DHHR and the State of West Virginia Chief Information Security Officer. For security related risks, we will follow NIST 800-30 guidance.

Risk and Issue Management Plan

The Risk and Issue Management Plan will be developed in collaboration with the State PMO and DHHR. Refer also to Attachment I, Section 1.2, Issue Management, for details of the issue management content of this plan. This section focuses on the risk management content of the plan.

The plan will include:

- Approach to risk and issue management
- Data sources that support risk and issue management
- Roles and responsibilities, including user access/security levels for self-reporting and updating risks and issues
- Risk review cycle; the periodic formal review of outstanding risks
- Criticality (impact) and probability measures
- Escalation triggers and plans
- Mitigation techniques
- Risk and issue identification, escalation, and reporting
- Definition of established DHHR-approved response times for notifying and updating the State PMO and DHHR
- Approach to cyber risk management, specifically the activities to be conducted to identify, assess, communicate, and manage shared cyber risk

Risk Management Tools

We will document and manage project risks, issues, decisions, and action items using our risk and issue register, IRAAD, that is in current use at our EDS clients including New York, Indiana, Arkansas, and others. IRAAD is a spreadsheet-based log we will store in the Liferay repository

to enable access by authorized users. IRAAD will help us drive predictable outcomes by tracking key risk areas across the project. The IRAAD serves as a comprehensive risk register that satisfies MECT Appendix B, Minimum Required Content and Notes.

We follow a risk management methodology that incorporates experience-proven techniques that take the broadest approach to risk identification and the most effective techniques for risk analysis applicable to an EDS environment such as this one. We use the following proven techniques to uncover and analyze critical project risks:

- Review project assumptions
- Brainstorming with stakeholders
- SWOT Analysis (strength, weakness, opportunities and threats)
- Root cause analysis (RCA)
- Walkthrough with State and Optum teams of common IT project risk category checklist

We also use these tools and techniques to support risk management:

- IRAAD MS Excel spreadsheet
- Probability/Impact matrix: Aids in assessing relative significance of each risk
- Quantitative analysis: Focuses on measurable likelihood and impact, include a data quality (information quality) assessment
- Qualitative analysis: Non-numeric analysis that is especially relevant to external factors (e.g., legislation, user satisfaction)

Expected Project Risk Areas

In our experience, there are some risks that exist in every EDS-like build, delivery, and operation. Mitigation plans are developed and reviewed to reduce, eliminate, or close risk items throughout the project.

Below are some of the risks we expect to face on this EDS project and our suggested mitigation:

- External
  - Federal or State legislation that modifies Medicaid delivery or reporting policy or requirements: Collaborate with the Department to monitor pending State and CMS changes
  - Extreme weather shuts down access to development team offices: Implement and test remote access for development and support staff
- Project Data
  - One of the subsystems supplying data goes through a major upgrade or replacement during EDS DDI causing EDS project delay and/or rework: Work with DHHR upper management to recognize the impact of such changes and work to coordinate concurrent DDI efforts.
  - Poor data quality: Data quality expectations are provided to the source system for verification prior to sending data to the EDS.
  - Missed or incorrect source data submissions: Identification of source data, delivery of layouts, sample data, and historical data loads schedules are provided at the beginning of the project.

- Staffing
  - Key staff becomes unavailable (State PMO, Department or Optum) during a critical path activity causing a delay to the project
    - Optum: See our comprehensive staffing plan with detailed discussion of staff retention, cross-training and replacement
    - Department: Our project work plan builds in some flexibility but we also work with the Department to involve your key staff outside of or prior to critical path times (i.e., whenever possible to get Department staff involvement in advance of target dates)

1.4 Quality Management

The Vendor's proposal should describe the Vendor's approach to ensure the quality of the solution, and include details on the management of requirements through traceability matrices, configuration management activities, organizational readiness, and deliverables and artifacts. The Vendor's approach should also detail information on the proposed quality metrics as well as the Vendor's approach to managing solution defect and issue tracking.

More specifically, the Vendor's approach to quality management should include, at a minimum, the following elements:

- Management of the solution specifications. This includes the identification of inconsistencies between the specifications, project deliverables, and/or artifacts.
- Management of the RTM that will be used for specifications management. This includes detail on how the quality management approach will support and maintain the traceability between the specification and the proposed solution.
- Management of configuration management activities, including but not limited to the control and monitoring of the software library.
- Management of practices and procedures that will be followed for reporting, tracking, and resolving problems or issues identified in the solution's development, transition, and maintenance.
- The Vendor's approach to business process changes resulting of requests from DHHR.
- The Vendor's approach to an organizational readiness assessment of DHHR's organization. This may include a gap analysis and recommendations for organization change required to support the solution's implementation in the DHHR environment. This assessment should be approved a minimum of three (3) months prior to the solution's deployment.
- The Vendor's approach to the quality of work products developed and delivered by the Vendor and the Vendor's subcontractors, if applicable.
- The Vendor's proposed quality management approach should include detail on how the Vendor plans to deliver signature ready project deliverables. The Vendor should assume the State will complete its review of signature ready deliverables within ten (10) business days.
- The Vendor's approach to how quality metrics and measurements will be identified, collected, and analyzed to ensure that quality goals, including management and

DHHR solution goals, are being met. It should also describe the types of project metrics used.

- The Vendor's organizational structure, and the roles and responsibilities of Vendor staff as they relate to quality management.
- The Vendor's description of the processes and approach to manage solution defect and issue tracking solution for tracking and resolution of items and, if applicable, how the quality management approach will support corrective action plans (CAPs) being developed to address more significant issues.

Optum Response:

Approach to Quality Management

Our quality management approach focuses on five guiding principles:

1. **Client satisfaction:** We strive to understand your expectations and manage accordingly. This requires a combination of conformance to requirements (e.g., configuration according to approved EDS specifications per RFP and contract requirements) and usability (DHHR staff are able to achieve EDS business objectives).
2. **Prevention over inspection:** We apply quality that is planned, designed, and built in rather than just inspected. This proactive identification and prevention helps reduce costs and improves employee productivity.
3. **Management responsibility:** Success requires the participation of all members of the team, but it remains the responsibility of our experienced project management team to plan and lead the quality approach. Our quality practices are tightly integrated with our project management methodology, so that quality is incorporated into every phase of the project.
4. **Transparency:** We will provide—through a combination of status meetings, quality reviews, dashboards, and reports— visibility into the status of quality initiatives, results of quality verification and testing activities, and compliance with quality and performance standards. This transparency provides you with the confidence in the quality of our implementation and operations.
5. **Continuous improvement:** Quality improvement initiatives will improve the quality of both the project and the EDS delivered and operated by Optum. Because of our experience and relationships specializing in data warehouse environments, we can offer insight to other functional areas of the project that is unparalleled.

We will leverage our five principles, industry-accepted standards, and best practices to help us meet your goal and objective to provide and promote quality for your programs. In addition, consistent and predictable results and efficiencies are driven by the reuse of processes, procedures, and templates. We verify that our teams and any Optum-engaged third parties adhere to our processes. Well-defined change management, issue and risk management, and deliverable management processes are also essential to our overall quality management controls and validation. Figure 100 illustrates how all of these quality controls and assurances are part of our overall approach for the EDS project.

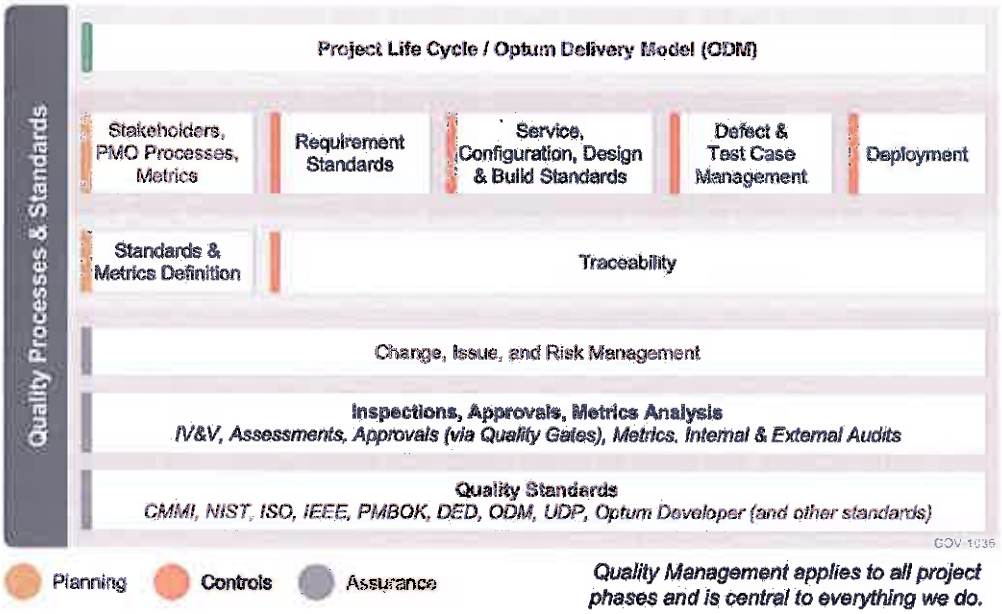


Figure 100: Optum Quality Processes and Standards
We apply strict, consistent quality processes and standards across the entire project lifecycle.

To support our quality management approach we will develop the Quality Management Plan (QMP) and submit it for your review and approval. The plan will identify the strategy and processes that will guide our quality management activities and will define the acceptable level of quality. The QMP will guide the implementation of quality practices throughout the project. The QMP will also document how we will demonstrate compliance with EDS requirements and standards. Our QMP will address both the quality of the project and the products (e.g., deliverables, services, documentation) produced during the project's life cycle.

The QMP will include five key quality areas:

- Defined quality assurance approach and responsibilities
  - Provides a high level overview of the quality assurance (QA) approach
  - Provides a roles and responsibilities table as associated with the processes and procedures related to quality
- Detailed definition of all deliverables by phase with the associated acceptance criteria
  - Outlines the processes and metrics established to meet quality expectations for project documentation
- Defined deliverable review process
  - Documents the process for review and metrics used
- Disciplined deliverable review process
  - Outlines the methods in which Optum communicates and reports quality concerns and status internally and externally
- Regularly scheduled reviews of key project phases and milestones
  - Outlines the timeframes and level of detail reporting needed for each project phase and other identified milestones

The QMP works in conjunction with our performance management processes. Performance management is integrated with our quality management processes. The QMP will document the tools and techniques used to track, monitor, and report on quality benchmarks and metrics.

Management of Solution Specifications

Optum uses a bidirectional, dynamic solution specifications tracing methodology to verify all project deliverables and artifacts are fully covered and to determine if any gaps or inconsistencies exist. If any issues are identified, they are logged, tracked and resolved in a manner consistent with Department and Optum expectations and as discussed in more detail in Section 1.2, Issue Management. This process will be used to perform the following tasks:

- Confirm association between requirements, project deliverables and artifacts
- Maintain consistency across solution components
- Manage scope and change control as requirements are updated, added or removed
- Prevent one class of requirements from overriding another

Our data quality management and control processes are built into our work products. Our goal is to create a highly credible single source of truth that can be relied on by the entire enterprise. Data quality management is discussed in more detail in Attachment H, Section 2, Data Quality.

Management of RTM

Optum will record and track all requirements in the Requirements Traceability Matrix (RTM) using our application life cycle management (ALM) tracking tool. Optum will review and maintain the requirements, by performing the following tasks:

- Identifying any gaps in requirement coverage
- Reviewing the number of requirements per release
- Collecting percentage of requirements met for each release
- Confirming of test case requirements coverage
  - Verification of requirements in scope within system integration testing for a release
  - Quality controls coverage is achieved by verifying that there is 100 percent coverage of requirements in scope within system integration testing for a release
  - Monitor test metrics throughout the testing cycles
- Confirming test case requirements defect coverage
  - Track defects linked to requirements

The RTM effectively links requirements to the design and solution. Once approved, the updated requirements schedule will be incorporated into the detailed project schedule.

Configuration Management

We use our ALM to manage configuration of the EDS. Our ALM allows application, platform, and infrastructure teams to implement DevOps-style development and software development practices through a deployment pipeline. The pipeline has revision control and testing capabilities to validate quality documentation, infrastructure code and other documents and software library items are being tracked and deployed according to schedule.

Practices and Procedures

Optum's data quality assurance and control processes and procedures have been developed using industry standards such as the International Organization for Standardization (ISO),

International Electrotechnical Commission (IEC), Institute of Electrical and Electronics Engineers (IEEE) and PMBOK/PMI along with Optum's best practices that support effective and quality driven implementations.

Optum's quality management team actively oversees the activities, procedures and tasks needed to maintain a desired level of excellence. This is an on-going process through the life of the project. The Quality Management Plan will describe the standards, processes and procedures that define Optum's quality management approach. These activities provide consistent delivery of quality in the EDS project. Through these activities, Optum promotes continuous improvement by recognizing and communicating areas for quality improvement.

To help support your MITA self assessment objectives we will use a continuous quality improvement model. This foundational model of our quality management processes is the Plan-Do-Check-Act (PDCA) approach. This successful approach has continually supported our quality practices for over 25 years. The continuous quality improvement process model, consisting of a logical sequence of four iterative steps for continuous improvement and risk-based thinking, is shown in Figure 101.

Figure 101: Plan-Do-Check-Act Approach
Our quality management processes are repeated again and again for continuous improvement.

Optum applies the PDCA approach to help establish, monitor, enforce, and improve project quality standards. Our account manager and quality manager will be responsible for directing quality management activities within the context of the project plan and for managing the timeliness and accuracy of quality tasks. Our quality management processes and procedures are influenced by the best practices we have derived from the following:

- **Project Management Institute (PMI):** As we will describe later in this section, our Quality Management is organized according to the PMI's PMBOK. PMBOK breaks down the practice of quality management into several key areas, which we will expand on and add to in order to provide comprehensive quality management for DHHR.
- **International Organization for Standardization (ISO) 9001:2008:** We incorporate elements of ISO's eight quality principles into our quality management processes and procedures. These quality principles include:
  - Principle 1 – Customer focus
  - Principle 2 – Leadership
  - Principle 3 – Involvement of people
  - Principle 4 – Process approach
  - Principle 5 – System approach to management
  - Principle 6 – Continual improvement

- Principle 7 – Factual approach to decision making
- Principle 8 – Mutually beneficial supplier relationships

- **Six Sigma:** We use elements of Six Sigma in our quality management strategy for the project. In particular, we will subscribe to the Define, Measure, Analyze, Improve, and Control approach and use this in our continuous process improvement processes.
- **IEEE:** IEEE standards help shape our processes for initiating, planning, controlling, and executing software quality assurance processes. IEEE standards also play a role in our maintenance and operations services.

Not only do we infuse and align our quality management practices with the industry standards described above, we also integrate quality management with our other project management disciplines as part of our Optum Delivery Model. For example, we will closely join the functions of change control, risk management, and issue management with those of quality management and control to implement a comprehensive quality program across the project, as illustrated in Figure 102.

Figure 102: Integrated Quality Management Framework
Optum brings a proven, effective quality management approach to validate the quality of the products and services we deliver.

Using our integrated quality management framework, we will validate that project deliverables and solution components are completed and delivered in accordance with contract requirements and performance standards. Applying quality management across a variety of spectrums and integrating quality with the other project management disciplines will allow Optum to provide a high quality EDS that successfully meets and exceeds your requirements.

The PMI PMBOK breaks the practice of quality management into three process groups. Our QMP will be organized according to the groups, plus a fourth process group for quality improvement processes. The table below reflects the process groups of our quality management.

Process Groups	Description
Quality Planning (QP)	Planning helps identify the relevant quality standards and determine the actions and evaluation steps necessary to satisfy them. QP serves as the backbone for all future quality activities.
Quality Assurance (QA)	QA is an on-going series of planned, project wide quality activities that encourage project personnel to use the established quality control processes necessary to meet your requirements. This will help improve operational processes to avoid and minimize issues that lead to defects.

Process Groups	Description
Quality Control (QC)	QC refers to the monitoring of project activities to determine whether they comply with the quality standards documented in the QMP. It is used to verify that deliverables are of acceptable quality and that they are complete and correct.
Quality Improvement (QI)	QI uses the outputs of the prior process groups to help identify project improvements in order to increase our effectiveness and efficiency.

Within our four main quality process groups, our QMP will break quality assurance and quality control activities down further to address quality in key aspects of the project:

- **Deliverables:** We define specific standards, processes, and measures for confirming the quality of any deliverable submitted for your review. This includes a standard peer review process internal to Optum and a joint walkthrough approach in which we review draft versions of deliverables with you prior to submission to gain valuable feedback.
- **Data:** We describe quality processes integral to data management, such as balancing procedures related to data extraction, transformation, and loading. We also address data interfaces and a three-step process for data validation.
- **Analytics:** We outline a three-phase process for maintaining quality in our analytics. This process serves as the blueprint for validating that the analytic is aligned with your business and technical requirements. It is based on your applicable policies. The process maintains the integrity of data during development of the analytics.
- **Training:** Our training process includes quality steps to validate the content of training and confirm that it aligns with the training needs defined by the training plan. We will use training surveys and other metrics to gauge the effectiveness of training and report the results to the Department.
- **User Support:** User support is at the very foundation of OPAHHS user adoption and its ease-of-use. We describe quality processes to control and measure the effectiveness of the user support we provide. Our goal with user support, and the above aspects of the project, will be to continuously improve our delivery of services to the Department and the user community.

Additionally, the QMP will contain a section to define roles and responsibilities, quality control tools and processes for reporting quality control and quality assurance problems. We will also define the corrective action plan framework, processes, and reporting procedures and frequencies.

Approach to Business Process Changes

DHHR needs a collaborative EDS team to make sure changes are implemented and executed to accommodate improved efficiencies and improvements. The requirements and our focus on trusted business results will drive the content of the QMP. We have experience with and will incorporate the principals and standards you require. We view the EDS modules as the foundation for measuring and assessing operational quality as well as data quality, and therefore incorporate quality management principals in all of our processes and procedures. Our methodology includes a continuous feedback loop. The loop provides us the opportunity to continuously improve project deliverables such as data models, extract, transformation, and load (ETL), and indices. We have used this feedback loop for 25 years, improving each state's implementation based on previous successes. Our approach will guide operational quality and continuous improvements led by our quality manager and the DevOps team.

Optum empowers our project teams with the responsibility for process improvement and technology enhancement. We follow industry best practices, including error detection and error

correction of design and architectural products and deliverables. Our process improvement process focuses on all aspects of the project (i.e., the system, processes, innovation, gap analysis) and is driven by quality management principles that align with ISO and CMMI Level 3 principles.

Approach to Organizational Readiness

Throughout every phase of the implementation we will focus on the goal of readiness. Readiness is comprised not only of quality and completion of requirements, but also the readiness in the DHHR environment. We make sure that we have reviewed and examined the organizations tasks and activities in each deliverable and work product prepared. For each phase of our quality reviews we:

- **Project Initiation and Project Planning:** We establish threshold guidance and responsibility
- **Solution Planning:** We define readiness quality topics on session agendas and schedules; and make sure gaps have been addressed, and any applicable changes have been identified
- **Solution Design, Testing, and Operations:** We execute our standard quality review and identify potential readiness issues related to quality
- **Solution Deployment:** We rely on checklists and final reviews
- **Monitoring and Control:** Throughout the project life cycle we make sure reviews are completed, and quality status is reported through status meetings and reports

Three months prior to entering readiness activities, we conduct and submit an assessment to DHHR for review and approval, which will confirm quality and our readiness.

Approach to Quality of Project Deliverables and Work Products

Our approach to quality of work products and deliverables begins early in the project. Prior to delivery of formal deliverables or work products we will meet with the State PMO and DHHR to define deliverable acceptance criteria. This criteria is critical to the preparation and review of deliverables, to make sure deliverable requirements have been met.

We have 25 years of experience in delivering complex implementations for our clients, many of which have involved multiple organizations and suppliers. In fact, in Arkansas, we have successfully completed projects on time, within budget, and within scope with your current MMIS supplier, DXC Technology. Our goal is to cultivate a collaborative environment with all stakeholders to achieve higher quality systems and operational services. We view open and transparent communication with honest collaboration as the cornerstone of project success that meet or exceed performance metrics and benchmarks.

Quality assurance meetings will be described in the DHHR-approved Quality Management Plan as it pertains to meeting roles and responsibilities and frequency of meetings. We will develop agendas prior to QA meetings and they will consist of QA activities completed or needed to be completed, corrective action plans, topics requested by DHHR, or any of the four main quality areas: Quality Planning (QP), QA, Quality Control (QC), and Quality Improvement (QI).

Our proven project management methodology of supervision, communication, activity integration, and quality management drives our team approach of open collaboration with DHHR and our subcontractors. We will stay fully informed on the project interactions and performance.

Our QMP guides our quality management practices. This plan will outline the process for verifying that established quality standards are met throughout the duration of the project. The QMP will document our quality assurance and quality control processes, evaluation steps,

procedures, reporting, and tools. These will help ascertain that project deliverables meet stated requirements and that project management processes are consistently followed to maintain project quality, meeting DHHR and stakeholder expectations.

We define specific standards, processes, and measures for confirming the quality of any deliverable submitted for your review. This includes a standard peer review process internal to Optum and a joint walkthrough approach in which we review initial versions of deliverables with you prior to submission to gain valuable feedback. Upon submission of the signature ready deliverable, we provide ten business days for DHHR review before Optum makes the necessary revisions and submits the deliverable for final approval.

The following tasks identify meetings or reports that may contain quality-related data.

- Weekly Status Reports and Status Meetings
- IRAAD Review Meetings
- Executive Committee
- Change Control Board Meetings
- Project Documentation
- Pre-Implementation Meeting

Prior to submission for approval, each deliverable will be peer reviewed to verify quality. Our quality assurance standards include the following checks:

- Content relevance to the DHHR project and requirements
- Business and technical writing standards
- Grammatical accuracy
- Approval levels defined in the roles and responsibilities matrix

We will follow a disciplined approach to developing and managing deliverables, and work products. This approach will help us fulfill DHHR's goals and objectives with high quality in an efficient and cost effective way.

Approach to Quality Metrics and Measurements

Optum will work with the Department to report that quality measures and metrics are met. Quality metrics and measures are monitored based on the controls (definitions and thresholds) defined within the associated sections of the QMP to confirm that expectations are met. Examples of metrics for QC are the number and effectiveness of processes, whereas quality assurance metrics examples are associated with number of tests, defects, and percentage of tests completed.

Based on our experience, the most likely source of errors is bad inbound data. In the case of bad data, our data quality management tools and processes handle the root cause of data problems before they can infect the data warehouse and analytic results. Our solution profiles and discovers data anomalies, structure and overall suitability before any data migration effort begins. It matches records and identifies relationships across multiple recipients, providers and other data domains.

We score the perceived quality of data items and the relevance of business rules to gauge the overall health of data that feeds data quality metrics and key performance indicators. We apply reusable data quality rules and processes to master enterprise data across multiple sources, applications and systems. The ETL service corrects misplaced, misspelled and misfielded data to capture valuable information that would otherwise be lost. Precise, consistently reliable data

leads to more accurate operational models, projections and analyses. Quality data equals trusted results.

Approach to Organizational Structure

Optum will build on past experiences to expedite and smooth current operations. Although each project is unique, many quality requirements are similar to those we have performed on our other projects. Our staff understands the complexities of developing solutions like the EDS, having successfully implemented enterprise data warehouse and business intelligence solutions with similar requirements for some of nation's largest and most complex Medicaid programs including Michigan, Illinois, California, and Arkansas. Leveraging these dedicated data warehousing and analytics resources is what sets us apart from other suppliers. Optum managers apply their expertise and lessons learned to implement, monitor, and address quality assurance and improvement activities defined by the QMP.

We follow the industry best practice of having quality staff directly report to top management. We will have our quality manager report directly to the account manager. This independent reporting structure assures autonomy and provides the objectivity and credibility needed to perform RFP-specified requirements and contractual responsibilities. The quality control validation of our technical solution is supported by our testing manager and a team of quality specialist. Figure 103 shows the reporting structure of our quality management staff.

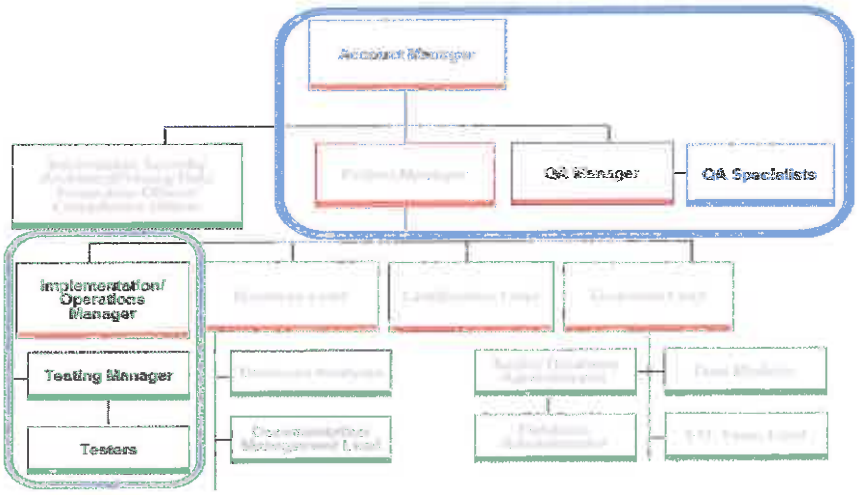


Figure 103: Quality Management Staff
Optum brings our proven approach to staffing quality management to deliver the highest quality to DHHR and the EDS.

Our goal is to make sure that we are positioning our staff with the right skill set in each and every position to reach the optimum level of success for both our clients and our staff. This means placing the people with the right skills and training to anticipate the needs and meet the requirements to achieve the desired outcomes of the ever changing world of data and operational quality services. Optum also builds on past experiences to expedite and smooth current operations. By employing experienced personnel, we are able to accomplish many quality management tasks quickly and efficiently by putting the right processes and procedures in place for success.

DHHR and Stakeholder Resource Dependencies

Optum will require the State PMO, DHHR and other stakeholder resources to support business and technical staff and meet your requirements for this RFP. During DDI, we anticipate the following types of activities will have the State PMO, DHHR or other stakeholder dependencies:

- Collaboration in foundational project planning activities, including review and approval of quality related deliverables such as the QMP
- Participation in kick-off meetings and training relative to quality management
- Deliverable Expectation Documents (DEDs) and deliverable review and approval, including participation in joint walkthroughs
- Participation in quality management related status report review and status meeting
- Testing results reviews (including conversion, readiness, and user)
- Quality improvement initiative activities
- Project corrective actions and escalation activities
- Risk and issue management activities related to quality management

During operations, we anticipate the following types of activities will have dependencies from DHHR or other stakeholders:

- Participation in quality training as needed
- DED and deliverable review and approval, including participation in joint walkthroughs
- Participation in quality management related status report review and status meeting
- Testing results reviews relative to enhancements and upgrades
- Quality improvement initiative activities
- Project corrective actions and escalation activities
- Risk and issue management activities related to quality measurements

Managing Defect and Issue Tracking

The Optum defect management and issue tracking process aligns with the industry standards such as the PMI PMBOK Guide. The process provides the mechanism for allowing project stakeholders to effectively prioritize defects, evaluate progress, and produce tracking reports supporting the QMP and the Master Test Plan (Test Management Plan).

Our defect management process will enable teams to work collaboratively to remediate defects. We will engage you and your stakeholders in defect management through reviews and working sessions. We continually assess and improve the quality throughout project phases to in order meet deliverable and work product quality standards as well as the defect criteria described in Attachment I, Section 4, Testing.

When defects are found they will be logged for tracking. A defect is defined as a failure of the system to deliver the functionality as defined in the requirement. Once a defect is identified we will work with to analyze the defect to understand the severity and priority of a defect, the root cause of the defect and to determine an appropriate resolution of the defect.

Severity defines the impact a defect is having on the business functionality or on execution of the test cases. Priority denotes how soon a fix is necessary for a defect. Examples of these classifications are Critical for anything blocking acceptance, High for functionality preventing a function but with a work around, or Low for a minor issue. Any disagreements between DHHR and Optum on priority and severity levels assigned will be handled on a case-by-case basis

utilizing the established project escalation processes. In most cases the defect will be categorized and included in a future release from resolution and retesting. In some cases, a defect is found to be a gap in the requirement instead of a faulty functionality. In this case, it will not be considered a software defect. These gaps will be tracked as a requirement or documentation defect.

All defects will be tracked and a defect report will be made available. This continuous assessment will help us reduce the time it takes to triage and fix defects, delivering a high quality solution, identify the underlying cause and perform any necessary corrective action.

Corrective Action Plans

Under the guidance of the test manager, the project team will be responsible for identifying and tracking defects and issues in work products and deliverables. When developing corrective action, the project team will analyze the results of quality monitoring against the quality standards documented in the QMP. Not every defect or issue requires a CAP, we determine the need for CAP based on the significance of the issue.

1.5 Change Management

The Vendor's proposal should describe the Vendor's approach for change management including, including but not limited to methodologies, tools, and processes required to appropriately manage and document changes to the system (e.g., impact analysis, change requests, etc.).

Optum Response:

Approach to Change Management

We follow a practical approach to change management which allows you to make adjustments to the project while balancing the need for control and quality. A key element of our approach is our Change Management Plan (ChMP). The plan will define:

- Details for establishing a change control board and identification of board roles and responsibilities (including backup members)
- Change control meeting schedule
- Change management tools and the change requests by types
- Processes for documenting, reviewing, requesting, and approving or denying requests
- Processes for controlling and managing changes throughout the life of the project
- Processes for performing impact analyses for each change request
- Processes for planning, implementing, and maintaining changes

During the execution and control stages, we may be required to submit one or more revised project baseline documents based on changes to the project that are agreed upon by DHHR and Optum. The plan will meet the acceptance criteria established between DHHR and Optum, and the minimum required content (and notes) from the most current version of the MECT Appendix B Required Artifacts List.

The plan will provide the processes that will enable us to determine the feasibility and impact of changes, review, and gain consensus and approval of the change, and manage activities resulting from the change. Our ChMP, a component of the Project Management Plan (PMP), defines the process we will follow and includes the following considerations:

- Definition of a change
- Change control process
- Cost estimation for change requests
- Tools and techniques
- DHHR, Project Management Office (PMO), and Optum responsibilities for managing changes

Our approach to supporting this critical function requires the right staff with the right skills and expertise.

Methodologies and Processes

Preparing for Change Management

We will work collaboratively with you during initiation activities of the project to establish a ChMP. The plan will include a formal change control process and will address challenges relative to a multi-supplier environment. We recommend starting with a change control process that conforms to industry project management standards, yet is flexible and adaptable to work within your integrated systems and multi-supplier environment. Our baseline plan is based on the PMI guides and standards for project management. We use the PMI PMBOK, to define our project management framework and change management processes and procedures. The plan identifies the documentation, tracking systems, and approval levels necessary for authorizing changes. Experience has taught us that consistent and well defined procedures and commitment to formal change management are critical to delivering projects on schedule and within budget.

During the planning activities, we will work with you to identify and define details of the ChMP. The DHHR-approved plan will include processes and change management materials such as forms and templates that will be used throughout the DDI and Operations Phases.

Early in the Initiation phase of the project, we will set up our project management website using Liferay Documents and Media Library (Liferay Repository). Here we will enter change control data and work order information for tracking and archival purposes. We will work with you to determine the process to integrate change control data into your system. Liferay has extensive data sharing capabilities, and we will need to understand how you would best want to receive this data. In other states, we have simply exported change control data into Excel since that is familiar to most people, easy to use and manipulate, and a widely accepted data format.

During operations, our change management plan will be tailored to define activities and roles for controlling changes during continuing operation of the EDS. The Operations Change Management Plan will include updated operational details of the DDI Change Management Plan.

Change Management Process Overview

The change control process, including roles and responsibilities, will be fully documented in the approved ChMP. This includes processes for both internal changes and enterprise changes made by other vendors that impact the EDS solution. Optum staff working on the project will be trained on the change management tools and processes. We will work with you during the early stages of the project to make sure that the formal change control process is understood and established with the appropriate controls and required reporting. Figure 104 provides an overview of our current change management process.

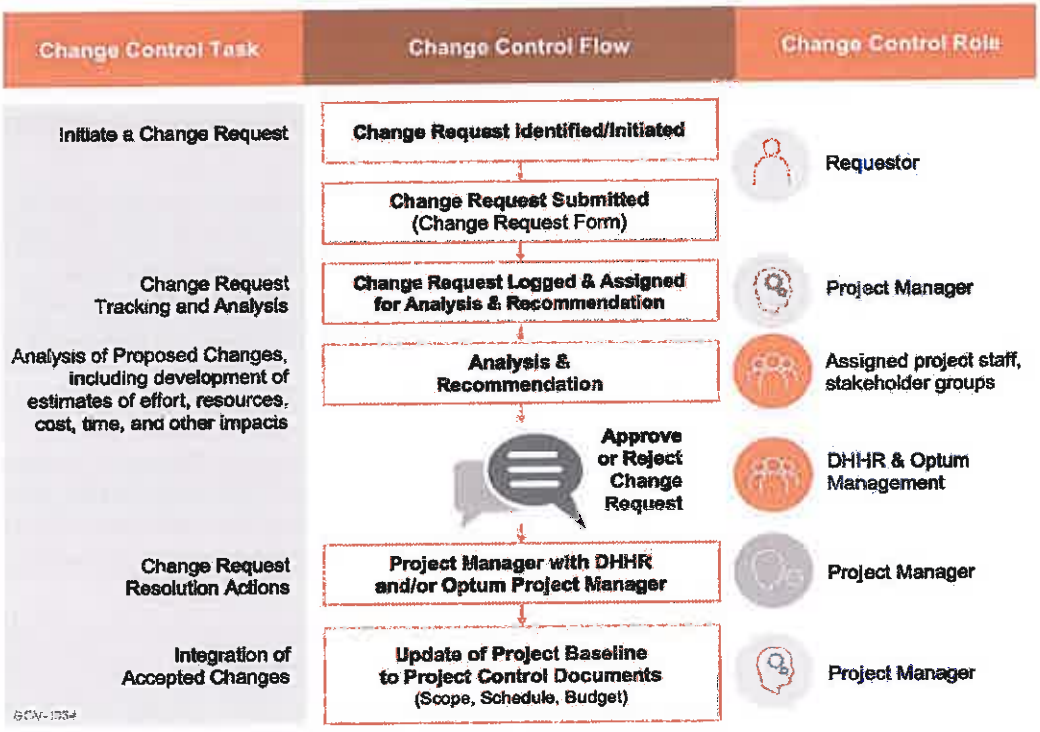


Figure 104: Change Management Process
We will collaborate with you so that our process aligns with your requirements.

Change Requests

Our Help Desk Plan deliverable will document processes for DHHR interaction, including email, Web, and telephone support options for receiving, initiating, and executing work requests of every kind, including change requests. The Optum Help Desk will be the first point of contact for support for all reporting and analysis change requests from DHHR.

Change Request Categories

Different types of changes may be requested and considered during DDI and Operations. These usually fall into one of two categories: Defect or Non-Defect. The Non-Defect category encompasses maintenance and modification activities. These changes may include schedule changes, budget changes, scope changes, infrastructure changes, or project artifact changes.

We proposed a phased approach to delivering the EDS, and updated documentation will accompany each phase or release of the solution.

Examples of the types of documents and project materials that we will update according to changes over the project include:

- Project deliverables
- Network and system performance requirements and reports
- Administrative management artifacts and reports
- Design specifications
- System documentation
- Training materials
- Change control artifacts
- System maintenance artifacts
- Metadata
- Meeting minutes
- Generated letters and outputs

Our project manager will oversee that all approved work requests are completed following quality standards from initiation to completion according to the priority set forth by the Change Control Board (CCB). We will perform, document, and implement all approved work requests per the priorities, quality standards, and approval/completion/close-out processes established by the CCB and DHHR.

As we have normally seen in many other state projects, we expect that eventually DHHR policy changes or system changes may conflict with original contract requirements and obligations. As part of our change management process, we will identify possible impacts to current requirements, processes, and SLAs resulting in approved system changes. Our account manager will work with you to file amendments to our contract if necessary to reflect the current state of services.

Change Control Board Participation

Optum understands that the CCB is the approval authority of all proposed change requests. We will actively participate in CCB meetings as scheduled by the State PMO and DHHR, including the Optum account manager and appropriate subject matter experts. We anticipate CCB meetings beginning early during DDI and extending through maintenance and operations throughout the life of the contract.

We also conduct frequent internal meetings with our subject matter experts to review proposed changes and to assess the impact to various components of our solution. We collect information such as area impacted, level of effort and time to implement the change, as well as possible risks. Our account manager will provide this information from our team during CCB meetings with DHHR and other vendors.

Changes to system software, application software and system hardware will be subject to the approved change management process. As is customary for change management processes, we will evaluate and analyze proposed changes, including developing estimates of effort, resources, cost, time and other influences. This information is critical for the approval and prioritization processes, all of which we will collaborate with you to attain approval.

We will then work with you to go through an approved CCB process for addressing out-of-scope changes. We have been very successful in managing project scope during DDI and look forward to doing the same for you.

Collaboration with Suppliers and DHHR

As with all of our project processes and plans, we will work with you and other designated stakeholders to align our processes across the spectrum of DHHR contractors for a consistent, coordinated change process. Interdependencies and downstream impacts associated with changes will be analyzed, documented and communicated.

We have experience working in multi-vendor environments, PMO and IV&V staff to collaborate on changes that impact multiple systems. We participate in enterprise-level, change control meetings and provide expert input to CCB members so they are fully informed of impacts to system or non-system changes or modifications resulting from maintenance activities or related efforts.

We regularly work with other data suppliers in other state EDS systems we manage. For example, we often experience changes in data sources that require meetings with source system vendors to resolve and understand data issues and anomalies, as well as to coordinate

testing on new incoming data. To collaborate on these issues, we coordinate with the state PMO, the data vendor project managers, and subject matter experts to meet and discuss issues at hand.

Manage and Document Changes

Changes to system software, application software and system hardware will be subject to the approved change management process. As is customary for change management processes, we will evaluate and analyze proposed changes, including developing estimates of effort, resources, cost, time and other influences. This information is critical for the approval and prioritization processes, all of which we will collaborate with you to attain approval.

We begin our internal change process with a need for change being identified, supported by the CR form. We will use DevSuite to help record, track and communicate the change request information to project stakeholders. During DDI we capture requirements in DevSuite, and change requests are then traced to the appropriate requirement in the RTM. This helps all parties understand that a change has impacted the requirement. During the DDI phase, this traceability is also important in managing scope. During DDI it is important to avoid scope creep by identifying change requests that are outside the original scope of the contract.

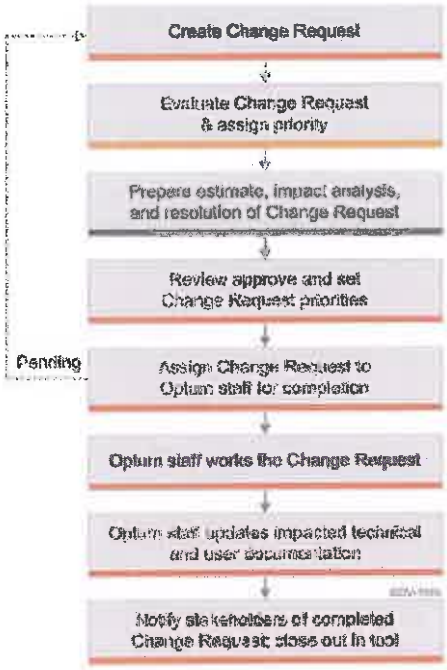


Figure 105: Change Management Process Flow Chart
Our Change Request flow offers you a consistent and controlled approach to enhancing the EDS.

We will then work with you to go through an approved CCB process for addressing out-of-scope changes. We have been very successful in managing project scope during DDI and look forward to doing the same for you.

The design, development, testing and implementation of approved changes and enhancements will follow the agreed-upon development and testing processes detailed in our project management approach. We will adhere to the 10 business day's notification guideline prior to implementing any change that will affect business requirements.

The process for working change requests is divided into multiple steps with some steps repeating. **Figure 105** illustrates the processes of our change management.

We track and manage change activity to the IT environment, application and infrastructure through our change management process using ServiceNow. This process requires that the change requestor document activity related to the change, including pre-implementation testing, implementation, validation and back-out plans. The risk of each change is assessed automatically, using our configuration management database to determine potential impact, and historical change performance data, to determine the likelihood of unplanned impact occurring because of an activity. This risk then drives the level of scrutiny and approval required before

we can implement the change.

Situations that may cause initiation of the change management process include the following:

- Additional deliverables not defined in the contract
- Changes to an accepted deliverable
- Deviation from the original scope of the work plan
- Deviation from the approved project work plan (e.g., new tasks, new technical approach)

We will use the change request as the vehicle for providing initial documentation for an individual proposed change. The change request describes the change, the rationale for the change and the effect the change will have on the EDS.

As is customary for change request processes, we will evaluate and analyze proposed changes, including developing estimates of effort by resource category such as modification pool, by work package, cost, schedule impact, impacts to the system, impacted external entities and interface partners, and impacted business operations. This information is critical for the approval and prioritization processes, all of which we will discuss with you. The design, development, testing and implementation of approved changes and enhancements will follow an agreed-to development and testing process. We will coordinate changes with appropriate stakeholder groups so that we communicate system changes in a timely manner before deployment.

Change Requests and the Modification Pool of Hours

DHHR has demonstrated its foresight and vision by establishing a pool of up to 25,000 hours per year for the life of the EDS Contract for software modifications and/or enhancement activities that are priced by each bidder using hourly rates for this type of work. Optum understands that the 25,000 hours per year is not a guarantee, but rather, such work would be reflected in mutually agreed upon change requests issued and entered into and consistent with a mutually agreed upon Change Management Plan. The RFP defines the use of such pool of hours as covering "software modifications" and "enhancements". Software modifications or enhancements will fall within three categories, where the common attribute of each category is the inability to provide a firm, fixed price due to the undefined scope of the requirement as it applies to Optum's OPAHHS solution and staffing:

1. Work described in the RFP as being "as defined by the Department" or similar language, that is in addition to the base OPAHHS solution subsequent to requiring the submission of a firm fixed price by bidders to this RFP, such as during the DDI or Maintenance & Operations phase
2. Work described in the RFP where Optum's response indicated that Optum would meet the requirement through the use of the Modification Pool hours rather than by its firm, fixed price due to its yet to be defined scope
3. Work that was not described in the RFP but that DHHR requests Optum to perform under the Contract; collectively, the "Modification Pool Hours Scope of Work"

For any work falling within the Modification Pool Hours Scope of Work, DHHR and Optum would define such work through mutually agreed upon Change Requests issued and entered into under a Change Control Process defined in the mutually agreed upon Change Management Plan.

Please note that there are two kinds of work that involve changes in scope that would not involve the use of Modification Pool Hours for different reasons (collectively, the "Non-Modification Pool Hours Scope Change Work"). First, Optum may reasonably elect to perform

certain work at no additional charge even though it is work that: a) has not been defined as being required in the RFP; or b) in a manner that permits Optum to include it in its fixed price. This would arise if Optum reasonably determines that the work requires only the use of a minor amount of labor. In that event, none of the Modification Pool Hours funding would be used.

Second, DHHR may require that Optum perform certain work that has not been defined as being required in the RFP, but once defined by DHHR, involves additional or different products that cannot be priced using the agreed upon hourly rates. The former Non-Modification Pool Hours Scope Change Work would be performed under no charge Change Requests while the latter would be performed under a mutually agreed upon amendment to the Contract that requires firm, fixed pricing to perform.

Change Control Reporting

All change management reporting will be provided to DHHR at least monthly or more frequently based on agreed-upon timeframes defined in the Change Management Plan. Optum will propose contents of the report, which will be reviewed and approved by DHHR. This report will address the status of change requests with percent complete, work remaining, and other information requested by DHHR.

Reporting and Meetings

We will provide status reports for both DDI and Operations. We will deliver these at a frequency to be determined by DHHR. We recommend either weekly or biweekly. We will include a staffing report section within these reports that reflects the current staffing distributions and resource assignments on respective modification efforts/projects.

Change Management Tools

During the DDI phase, we will use DevSuite tools to support the change management process. DevSpec, a component of this suite of tools, includes a change management system that assures changes to requirements and specifications are accomplished in a controlled manner. Stakeholders have visibility into who changed what and when and the various versions of requirements and specifications. DevSpec provides the requirements organization, reporting and full traceability that the you require as illustrated in Figure 106. Optum and authorized Department staff will have both access and regular reports in order to know where each requirement is in the development process.

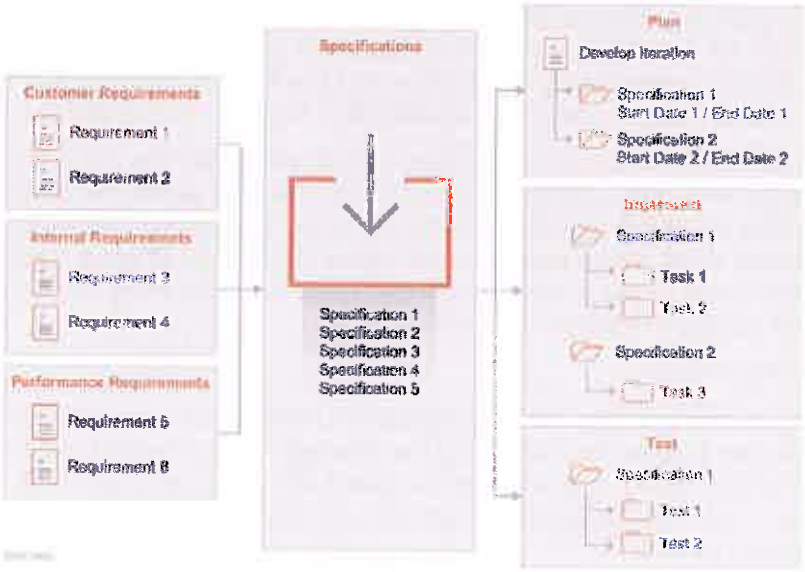


Figure 106: Change Management Traceability Tool
The DevSuite tool provides the requirements organization, reporting and full traceability to support effective change control.

The modular products within DevSuite are Web-based; allowing complete traceability of requirements as they move though development, testing and to final deployment. These tools allow our project management staff to enforce our development and QA methodology. In this way, we capture, address, test, and deploy all requirements according to approved design specifications. We will host a Liferay site to house project documentation. This secure site will be accessible by your staff and other authorized stakeholders. Our team will use Microsoft Project to manage the detailed work plan and its implementation.

Throughout the course of the project we will use various tools and techniques to support quality management and provide input to the change control process.

- **ServiceNow:** Web-based tool for entering, tracking and reporting on incidents, issues and problems
- **Microsoft Office suite**
  - Word to document guidance on processes, procedures, and status reporting
  - Excel to export issue lists, action items, follow-up lists
- **WebEx:** As appropriate, Optum uses WebEx tools to supplement issue management in areas such as training sessions, escalation discussions, and status meetings

1.6 Organizational Change Management

The Vendor's proposal should describe the Vendor's methodology, tools, and techniques for communicating and accomplishing organizational change management for DHHR. Discuss how the Vendor can assist DHHR in communicating, training, and implementing organizational change to DHHR.

The Vendor's proposed methodology should at a minimum address the following areas:

- The Vendor's organizational change management methodology
- Determination of the impact of this change

- Methods of responding to the change, process harmonization, and approach towards potential resistance
- Method for ensuring a successful change management program
- Lessons Learned regarding change management challenges as they will impact this project

Optum Response:

Approach to Organizational Change Management

As a partner to DHHR, we will support the people as well as the technical side of change. Optum will support Organizational Change Management (OCM) strategies in changes resulting from new or changed federal or State regulations, legislation, or change requests. These changes can impact business process, system operations, and job descriptions, as well as other potential aspects of the EDS environment.

We recognize the importance of organizational change management. Our OCM approach focuses on building a partnership with DHHR to address change from the perspective of the organization and the impact of changes on individuals. The approach places specific emphasis on:

- Communicating at every stage
- Training and education at all levels
- Implementing with awareness of impact and natural resistance

Over the life of the EDS there will be many changes to business processes and the ways technology is used, both of which affect performing day-to-day tasks for department staff. We strongly believe in the effectiveness of communication to bridge the chasm from today's legacy operations to tomorrow's EDS. We will leverage our OCM expertise to help you and the integrated EDS OCM Team make the transition.

Our approach is driven by our business analysts, focusing on managing, training and supporting the DHHR with the potential change information gathered and the strategies developed during the OCM activities. Our goal is to help DHHR in the EDS transition, creating a collaborative transition effort to help users be a part of the change, rather than the change happening to them. The partnership will help reduce risk as it leads to higher levels of engagement, meaning a more effective and timely transition.

Methodology, Tools, and Techniques

We understand that transformation can have a significant effect on the people in the organization who can have an even greater impact on the transformation's success. As your trusted partner, our methods, tools and techniques will be vitally important to assist DHHR.

Methodology

We advocate for and tightly integrate with the OCM approach within our project management methodology and our Optum Scalable Agile Method (OSAM) solution delivery. We view OCM as an important part of any engagement, particularly one the size and scope of the project. The Optum Business Lead is responsible for OCM, with the support of the Optum business analysts.

Our alignment with OCM during the implementation phase of the project will enable careful planning, strong partnership with the DHHR program, and the reinforcing management of changes. The OCM methodology integrates project management and organizational changes to produce value to DHHR as shown in Figure 107.

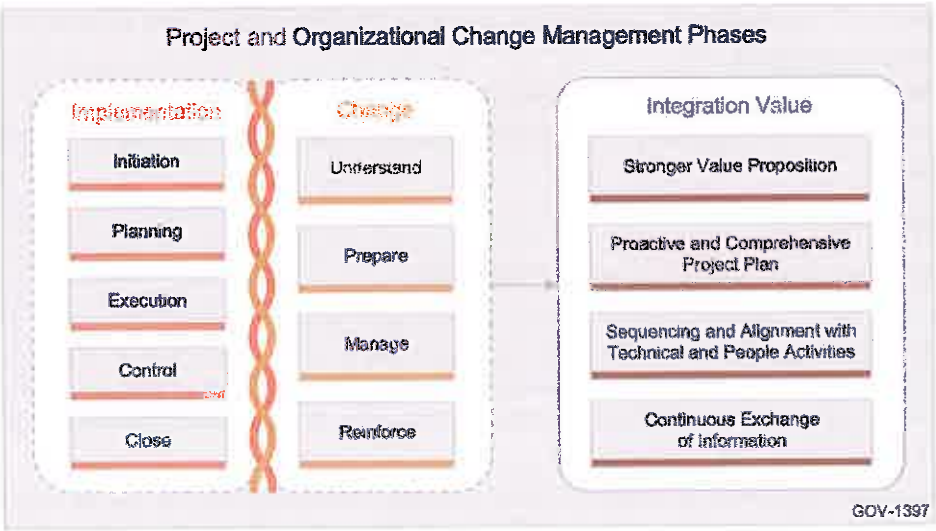


Figure 107: Integrated Project Management and OCM Phases
Integrating the project management will help us deliver a balanced implementation experience for DHHR and your stakeholders.

Integrated within our project management, our OCM methods are tightly woven into our PMI-aligned project management process groups. The groups and related OCM activities include:

- **Initiation:** We establish workspace, tools, and confirm responsibility for OCM.
- **Planning:** We define OCM topics on session agendas and schedules.
- **Execution:** Make sure Change Control Board (CCB) reviews are inclusive of applicable OCM changes, stakeholders are represented, and change management is executed. We provide frequent updates through status meetings and reports.
- **Control:** Monitor changes and make sure the integration of each change is complete.
- **Close:** Follow-up with lessons learned sessions to obtain retrospective.

Our project management activities integrate and dovetail into four OCM strategies to define and implement changes that will impact the organization.

- **Understand:** We gather a better understanding of the organization and determine the impact of the change on the organization reviewing current processes, policies and artifacts.
- **Prepare:** We prepare for the change, focusing on change management processes (see Attachment I, Section 1.5, Change Management), to make sure change is well communicated and awareness is accomplished.
- **Manage:** We follow our change management process, making sure change is implemented and staff have the knowledge and ability to perform their duties as needed.
- **Reinforce:** We close out the transition and focus on making sure that the changes are successfully implemented and reinforcement is complete.

As shown in Figure 107 above, integrating the project management phases and the OCM phases generates key integration values.

Strong Value Proposition: The complimentary disciplines of OCM and project management work in parallel from day one to balance the critical elements of people, process, and technology throughout the project lifecycle. The result is a more comprehensive approach and plan to deliver successful and sustainable business results.

Proactive and Comprehensive Project Plan: OCM and project management will co-create one proactive and comprehensive project plan. Together, teams are able to identify dependencies, prioritize areas of resistance, and anticipate obstacles to proactively reduce risks and drive engagement with aligned support strategies and more effective tools.

Continuous Exchange of Information: Our project management team will consistently exchange information and collaborate to review and adjust our support strategies. Based on feedback from DHHR users we enable strong adoption usage and reinforce our commitment to a transparent and responsive implementation experience.

Sequencing and Alignment with Technical and People Activities: We verify the right steps will be taken at the right time to help users embrace the change, gain a higher level of proficiency and achieve the right outcomes for the project.

Tools and Techniques

Organizational Change Management is not a one-time activity. Our OCM team will work closely with DHHR during DDI and on-going throughout operations. As change and communication are the underpinning of OCM, the Change Management, Communication Management, and Scope Management plans are input to OCM activities and the OCM team collaborates on the development and modification of these plans. Inputs to change management are reviewed for OCM impact as part of the impact analysis; approved changes drive creation of an OCM approach when appropriate to address the impact of change.

This OCM approach will be prepared in alignment with your DHHR Standards and includes details of planned communications that addresses key communication strategies and are reviewed with the DHHR team. The content of the approach will include the following sections to level of detail appropriate for the particular change:

- Identify targeted audiences; stakeholder analysis; reference to Stakeholder Management Plan and Stakeholder Analysis
- Guidance for potential policy change impacts – context of the change; nature of the change; expected resistance and mitigation; user training impact
- Planned messaging – to include stakeholder specific message, timing, audience, and delivery methods
- Roles and responsibilities to support OCM tasks
- Monitor progress; measure success; targeted on-site assessments/conversations

The OCM approach will provide a schedule and timing of the events and will dovetail with any impact/coordination with user training.

We will leverage change management tools and processes described in Attachment I, Section 1.5, Change Mangement, and will incorporate existing processes for analysis and requirements confirmation, and use JAD session outputs to develop specifics of the expected impact of the change.

Optum will target DHHR employees and potentially community partners who are most directly impacted by the new EDS or changes to the EDS.

Determining the Impact of a Change

Fundamental to every discussion about change management or organizational change management is an understanding what kinds of changes we will measure and how we will quantify the impact of the change.

Every change has the potential to impact technical infrastructure, system performance, process changes, report changes, data entry changes, external stakeholders, service level agreements and more. Every change also introduces risk to the project – risk of failed implementation, rejection by stakeholders or inability to deliver the expected result/benefit.

The following specific items are assessed in order to determine the impact of the change. Refer to Attachment I, Section 1.5, Change Management, for a description of the change impact measure categories and quantification methods to be adopted:

- **Timeframe:** Determine the timing of the change; big bang or incremental
- **Number and type of stakeholder impacted:** Internal, external; management; end users
- **Magnitude of technology change:** Including required implementation sequencing and additional risk during implementation and rollout
- **Magnitude of process changes**: If any, such as labor organization impact/approval needed
- **Any job role changes:** Determine if staff have or can be trained to have the necessary competence
- **Recognition:** Pre-existing staff and management recognition of the need for the change

Methods of Responding to the Change, Process Harmonization; and Approach Towards Potential Resistance

Structured, well-planned OCM reduces the likelihood and magnitude of potential resistance. The following are active measures our team takes in order to minimize and respond to resistance to change:

- **Planning:** proper planning is the primary method of limiting potential resistance.
- **Setbacks:** there will be bumps in the implementation and adoption – our OCM team will monitor progress, seeing how the change planning is actually working, measuring the progress, allowing early recognition of setbacks in order to provide timely adjustment to the change plan.
- **Communication:** Lack of communication – early and often – is the primary cause of resistance to change; our approach includes proper messaging to impacted stakeholders prior, during and following a change.
- **Resistance:** Our trained, experienced OCM team is alert to signs of resistance – water cooler talk, negative comments/emails, reduced work quality or quantity, reports from co-workers. Responding to resistance depends on recognizing it – blatant and subtle resistance, then adjusting the OCM approach to further mitigate it.
- **Failed Embrace:** Following a change, even after a successful change, there may be users that fail to embrace the change, fail to get on board. Time will heal some, although active monitoring during and after implementation will help our team identify such users or groups of users in order to apply more timely, effective mitigation.

Lessons Learned and Expected Challenges

A key differentiator to address challenges is our approach to staffing and our organizational structure. We have experience and knowledge gained from implementing large-scale health care solutions for 25 years. We have included staff with this tenure into our organizational structure from day one. We staff the project not only with EDS talent but we transition implementation roles into the operations of our EDSs.

Changes to day-to-day tasks are difficult for State resources who have limited availability to support the implementation while continuing to do their current job.

Optum will work with the State OCM lead on distributing timely, periodic releases of information that will assist authorized solution users in more effectively managing their ability to change by allowing this to occur gradually, rather than attempting to absorb large amounts of change in a short period.

1.7 Training Approach

The Vendor's proposal should present a narrative description of the Vendor's proposed approach to completion of the training throughout the contract, including the Vendor's proposed:

- Approach to the completion of the training deliverables (as listed in ***Appendix 2: Deliverables and Milestones Dictionary***), including methodology for updating deliverables throughout the lifecycle of the project.
- Approach to development, maintenance, and implementation of the Training Management Plan, including methodologies addressing:
    - Assessment of internal and external training needs, including gap analysis
    - Approach to user training, supporting all business processes as identified in the RFP
    - Delivery of end-user training throughout the solution's implementation
    - Development and use of online tutorials, online help, online policy and procedure manuals, and hard copy user manuals for the delivery of training
    - Development and use of live, web seminar, and video-based training
    - The target audiences for training, including State staff, Vendor staff, clients, providers, and third-party stakeholders who work in the system
    - Plan to provide and/or leverage existing State training facilities to perform end-user training detailed in this section.
    - Tools that the Vendor will use to support training
    - The planned curriculum for each system user role and audience
    - Initial training schedule
    - Version control and maintenance of training documentation
    - Training evaluation, including the use of evaluation survey tools to determine whether the trainings produced the expected results
    - Initial and on-going training outcomes tracking and reporting, including information such as, but not limited to, the number of training sessions, type of training, training locations, number of trainees, and information regarding the actual training results and recommendations for follow-up training
    - Approach to "train-the-trainer" activities during the Operations phase.
- Approach to role-based training during both implementation, and maintenance and operations
- Approach to development of training materials
- Approach to training evaluations

Optum Response:

Approach to Training across all Project Phases

Our approach to training includes an industry standard training methodology, anchored by skilled trainers, a well-defined Training Management Plan, and the flexibility to adapt to changes.

We will use the Analyze, Design, Develop, Implement, and Evaluate (ADDIE) methodology for instructional design. We use ADDIE to plan, develop, and deliver training programs for both large and small implementations and on-going operational services. The ADDIE framework gives us consistent and efficient steps that focus on clear learning objectives. It also provides a guideline for building effective training and includes five phases:

- **Analyze:** Optum will work with you to review and determine your training objectives. As we evaluate the scope of the project we will analyze your specific training needs and plan the most effective training delivery for trainees. We will look at user types, the groups that need training, the required content, and the delivery methods for the training.
- **Design:** Based on the analysis performed, our team will determine the purpose and desired outcomes of the training and design a customized training program.
- **Develop:** Instructional designers will work with our subject matter experts (SMEs) to create training materials. These will include facilitator guides, participant guides, visual aids, video-based training, trainee activities, and other materials needed to support the training.
- **Implement:** We will deliver training using different methods, such as self-study, e-learning, video-based, and Instructor-led Training (ILT). We will work with you to select the best delivery method for your staff and stakeholders.
- **Evaluate:** Instructional designers, trainers, and our SMEs will work together to evaluate training effectiveness and modify training as needed over the course of the project.

Figure 108 shows the ADDIE phases, specific steps, and examples of the types of work products and documentation that we typically create as part of our training program.

Phase	Steps	Work Products
Analyze	• Assess Business Goals • Conduct Needs Analysis • Identify Knowledge Gap • Conduct Audience Analysis • Develop Learning Objectives	• Training Needs Analysis • Training Plan
Design	• Identify Instructional Design Strategy • Select Delivery Method(s) • Determine Training Structure and Duration • Establish Evaluation Methodology • Develop Storyboards and Media	• Develop Strategy • Storyboards
Develop	• Develop Training Materials • Conduct Quality Review of Materials	• Course Materials • Assessment Instruments
Implement	• Establish Training Schedule • Print and Prepare Training Materials • Prepare Trainers • Notify and Enroll Learners • Conduct Training	• Course Schedule Attendance Forms • Participant Assessments
Evaluate	• Collect Training Evaluation Data • Review Training Effectiveness	• Training Evaluation Report

GOV-1092

Figure 108: ADDIE Methodology
We will apply ADDIE methodology phases, steps, and work products to the project.

Using ADDIE, our trainers are EDS experts with the knowledge and ability to build an engaging and effective training curriculum.

We design our training strategies based on our 25 years of delivery and operations infused with today's technologies. People that are well trained become valuable assets of the project by producing higher quality and better performance. Our training solution will introduce your users to innovations and new ideas. It will empower them to make data-driven decisions and help them be more effective in their everyday roles.

Our team leverages training processes that we have fine-tuned across many government implementations. Using these processes, we will engage your stakeholders, supervisors, and managers by soliciting their participation and input as SMEs throughout all phases. We will solicit participation and input during each stage of the process for new or modified training course units and materials. This strategy will help us keep training materials current with changes to solution features and functionality. It will also help us maintain stakeholder buy-in and ownership of solution and training changes. Working together, DHHR and Optum can quickly update and improve training and materials as needs change during implementation and operations.

From planning through implementation and delivery, our training and materials will focus on how to use OPAHHS as well as how to identify and use vetted business rules in reviewing results and creating reports.

Planning and Analyzing DHHR Training Needs

We will begin our OPAHHS training approach with careful planning. As we plan and analyze your training needs, we will prepare a Training Management Plan. The plan will clearly outline the training strategy and training schedule, serving as our roadmap for developing and implementing solution training. It will describe the delivery method, techniques, timeline, and evaluation methods for training. We will develop the Training Management Plan during the planning activities of the project. The plan will include the training methodology, tools and materials, locations, and overall strategy to meet the training requirements.

Training Design and Development Focused on DHHR

At Optum, we have designed and developed customized training programs for over 25 years. Across our EDS projects, we constantly work to make sure we share our training knowledge, tools, and expertise. Figure 109 shows an example of one of our training sites, including Web-based trainings.

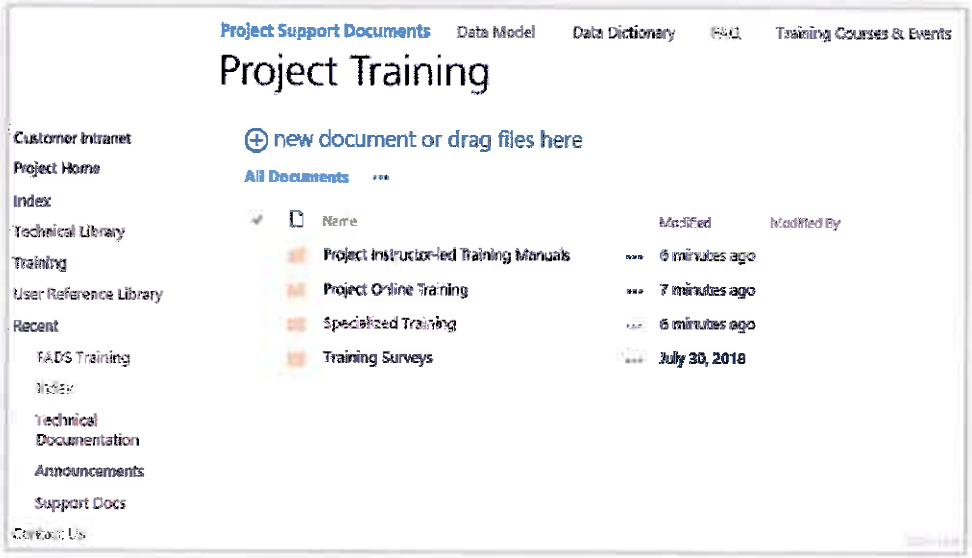


Figure 109: Training Site Example, Main Menu
Optum develops customized training programs to fit our customer's needs.

We will design training to focus specifically on the features of OPAHHS, such as the Web portal, data visualization components, and analytic models. To provide meaningful training documentation, our training staff will collaborate with the developers of our solution dashboard, user interface, data visualization, reports, and models as well as those preparing system documentation and online help. This collaboration will help us design and develop customized user focused training.

We have designed in-person training and distance learning platforms for educating new OPAHHS users and for updating current users as our solution evolves over time. We will work with your executive and business users and make certain that they are knowledgeable are comfortable with OPAHHS navigation and the analytics that feed standard reports and dashboards. Our advanced users' curriculum will address their unique needs so they may harness the full power of the OPAHHS tools.

We will develop customized training which will include the following:

- OPAHHS training methodology
- User skills assessment
- Course descriptions
- Training rollout schedule
- User proficiency testing guidelines
- Training performance reports and user evaluation

Developing your Training Curriculum

We recognize that training is vital in order to successfully maximize the use of our tools and services. To deliver the most effective training we develop our training with flexibility in mind. We will customize our training framework to address specified DHHR needs. This includes levels of education, special needs, user types, group size, and level of experience. Training curriculum will also change through the life of the project with in-person, webinar, and video-based training options. The following table provides an example of the types of training curriculum we have offered our clients.

Category		Title	Description
	**Overview**	OPAHHS Overview	High level overview of OPAHHS; new user training; basic navigation; fundamentals
	**User**	Report Filters	Using filter features of OPAHHS
	**Advanced User**	Query Properties	Query properties in OPAHHS
	**User Support**	Help Desk Communication	Making help desk requests

The training courses we develop for OPAHHS will be competency-based. They will include specific goals and exercises to evaluate whether those goals have been met. Individuals tend to learn at different paces and are receptive to different training modalities. We will be flexible in our manner and speed of training delivery in order to adapt to the individual needs of the trainees.

As with all user support functions, we encourage collaboration among the teams. Our training curriculum promotes collaboration through:

- **Introductory and on-going course content:** OPAHHS training is competency-based, including specific goals and exercises using your own PHI-protected data.
- **UAT Training:** The DHHR users will receive training based on the test case execution process and defect creation process well before the start of UAT. Optum QA team and Optum Training team will partner together to make sure the training materials are developed and training sessions are conducted in a timely manner.
- **Train-the-Trainer:** The Training lead will conduct train-the-trainer sessions. These sessions will include:
  - Materials walkthrough and discussion of key learning points in each lesson, system demonstration (if applicable)

- Review of presentations, guides, and other training resource documents designed for the trainer's use
- Designated preparation time the trainer can use for additional study, curriculum review or other preparation.

- **Moderated user forums:** We provide forums where users can post questions and share discoveries. Our project team will monitor the forums and contribute answers and suggestions to promote the learning environment of your knowledge center.
- **Publically available support:** Some COTS component vendors of OPAHHS and open-source communities maintain websites of tutorials and moderated community forums for support. We educate your users on their presence and use.
- **Collaborative governance and measure development:** Effective program management and changing circumstances require on-going development of new data sources and new measures. We will work with governance and change management processes to transfer those measures into OPAHHS and the training curriculum.

As we develop our training we look for opportunities to improve and continue best practices based on lessons learned from our user feedback.

Incorporating Best Practices

In addition to using industry best practices, standards, and trends for training, we consider survey comments or recommendations into our training materials and methods. For example, if our participants comment that they liked our method of incorporating materials into training delivery, we include that method as a best practice. By using a collaborative approach and incorporating our best practices, we will make sure that your user-specific knowledge needs are met.

Implementation/Delivery of Training

Our experience has taught us that successful implementation of training needs to focus on the collaborative and multifaceted delivery of content. Not all learners benefit from a single method of training. We offer OPAHHS training in a wide variety of methods and materials to provide the most effective training. OPAHHS training will include delivery in the following forms:

Instructor: We will provide hands-on, instructor-led training as required. This includes classroom, trainer-led skills lab, or individual/small group training. Instructor-led training will be conducted at a DHHR approved location. These instructor-led skills sessions are an effective learning method to cover advanced skills, problem solving, or updated operational processes. Skills sessions will focus on meeting specific topics. We can customize the labs to include any combination of instructor-led lecture and discussion, hands-on practice, and interactive exercises and activities.

Video-based training/Web-based training (WBT): We will deliver this form of training as appropriate, which will be available 24 hours a day, 7 days a week by links. It may also be used for refresher training. This method of training will provide trainees flexible and convenient access to training. Our easy access to a Web-based training method will help users in long-term learning, enabling them to participate in training remotely and independently. Web based training will also include knowledge base items, such as training documentation and FAQs.

Webinars: We will provide webinars, as necessary, for immediate new staff training which cannot be postponed to the next on-site scheduled training. Options include on-demand training in various self-directed formats, such as recorded webinars and training videos. We will also provide WebEx phone and remote access/video conferencing capabilities that enable off-site

users to participate in on-site, real-time training events without traveling. We can record and save WebEx sessions for on-demand access by new users and users who want to review previous training sessions.

Training Materials

Supporting documentation will be customized for each course offering. Our training materials will focus on important concepts and reinforce course elements. The training materials we use will be appropriate for specific job roles. This may include a troubleshooting guide, visual guide, a quick user guide, and common tips and tricks. We will review and update training materials for accuracy and quality as there are program or system changes. We understand training needs will shift over time and will revise the training as necessary to continue to meet any program or operational changes. Training assessments will verify that users are receiving the right training and are pleased with the training experience.

All materials will be developed in compliance with ADA standards, and hard copies will be provided to each student on arrival. Training material will be available in a central repository which will allow for version control and archiving per DHHR agreed retention policies.

Each training class will have a trainer guide with instructions, talking points, and activity references. Using this type of guide assures each class receives the same content.

We will provide students the opportunity to register for all instructor-led training courses through our learning management system. We post scheduled training sessions on the portal and make sure students have access to online (Web and video–based) trainings and documentation available for continued learning, such as webinars or newsletters. Training material will be updated throughout the life of the contract as the system matures and user needs change.

Training Evaluation, Feedback, and Metrics to Keep DHHR Informed

The Optum training approach will help us measure the effectiveness of our staff training to validate every staff member is qualified to perform the required services. We will include a variety of practice and evaluation activities in the finalized Training Plan. This will help us validate that we assess participants adequately against established job performance expectations. Trainers provide evaluation forms for trainees at the end of each training session. We will use these to evaluate the effectiveness of the training session. We will consolidate this feedback and report it to you. It will serve as input and feedback for follow-up training sessions, training sessions not yet completed, and subsequent training planning.

We particularly value participant evaluation and comments about our training. Following each training session, we will use course evaluations and student surveys. We obtain feedback after both user acceptance training and initial implementation training so that we may identify additional subject areas to be covered in follow-up user training and continuous new user training. Based on your feedback, OPAHHS training materials will be modified and additional material will be added to address your specific needs. Our approach is flexible, allowing us to adopt our customers' standards when appropriate. We will conduct anonymous course evaluations to help us continuously improve OPAHHS training.

Feedback and Metrics

The strength of our training program is seen in our course offerings and our best practices. We depend on feedback and metrics to provide us with opportunities to enhance training and support efficiencies in overall implementation. Our training program has been an instrumental factor in our record of 100 percent on-time and within budget project implementations. Metrics may include dashboard style charts or open-ended responses to show training satisfaction.

These metrics will also be evaluated for trends in future training needs. Course completion information, such as, attendees, feedback, and recommended training updates will be provided as outlined in the Training Management Plan. Figure 110 is an example of a dashboard report of new user training on one of our EDS projects.

Figure 110: Student Survey – Dashboard example
Example of a dashboard view from training survey results.

Training Expertise

During implementation, Optum will use a training lead and trainer. The training team will be supported extensively by the business analysts for classes beyond the initial new user introductory courses. This approach will leverage the broad expertise of the technical staff, help users build relationships with the technical staff that will help them with future questions, and make certain that we have instructors sufficiently knowledgeable and experienced to respond to user questions. Our approach is far more effective than using instructors who do not actively support the user community or are not actively involved in daily use of the system, and minimizes any negative impacts to training if a back-up is needed.

Training Environment

The sandbox training environment provides an interactive learning opportunity for trainees. To supplement the introductory training courses, Optum will create a simplified training environment. The simplified environment will be derived from the current environment and will not contain any PHI or DHHR-identified sensitive data. Optum will also make the training environment mirror production data and common scenarios to enable users to immediately practice the skills learned in training.

Training Deliverables

Our approach to training deliverables is an integrated process within our project management framework and training methodology. The approach provides a transparent and collaborative partnership with the DHHR and other stakeholders, and will foster open communications and promote cooperation for a positive working relationship. We have reviewed your deliverables identified in RFP Appendix 2, and will meet with you to define deliverable acceptance criteria, make sure it meet the required content expectations, and aligns with the most current version of the MECT Appendix B Required Artifacts List.

Our approach to preparing your training deliverables is strengthened with the knowledge we have acquired during our WV PATH project. Optum has been working with DHHR for the last three years and understands the Departments training deliverable expectations with regard to schedules, agendas, and priorities. We will leverage templates from the WV PATH project where possible. This will help us fulfill your project goals and objectives in a cost effective and efficient manner.

During planning activities, we will meet with you to define and confirm acceptance criteria. This collaborative meeting helps make certain that the deliverable meets your expectations. During the meeting, we will review training deliverable completion dates and time of deliverable receipt. The applicable details will be included in the final Documentation Management Plan. Throughout the project life cycle, we will submit deliverables that align with the content descriptions and milestones identified in the RFP Appendix 2. The deliverables will include the following:

- Training Management Plan (Updated as needed during monitoring and control activities)
- Training Materials
- Training Report
- Training Schedule

Appendix 1: Training

Optum will meet the Training requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

TN001	The Vendor should provide a sandbox training environment for authorized solution users within the solution that uses de-identified data and is compliant with the Health Insurance Portability and Accountability Act (HIPAA), Department, and other State and federal regulations.

The sandbox training environment will provide an interactive learning opportunity for trainees. To supplement the introductory training courses, Optum will create a simplified training environment compliant with the Health Insurance Portability and Accountability Act (HIPAA), Department, and other State and federal regulations. The simplified environment will be derived from the current environment and will not contain any PHI or DHHR-identified sensitive data.

TN002	The Vendor should develop and maintain a sandbox environment for training that mirrors production.

Optum will also make the sandbox training environment mirror production data and common scenarios to enable you to immediately practice the skills learned in training.

TN003	The solution's training environment should have the capacity to support all components of the solution.

Optum will also make the training environment mirror the production environment and common scenarios to enable you to immediately practice the skills learned in training.

TN004	The Vendor should ensure that no aspect of training uses protected health information (PHI), personally identifiable information (PII), or federal tax information (FTI), and that the training materials and environments are compliant with the Health Insurance Portability and Accountability Act (HIPAA), Department, and other State and federal regulations.

The sandbox training environment and training materials will not contain any PHI, PII, or FTI or DHHR-identified sensitive data. All materials are reviewed prior to release and will be in compliance with State and federal regulations for sensitive data.

TN005	The Vendor should provide the necessary training and on-going support to all Department authorized solution users participating in data conversion validation and user acceptance testing (UAT) of the solution components, reporting options, and data structure.

The DHHR users will receive training based on the test case execution process and defect creation process well before the start of UAT. The Optum QA team and the Optum Training team will work together to make sure the training materials are developed and trainings are conducted in a timely manner.

TN006	The Vendor should provide initial and on-going training and associated reference documentation to authorized solution users for the duration of the contract, at the request of the Department.

Supporting documentation will be customized for each course offering. Our training materials will focus on important concepts and reinforce course elements. The training materials we use will be appropriate for specific job roles. This may include a troubleshooting guide, visual guide, a quick user guide, and common tips and tricks.

TN007	Throughout the duration of the contract, the Vendor should provide regular training sessions for authorized solution users on updated or new functionality and/or business processes related to the solution, at the request of the Department.

To deliver the most effective training we develop our training with flexibility in mind. We will customize our training framework to address specified DHHR needs. This includes levels of education, special needs, user types, group size, and level of experience. Training curriculum will also change through the life of the contract with in-person, webinar, and video-based training options.

TN008	The Vendor should track and provide confirmation of attendance at all training sessions and report on which versions of training materials were presented at the training.

Course completion information, such as, attendees, feedback, and recommended training updates will be provided as outlined in the Training Management Plan.

TN009	The Vendor should provide evaluation feedback forms to training participants at the end of each training and provide summaries of these evaluations to the Department.

The strength of our training program is seen in our course offerings and our best practices. We depend on feedback and metrics to provide us with opportunities to enhance training and support efficiencies in overall implementation. Our training program has been an instrumental factor in our record of 100 percent on-time and within budget project implementations. Metrics may include dashboard style charts or open-ended responses to show training satisfaction. These metrics will also be evaluated for trends in future training needs. Course completion information, such as, attendees, feedback, and recommended training updates will be provided as outlined in the Training Management Plan.

TN010	The Vendor should provide hands-on, in-person, remote, and/or online training.

Our experience has taught us that successful implementation of training needs to focus on the collaborative and multifaceted delivery of content. Not all learners benefit from a single method of training. We offer OPAHHS training in a wide variety of methods and materials to provide the most effective training. OPAHHS training will include delivery in many ways, including in-person, train-the-trainer, UAT training, and Web or video-based.

TN011	The Vendor should provide Department-approved, commercially-available training and/or guide books addressing all components of the solution and provide to the Department at least four (4) copies of each book for distribution as well as online electronic copies.

As needed, we will provide electronic and at least four hard-copies of guide books that we have licenses to copy and distribute from. In addition, some COTS component vendors of OPAHHS and open-source communities maintain websites of tutorials and moderated community forums for support. We educate your users on their presence and use.

TN012	The Vendor should ensure that all Department-approved training documentation for the solution is posted where authorized solution users can access it on demand.

We have included Liferay as a content management system for the EDS. Liferay enables us to organize and classify documentation according to your requirements and user needs, including artifacts covering training, program deliverables, technical specifications, project management, and more. We will work with you to configure access rights based on users' roles and privileges.

TN013	The Vendor should propose a role-based training approach.

We recognize that training is vital in order to successfully maximize the use of our tools and services. To deliver the most effective training we develop our training with flexibility in mind. We will customize our training framework to address specified DHHR needs. This includes levels of education, special needs, user types, group size, and level of experience. Training curriculum will also change through the life of the contract with in-person, webinar, and video-based training options.

TN014	The Vendor should develop training materials that support each training.

Supporting documentation will be customized for each course offering. Our training materials will focus on important concepts and reinforce course elements. The training materials we use will be appropriate for specific job roles. This may include a troubleshooting guide, visual guide, a quick user guide, and common tips and tricks.

TN015	The Vendor should conduct training evaluations that provide feedback on the effectiveness of each training.

We particularly value participant evaluation and comments about our training. Following each training session, we will distribute course evaluations and student surveys. We obtain feedback after both user acceptance training and initial implementation training so that we may identify additional subject areas to be covered in follow-up user training and continuous new user training. Based on your feedback, OPAHHS training materials will be modified and additional material will be added to address your specific needs. Our approach is flexible, allowing us to adopt our customers' standards when appropriate. We will conduct anonymous course evaluations to help us continuously improve OPAHHS training.

TN016	The Vendor should provide as-is necessary the training facilities and equipment to best ensure the training's success.

We are flexible to deliver in-person, instructor-led training at an approved facility. Our trainers are prepared to instruct users at either a State or Optum facility.

TN017	The Vendor should provide user acceptance testing (UAT) training.

The DHHR users will receive training based on the test case execution process and defect creation process well before the start of UAT. Optum QA team and Optum Training team will

work together to make sure the training materials are developed and trainings are conducted in a timely manner.

TN018	The Vendor should provide train-the-trainer training sessions.

The training lead will conduct train-the-trainer sessions. These sessions may include:

- Materials walkthrough and discussion of key learning points in each lesson, system demonstration (if applicable)
- Review of presentations, guides, and other training resource documents designed for the trainer's use
- Designated preparation time the trainer can use for additional study, curriculum review or other preparation.

TN019	The Vendor should support all aspects of training that the Department and Vendor agree are key towards the trainings delivery.

We recognize that training is vital in order to successfully maximize the use of our tools and services. To deliver the most effective training we develop our training with flexibility in mind. We will customize our training framework to address specified DHHR needs. This includes levels of education, special needs, user types, group size, and level of experience. Training curriculum will also change through the life of the contract with in-person, webinar, and video-based training options.

TN020	The solution's training environments should be reflective of real-world data.

The sandbox training environment will be derived from the current environment and will not contain any PHI or DHHR-identified sensitive data. This streamlined environment will provide trainees with a visual query development tool that is easier to master. Optum will also make the training environment mirror production data and common scenarios to enable you to immediately practice the skills learned in training.

TN021	The solution's training environments should include end-to-end training on processes during applicable phases of the project.

A benefit of the ADDIE framework is its flexibility to adapt to changes. As discussed throughout this section we recognize that in all phases, changes may affect the training program. Our training methodology is integrated with our project management activities to make sure that we can make adjustments to training when necessary.

2. Implementation Methodology

The Vendor should respond to the headings below and describe the overall approach for the following areas of system development life cycle (SDLC) and support. Please include in the response what the Vendor believes will be an effective process for each component and flow between each of the following areas:

2.1 Requirements Analysis and Solution Design Methodology

The Vendor's proposal should describe the Vendor's approach to requirements analysis and the design of the solution. This should include in the response a description of what the Vendor believes will be an effective System Architecture and Design methodology.

During the solution's design, the Vendor should conduct requirements analysis, during which they review, refine, and seek approval for all preliminary requirements included in this RFP, and through the change control process add requirements where gaps are identified through a detailed analysis exercise. The result should be a final set of detailed requirements to be used

for building the EDS. These requirements should be the basis for the Vendor to create usage scenarios and detailed business process workflows.

During the solution's design, the Vendor should develop detailed specifications that demonstrate that the solution meets the IT needs to support business processes. The system requirements and logical description of the entities, relationships, and attributes of the data that were documented during the requirements analysis should be further refined and allocated into system and database design specifications that are organized for implementation within the constraints of a physical environment.

The Vendor and DHHR should conduct a formal review of the high-level architectural design prior to detailed design of the automated system/application to achieve confidence that the design satisfies the system requirements and is in conformance with the enterprise architecture and prescribed design standards.

The solution design and its multiple components should be developed in conjunction with the Project Work Plan as follows:

- The first component should be a Preliminary System Design, which outlines the overall functions that will be developed, their interactions, components, and high-level architecture.
- The second component should be a DSD, which will give the planned implementation details of the design for each component, interactions, and place in the overall technical architecture.
- The third component should be the Final System Design, which will give the actual implementation details of each component and sub-component from a functional and technical perspective, including the final architecture implementation.

The Vendor's proposal should also describe its approach to conducting requirements validation sessions and Joint Application Development (JAD) sessions. The Vendor's proposal should also include the number and topics of the sessions to be held in support of both requirements validation sessions and JAD sessions.

The Vendor's proposed approach to requirements analysis and solution design should also include detail on the following:

- Process for identifying and resolving gaps between the Vendor's and DHHR's understanding of an RFP specification.
- How the solution's design will include collaborative design with functional and technical subject matter experts.
- How the Vendor intends to obtain DHHR approval on RFP specifications
- Description of how the proposed solution will fulfill MITA requirements.
- Design documentation for all those project deliverables delivered during the Solution Planning and Solution Design, Testing, and Operations task groups.

The Vendor should propose an approach describing how the EDS design will integrate with other EDS components and DHHR enterprise. The Vendor should also propose how design decisions will be coordinated across all functional areas and modules.

Optum Response:

Overall Approach to System Development Life Cycle

We developed and refined our system development life cycle during our 25 years of experience implementing solutions like the EDS solution. It is a predominant reason for our 100 percent success rate of implementing data warehouse and analytic solutions. Our life cycle provides the following best practices:

- Follows the strategy of early delivery of high quality services while gradually building the features and value provided to users
- Uses an iterative development model to shorten development cycles and provide opportunities for early stakeholder feedback, delivering value quickly and frequently to users
- Uses practices that reduce waste by following a continuous improvement cycle for development
- Is based on collaboration to reduce and eliminate communication barriers

Our SDLC will support the review, test, and validation of our solution. Included in our proposed project schedule are the tasks of our SDLC methodology for review, comment, and approval by DHHR. The implementation methodology includes the following phases.

Initiation: As we begin the project, we will:

- Establish workspace and identify stakeholders
- Schedule and conduct kick-off meeting and initial working sessions
- Set up the project management website
- Define milestones and schedules
- Confirm roles and responsibilities
- Establish clear lines of accountability
- Implement a framework for effective project management and SDLC

Planning: During this phase, we will create required project planning and solution planning deliverables for your review and approval. We will also submit the Project Work Plan, which reflect project stages and initial project timeline. These deliverables will serve as the roadmap to coordinate project activities for timely implementation.

Execution: The execution and implementation stages include the DDI of the two phases of functionality:

- Phase 1: Infrastructure setup and Medicaid, PEIA, and HSC data sources
- Phase 2: Additional data sources and FADS

Phase 1 will contain two components, designed around development and configuration of the EDS workflows and development of required EDS reports. These components will follow a blended iterative delivery methodology as shown in Figure 111.

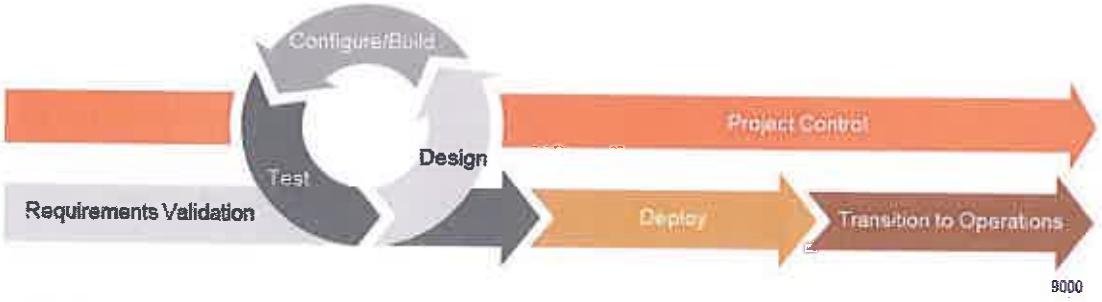


Figure 111: Iterative Delivery
Incremental approach incorporates collaborative gate reviews. Moving to the next phase only happens when well-defined criteria are met leading to quality releases and a streamlined, successful certification process.

Phase 2 will contain additional data and the FADS components.

Using our blended iterative approach will allow efficient delivery with the rapid deployment and concepts of Agile methodologies. This approach will provide DHHR the following benefits and advantages:

- Shorter configuration cycles
- Increased visibility
- Increased value as releases arrive earlier
- Early stakeholder feedback
- Improved quality through retrospectives
- Continuous improvement cycle that exposes defects earlier

At the close of execution, our retrospectives provide input into upcoming phases and improve the efficiency of tasks as the project progresses. This provides our management team with the clarity to remain focused on the details, making sure the strategic objectives of DHHR are accomplished.

Monitor and Control: We continuously monitor and control the progress of all project phases and releases. Our delivery model and the tools we select for this project will allow us to produce metrics, schedules, and contract deliverables to show that we continue performing to expectations. Within our project control activities, we will conduct regular team status meetings, prepare, and deliver status reports, and other documentation and deliverable updates according to the frequency defined by DHHR.

Closeout: We conduct a lessons-learned exercise and review the lessons in the lessons learned repository with you during a walkthrough meeting. As part of closeout tasks, we will identify, log, and archive project artifacts.

Proactive Approach to Initiation and Planning

Project initiation and planning begins long before the actual project start date. We will begin during the preparation of our proposal response. We evaluated your RFP and the project tasks, risks, and benefits relative to your goals and objectives. Project initiation activities will set the stage for subsequent phases of the project. We establish begin by organizing and onboarding the project teams, conducting project kickoffs, and setting up the Charleston facility. During project planning, we will coordinate and schedule meetings with your to agree on the deliverable acceptance criteria and deliverables schedule. We also work with you and your stakeholders to request data source inventories and sample data from your current vendor. We use the inventories and samples, to conduct data source discovery meetings.

Approach to Requirements Analysis

We manage requirements for each of our nine EDS and analytics clients and our other federal and state agency engagements. We will work closely with DHHR, the IV&V contractor, and your PMO on these activities. Our Requirements Management Plan (RMP) directs our approach to requirements analysis. We use the RMP as a tool for establishing how requirements will be collected, analyzed, documented, and managed throughout the lifecycle of a project. The RMP will follow DHHR and Optum agreed upon acceptance criteria and meet content requirements from the most current version of the MECT. The plan includes processes and procedures guidance to manage all aspects of requirements, including requirements confirmation, traceability, gaps, requirements documentation, and reporting.

Requirements Validation

We will conduct requirements validation activities to review and validate business functional and non-functional requirements. These activities will include requirements validation sessions to review and validate business functional and non-functional requirements. The sessions will consist of the review, refinement, and confirmation our understanding of your RFP requirements and data sources for the EDS. Session schedules include morning sessions and afternoon sessions, tailored to covered specifics within session topics. For example, data sources topics will include MMIS EDS data (i.e., member, provider, claims, financial, and prior authorization), PEIA, and HSC data sources. Further details on session may be found in our initial work plan in Attachment E.

The following table shows our anticipated sessions and topics for the Phase 1 implementation.

Sessions	Topics
Requirements session 1	Care management
Requirements session 2	Data Sources, Delivery & Display
Requirements session 3	Data Quality
Requirements session 4	Solution Backup, Disaster Recovery & Failover
Requirements session 5	Financial Management
Requirements session 6	Hardware and Infrastructure
Requirements session 7	Operations
Requirements session 8	Program & Project Management
Requirements session 9	Security Management
Requirements session 10	Training
Requirements session 11	Service Level Agreements

The following table shows our anticipated sessions and topics for the Phase 2 implementation.

Sessions	Topics
Requirements session 1	Care Management
Requirements session 2	Program Integrity
Requirements session 3	SLA
Requirements session 4	Training
Requirements session 5	Operations

During these sessions, we will also identify potential organizational changes for inclusion our Requirements Specification Document. The requirements and design sessions may include follow-up sessions to confirm outliers and requirements that were tabled for further clarification.

Identifying and Addressing Gaps

Requirement validation sessions will also provide an opportunity to address gaps in requirements, and to work collaboratively with DHHR to understand the RFP specification. Upon

clarification of a gap, we will modify the requirements to meet expectations, or develop and document a plan to address the gaps in another project iteration depending on its scope, impact, and priority.

Requirements Traceability

A key activity in our approach to requirements is the tracing of requirements. We will develop a Requirements Traceability Matrix (RTM) to make sure that all requirements defined within the RFP have been addressed. Upon your approval, these final requirements will become the basis for traceability throughout the project. The requirements are then used to refine and rebaseline the project work plan as necessary. The RTM will follow DHHR and Optum agreed upon acceptance criteria and meet content requirements from the most current version of the MECT. The RTM will include:

- An **initial version** that will include finalized specifications identifying traceability of subsequent testing. This version is approved upon completion of requirements validation sessions.
- An **interim version** that will include additions or updates approved through change control and clarifications based upon final design specifications.
- A **final version** updated with relevant test cases and test results and related supporting documentation.

Optum will keep the RTM up to date tracing business requirements to design configuration specifications and test artifacts throughout the project life cycle in order to support CMS certification.

Requirements Documentation

In addition to the Requirements Management Plan and the RTM deliverable, we will prepare other requirements-related deliverables, including:

- **Requirements Gap Analysis Document:** This deliverable will follow DHHR and Optum agreed upon acceptance criteria. The gap analysis document will provide guidance on identifying, documenting, and resolving gaps.
- **Requirements Specification Document (RSD):** This deliverable will follow DHHR and Optum agreed upon acceptance criteria. The RSD will establish ownership and the shared understanding of expectations for each requirement.

Details on requirements documentation preparation and content is discussed later within this section.

Approach to Solution Design

Our approach to solution design will focus on design and configuration of new data structures and analytic capabilities identified in approved requirements. We will identify component interaction details and activities, and data flow for the solution. We will outline the detailed logical and physical data model and infrastructure and deployment details for each solution component in the DSD.

We then use that DSD to conduct system design activities for each release as shown in Figure 112.

Figure 112: Design Preview
The design preview process allows iterative design and development based on your feedback.

During system design, we will follow the approved requirements, which details our approach to activities involved in system design.

Building on the iterative design and development, we will complete the remaining solution configurations, documentation relative to infrastructure, architecture, Web services, user interfaces, ETL, data components (such as integration, marts, models, extracts) and reports.

Design Specifications

Specifications will be developed in collaboration with DHHR and include functional and technical subject matter experts. Our design specifications support the business non-functional, and high-level functional detailed requirements gathered. The specifications provide technical details regarding a specific component or components that is or are part of our overall solution. Once the business requirements are approved, technical specifications are developed that translate the business requirements from a business need to a technical need. Based on technical requirements we create an initial design specification that supports both technical and business requirements. The team will then review the initial design with DHHR technical subject matter experts in JAD sessions. Session schedules include morning sessions and afternoon sessions, tailored to covered specifics within session topics. For example, data sources topics will include MMIS EDS data (i.e., member, provider, claims, financial, and prior authorization), PEIA, and HSC data sources. Further details on session can be found in our initial work plan in section Attachment E. The following table shows our anticipated design sessions and topics for the Phase 1 implementation.

Sessions	Topics
Design session 1	Care Management
Design session 2	Data Sources, Delivery & Display
Design session 3	Data Quality
Design session 4	Solution Backup, Disaster Recovery & Failover
Design session 5	Financial Management
Design session 6	Hardware and Infrastructure
Design session 7	Operations
Design session 8	Program & Project Management
Design session 9	Security Management
Design session 10	Training
Design session 11	Service Level Agreements (followup)

The following table shows our anticipated design sessions and topics for the Phase 2 implementation.

Sessions	Topics
Design session 1	Care Management
Design session 2	Program Integrity
Design session 3	SLA
Design session 4	Training
Design session 5	Operations

Based on collaborative feedback from JAD sessions, the initial design may be modified and iterated with additional collaborative review sessions with DHHR. Once the design is agreed upon, we will request approval of the design specifications from DHHR. Final design decisions are reviewed and coordinated by the technical lead and communicated to any impacted functional areas in accordance with the approved Communication Management Plan. We will work with you to develop specifications and coordinate with the necessary stakeholders to make sure all stakeholders are aware of any potential organizational changes.

Review of High Level Design

A key activity in our approach to solution design is a high-level design review during preview sessions. Through design previews, your stakeholders will view a live, working version of the portal and user interface. We will work with you to give you a preview of the solution, gather your feedback, update configurations tailoring to your requirements, and then review the updates with you. The meetings help confirm that we deliver a solution that is in conformance with architecture and design standards.

Design Documentation

We will develop documentation in collaboration with DHHR to support a common understanding for any non-COTS based products. We will use this documentation in conjunction with requirements documentation to provide you with a holistic view of the business solution. Design deliverables will include:

- **System Design Documentation:** Our system design documentation evolves throughout design activities, presented in JAD sessions and as a submission for your review and approval. System design documentation includes:
  - **Preliminary System Design:** The Preliminary System Design documentation will be created to define and describe the solution at a high-level for easy understanding. This high-level design document will include a diagram of the overall architecture including hardware and software components needed to satisfy the requirement, as well as overall flows of data and/or communication between components.
  - **DSD:** We develop detailed system design documents (DSD) for various components within all of our implementations. We develop the DSD to address each technical and functional elements included in the overall design for each component.
  - **Final System Design:** The Final System Design will include implementation details of each component from a functional and technical perspective. This final updated version of the DSD will reflect firewall/architecture in addition to operating system, CPU, memory, disk capacity, and network components.
- **Database Design Document and Data Models:** The Database Design Document and Data Models will help describe the domain and scope of the system by including mapping documents, data definition language, and data models. The database design document will demonstrate the data flow from source to target. It describes the logical and physical design choices and parameters needed and can include topical subject areas within the data model, reference tables, as well as any data mart designs to support reporting.

We will develop design documentation in collaboration with DHHR to support a common understanding for any non-COTS based products. We will use this documentation in conjunction with requirements documentation to provide you with a holistic view of the business solution. Details on design documentation preparation and content is discussed later within this section.

Integrating with the DHHR Enterprise and Other Components

We will meet your EDS data integration requirements through the functions of the OPAHHS Integration Layer. As illustrated by the generalized diagram in Figure 113, we load your data into staging tables and use intermediary tables to perform integration, most often surrounding like entities and/or source systems.

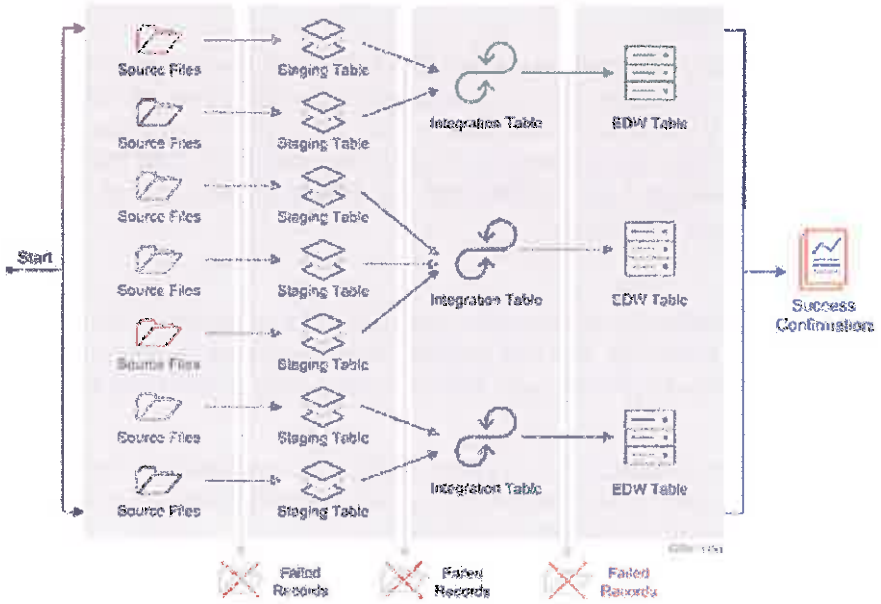


Figure 113: Data Integration Process
Proven and trusted data integration processes prepare and harmonize your data.

The relational data warehouse layer provides the support for business rules, the security model, and governance. The applications and services are configurable through business rules and designed to scale as data demands increase. The integration layer enables us to centralize processes and manage multi-sourced health care data with a cost-effective and highly extensible architecture comprising two key capabilities:

- ETL Services (data ingestion framework)
- Data Enrichment Services (e.g., geocoding and episode of care grouping)

The data integration framework enables creating tables, developing ETL/ELT scripts, scheduling ETL/ELT jobs, loading historical data, managing metadata, establishing data quality monitoring and data profiling process, and setting up user roles and database management tasks.

The OPAHHS data-landing zone supports integration of data from all sources. We provide the ability to store all types of structured, semi-structured, or unstructured data in all formats. Optum collects data on, measures, and optimizes system and application performance to validate consistent and superior response time, enhanced stability, and required scalability.

Our standard monitoring tools capture the availability status of each environment. We monitor hosted environments 24 hours a day, seven days a week, to identify, record, report, and analyze equipment or system alarms and conditions that could lead to abnormal operations.

Fulfilling MITA Requirements

Our Michigan contract demonstrates our ability to deliver a flexible and sustainable platform. Since the inception of MITA, our team has deployed modifications to our Design, Development, and Implementation (DDI) approach and introduced technology enhancements to maintain compliance throughout each of the MITA maturity levels. Over the past decade, our collaboration with CMS helped to transform the MITA vision into a reality.

Our architectural design follows the MITA framework to maintain compliance with standards, such as HIPAA, NIST, as well as State and federal security mandates. As West Virginia

continues with its HIT goals and objectives, our team is confident that the EDS architectural platform will incorporate the flexibility and capacity for DHHR to help meet your overall health goals of the State as they apply to the Medicaid program.

OPAHHS Architecture and Design

We designed and designed our state government solutions using MITA and the CMS Seven Conditions and Standards as our framework. We designed OPAHHS to enable and assist states to achieve the higher levels of business, information, and technical maturity and make certain states receive enhanced federal funding.

MITA 3.0

Our current MITA business processes meet a minimum maturity level of three in all areas. Additionally, we designed the information and technical solution to help enable our clients to achieve a maturity level of four and higher. We take every new business process through the MITA Maturity Model (MMM), using the six measurable business qualities defined by MITA. These qualities are as follows:

- Timeliness of Process
- Data Access and Accuracy
- Effort to Perform Efficiency
- Cost Effectiveness
- Accuracy of Process results
- Stakeholders Satisfaction

During requirements validation and design activities, we will work with you to select existing and define new business processes that will be within scope for this project. We will align each business process to the six measurable business qualities that distinguish performance from one level of maturity to the next to assist DHHR to achieve desired maturity levels in line with your State Self-Assessment (SS-A). We will align each new business process to the five levels of maturity defined by MITA:

- **Level 1** of the MMM includes capabilities to demonstrate adherence to federal and state legislative mandates.
- **Level 2** improves over Level 1 with the introduction of quality improvements and data access with the implementation of technology standards.
- **Level 3** has high use of industry standards for data exchange, and the State Medicaid Agency (SMA) is collaborating with intrastate agencies to improve health care coordination.
- **Level 4** introduces the intrastate and interstate exchange of clinical information.
- **Level 5** is defined by seamless coordination, real-time processing, and integration of state and federal agencies.

As shown in the following table, OPAHHS meets or exceeds the MITA 3.0 maturity Level 3 across the CMS Seven Standards and Conditions.

CMS Seven Standards and Conditions	Maturity Level Assessment
Modularity Standard	3
MITA Condition	3
Industry Standards Condition	3
Leverage Condition	3
Business Results Condition	4

CMS Seven Standards and Conditions	Maturity Level Assessment
Reporting Condition	4
Interoperability Condition	3

Modularity Standard

OPAHHS meets the CMS Modularity Standard. OPAHHS will be a core component of your Medicaid enterprise and is a modular, configurable, and MITA 3.0-aligned solution. The OPAHHS technology stack includes industry-leading components integrated within a cloud-hosted environment and business intelligence and data integration tools. These tools enhance access and delivery by providing open standards-based and SOA-capable components. Additionally, our solution uses a combination of data presentation technologies for business and data science. For production level reports, we include business intelligence tools with an intuitive browser interface and powerful ad hoc features. For data visualization, we use a leading industry server tool and web-based user applications, which provide the technology to render meaningful visuals on a various devices. For data science technologies, we provide business intelligence advanced analytics tools and integration with common desktop tools such as Microsoft Excel.

Leverage Condition

OPAHHS was specifically designed to meet the CMS Leverage Condition. While the initial deployment is typically focused on supporting a state's Medicaid program, OPAHHS can support the entire Medicaid enterprise, including other HHS programs and other state agencies. For example, in the State of Michigan, our solution meets the CMS Leverage Condition by supporting multiple programs and incorporating data across the enterprise. Additionally, we were praised by DXC on how our process, procedures, and experience expedited the EDS certification process in Arkansas. OPAHHS will also support interstate sharing of transactions, which can further advance your capability maturity to Level 4. OPAHHS is an enterprise capable solution that has been designed to be scaled up and leveraged across your entire ecosystem.

OPAHHS standardizes Medicaid data, which further advances your Leverage Condition maturity. By conforming incoming data to a standard format, you can leverage the data across a multitude of business domains. OPAHHS enables this by making the metadata available to all users.

Additionally, the technical components of our solution provide bi-directional leverage opportunities. The technology stack supporting our solution is based on commercially available, industry leading technologies beginning with the physical computing and storage platforms and extending up into the operating system layers. The same is true for middleware and database platforms. OPAHHS components will leverage other data and systems and, in turn, our components will become candidates for other systems to leverage.

Business Results Condition

OPAHHS meets the CMS Business Results Condition. As your EDS solution, OPAHHS will be a major component in helping you to improve your Medicaid enterprise business results. The Business Results Condition relates to the timeliness and effectiveness of your business processes. OPAHHS actively serves your business processes by hosting the data within the data warehouse to support batch and near real-time updates. You can use OPAHHS's robust analytic tools and methods to isolate business processes and even sub processes to perform analysis for efficiency and quality improvements. This ability will enable accurate root cause analysis and correlation studies to identify and prioritize opportunities for business process

improvements. This kind of process analysis can be extended to the broader DHHR enterprise, as well as to other agencies and programs.

The opportunities to improve business process results can extend beyond the MITA business processes and into all of your programs and other state agencies if so desired. Not only will this enable a capability maturity Level of 4 for the Business Results Condition, it will also work to sustain a Leverage Condition maturity of Level 3 or greater.

OPAHHS provides the information and technical capabilities that must first exist to improve the Business Results Condition that is data driven. Furthermore, the analytic tools will allow you to build and consistently provide dashboards that monitor key metrics and performance metrics adherence. This will enable you to make your process improvement efforts enduring and, in fact, improve the auditability of your processes. OPAHHS has the ability to automate alerts to warn when service thresholds are at risk of not being met, allowing for corrective actions to be initiated before a service level is breached.

Reporting Condition

OPAHHS meets the CMS Reporting Condition. In fact, our self-assessed maturity level for the Reporting Condition is a Level 4. The solution will store cleansed and enhanced data and provide extensive analytic capabilities, dashboards, pre-defined and ad hoc reporting capabilities, and performance measures.

Through SOA-based tools, OPAHHS can expose the data that is necessary for oversight, administration, evaluation, integrity, and transparency. Dashboards, interactive visualizations, and pre-defined reports can be accessed through our Web-based portal. You will have appropriate drill-down capabilities to see the details behind each dashboard measure. Reports can be scheduled and distributed automatically internally or externally through the OPAHHS integration services and Web services portal.

Interoperability Condition

OPAHHS meets the CMS Interoperability Condition. The benefit of interoperability is to allow for a high degree of coordinated interaction in order to maximize value and minimize burden and costs to providers, members, and other stakeholders. Interoperability provides for effective, efficient, and timely communication within the DHHR itself and externally to other systems. This communication may include providing interoperability with future external system needs such as public health agencies, human services programs, and community organizations providing outreach and enrollment assistance services. In the future, OPAHHS could also interoperate both within the state and, eventually, across states and with the federal government. It is designed for this purpose and current users are finding the extensibility of this system to be well beyond its originally intended Medicaid-centric purposes.

OPAHHS also gives you the ability to exchange data directly with internal and external clients and systems. Our information architecture facilitates the exchange of data by addressing and providing data semantics, metadata, data governance and ownership, as well as data security and privacy policies.

Documentation During Solution Planning and Solution Design, Testing, and Operations

Our approach to documentation is an integrated process within our project management framework and SDLC. The approach provides a transparent and collaborative partnership with the DHHR and other stakeholders, and will foster open communications and promote cooperation for a positive working relationship. We have reviewed your deliverables identified in

RFP Appendix 2, and will meet with you to define deliverable acceptance criteria, make sure it meet the required content expectations, and aligns with the most current version of the MECT Appendix B Required Artifacts List.

We will strengthen our approach with the knowledge we acquired during our WV PATH project. Optum has been working with DHHR for the last three years and understands the Department's documentation expectations with regard to schedules, agendas, and priorities. We will leverage templates from the WV PATH project where possible. This will help us fulfill your project goals and objectives in a cost effective and efficient manner.

During planning activities, we will meet with you to define and confirm acceptance criteria. This collaborative meeting helps make certain that the deliverable documentation meets your expectations. During the meeting, we will review deliverable completion dates and time of deliverable receipt. The applicable deliverable details will be included in the final Documentation Management Plan. Throughout the project life cycle, we will submit deliverables that align with the content descriptions and milestones identified in the RFP Appendix 2.

Prior to submission for DHHR approval, documentation will be peer reviewed to verify quality. Our quality assurance standards include the following checks:

- Content relevance to the project and requirements
- Business and technical writing standards
- Grammatical accuracy
- Internal approvals

We understand deliverable review takes your time and attention and we have an approval cycle that provides you with the time needed to carefully review the documents. The deliverable review process includes a 10/5/5-day requirement for delivery of deliverables. This means that we will provide 10 business days for DHHR to review the deliverable. Upon submission of the deliverable, we will conduct a walkthrough with you to review the deliverable at a high level. This review process will provide you're the assurance that the deliverable meets specifications. At the conclusion of the review, you will provide Optum with a notice of approval, a notice of conditional approval or notice of additional actions necessary to complete your review within 10 days. We will then have up to five business days to complete our revisions and submit an updated deliverable. With the second submission, the Department will have five business days to confirm the updates and provide final approval of the document.

The following table shows the deliverables we will submit during Solution Planning, Solution Design, Testing, and Operations.

Solution Planning, Solution Design, Testing, and Operations Deliverable Documentation			
Data Management Plan (including Governance and Quality)	Security, Privacy, and Confidentiality Plan	Detailed System Design (DSD) Document	Regression Test Results
Incident Management Plan	System Backup and Record Retention Plan	Disaster Recovery and Business Continuity Plan (DR/BC)	Reports and Forms Inventory
Master Test Plan (Testing Management Plan)	System Requirement Document/Backlog User Stories	Federal Certification and Review Management Plan	System Integration Plan
Privacy Impact Analysis	Business Process Models (BPMs)	Interface Inventory	System Integration Test Cases
Requirements Gap Analysis Document	Capacity Plan	Load and Stress Test Cases	System Integration Test Results

Solution Planning, Solution Design, Testing, and Operations Deliverable Documentation			
Requirements Management Plan	Configuration Management Plan	Load and Stress Test Results	Training Management Plan
Requirements Specification Document (RSD)	Data Conversion Plan (DCP)	Operational Readiness Plan	User Acceptance Test Cases
Requirements Traceability Matrix (RTM)	Data Conversion Test Cases	Operational Readiness Test Scripts	User Acceptance Test Results and Letter
Safeguard Procedures Report (SPR)	Data Conversion Test Results	Operational Readiness Test Results	
Security Plan	Database Design Document and Data Models	Regression Test Cases	

2.2 Solution Development Methodology

During the Development Phase, the Vendor's system development team should take the detailed logical information documented in the System Design Phase and transform it into an executable form to ensure that all individual components of the automated system/application function correctly and interface properly with other components.

The Vendor's proposal should describe the Vendor's System Development methodology. Include in the response a description of what the Vendor believes will be an effective system development methodology (e.g., Waterfall, Rapid Application Development) for both the Vendor and for DHHR during the implementation of the proposed solution.

The Vendor's proposal should present a narrative description of the Vendor's proposed approach to solution development, including the Vendor's proposed:

- Software/hardware solution, including a description of the solution's ability to accommodate the current and future business and technical needs of DHHR's Medicaid Enterprise. The solution should also describe the methodology and approach for the following:
    - Regular system maintenance, performance optimization, resource capacity utilization, capacity planning, and capacity expansion
    - Compatibility of all hardware, software, or communications components installed for use by DHHR staff with the most current WVOT-supported versions.
- Methodology and approach for implementing and maintaining solution documentation, including data structures, Entity Relationship Diagrams (ERDs), user manuals, BRE, and all other documentation related to the EDS platform, operating system, and programming language
- Methodology and approach to preparing, maintaining, and distributing user documentation for each business process, including a description of how it is to be used as the basis for User Acceptance Testing (UAT) and training, as well as the use of final versions for training before the start of operations
- Methodology and approach to programming and unit testing on all system functions to ensure that a single component can function correctly on a standalone basis
- Methodology and approach to ensure that the developed solution meets design criteria

- Methodology and approach to ensure installation and enhancement or modification of the components of the proposed solution meets the specifications developed and approved by DHHR.

Optum Response:

System Development Methodology

As discussed in Section 1, Project Management, the Optum Delivery Model (ODM) governs our project management and system development methodologies. We will apply our standards-based ODM to the incremental DDI of the EDS. Our approach goes beyond the usual industry standards of most vendors. We include structured, repeatable processes that we developed over 25 years of delivering and supporting data warehouses and analytics solutions. For example, we developed our model by integrating Project Management Institute (PMI) PMBOK framework strengthened by waterfall methodology concepts, and SAFe principles.

Like you, we recognize that a sound plan and phased approach to system development is vital. Our approach will allow you to realize the benefits of a truly modular solution on a faster timetable. At the same time, it will enable further growth and reporting of enterprise data over a longer period. This will give you access to the EDS capabilities very early in the project so you can provide your input and feedback. Our best practices will also help us design and configure functionality rapidly without sacrificing quality.

As discussed earlier in this section, our SDLC will support the review, test, and validation of our solution. Included in our proposed project schedule are the tasks of our SDLC methodology for review, comment, and approval by DHHR.

Approach to Implementing and Maintaining Solution Documentation

We will establish a LifeRay Document Repository during the project planning activities. The repository provides full version control of project documents and artifacts. Our repository will maintain version control and provide our team, DHHR, and other DHHR-designated stakeholders secure access to key project documents. The repository will be an important tool for collaborating with you and with other authorized stakeholders. We will architect and manage the repository as an online solution for storing all system documentation and derived project artifacts for the life of contract. The following table shows examples of our solution documentation.

Solution Documentation Examples	
Project deliverables	Scheduled and ad hoc reporting performance
System documentation and maintenance	Risk and issue tracking documentation
Network and system performance requirements and reports	Policies and procedures
System design documentation and decisions, business process models, workflow designs	Meeting minutes, agendas, work plans, schedules and calendars
Administrative management artifacts and reports	Stakeholder contact information
Data structures, Entity Relationship Diagrams (ERDs)	RFP and proposal documentation
Training documentation	User manuals
Change orders and change control artifacts	

We will provide accurate and comprehensive system and technical documentation, reflecting your specific requirements. System and technical documentation will be reviewed for appropriate technical level for the intended audience. We recognize that many users do not have a technical background, so we will provide deliverables that are appropriate audiences

who lack technical backgrounds. For some of the complex technical documents, such as a logical data model or system architecture diagram, we assume the DHHR reviewers have the appropriate background to understand such documents.

We will create and maintain detailed technical documentation relating to all solution applications within the deliverables you have identified in the RFP using DHHR approved language for continuity. This includes the database components such as the data model, table structures, entity relationship diagram, data flows, security controls, and data dictionary available online to DHHR.

Optum will maintain and update the physical models to reflect the most current versions after each change. The model will be versioned and kept with the corresponding system deployments. We will complete conceptual, logical, and physical model updates within ten business days prior to implementation of the change and published to users at the time of implementation per the documentation process.

Available online through document repository, the easily searchable data model document will provide a user-friendly way to view the relationships between database objects, contents, format, structure, and content description.

We will develop separate maintained interface control documents (ICDs) for all data sources. These will detail what data is being sent or received from which source, including code sets (possible values and their meaning for categorical variables), frequency, and error correction protocols. We will also develop a comprehensive data dictionary that details what is in the enterprise data model, including code sets implemented as lookup tables. The metadata management and business glossary tool included in OPAHHS will facilitate much of the work creating this data dictionary. This data dictionary will include the information in the database schema, plain English name for each field, possible codes, meaning of each code, and the source of the data. We will document the procedures in the OPAHHS technical documentation. Our solution's data dictionary will be available online and searchable as well. The metadata will be updated and published as updates are implemented and with an agreed upon frequency with DHHR. We maintain and will make available all third-party product documentation in our proposed solution.

Our document repository provides an easy-to-use, familiar user interface that will support the capabilities for document routing. We will collaborate with DHHR, state PMO and other DHHR-identified suppliers and stakeholders to propose, implement, and maintain standard-document management and sharing.

We have successfully implemented and operated document management repositories on several government and commercial Medicaid-focused projects. In California we use a document repository for both internal and external users, depending on authorization, have access to design, data model, user training, and metadata documentation. In this one broad, searchable repository our client has access to past user group presentations, newsletter articles, FAQs, webinar PowerPoints, and extensive COTS documentation. Figure 114 displays an example of our customer's repository for the data warehouse project.

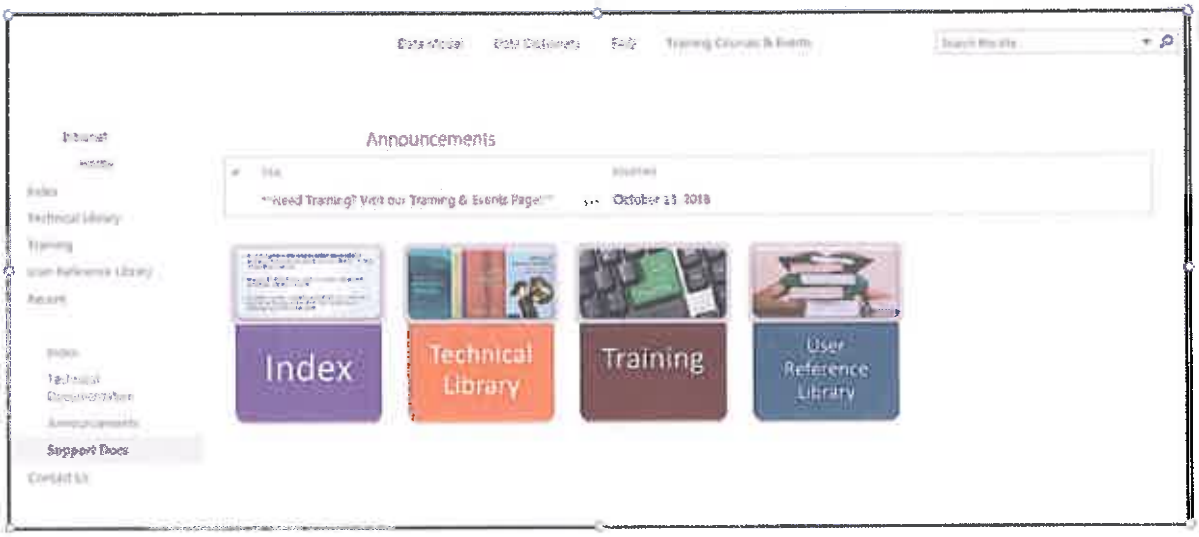


Figure 114: Example Project Repository
Our repository provides secure and searchable access to DDI and operations deliverables, procedures, and project artifacts.

In Arkansas, we created various document repositories to share documents with the State. The use of document repositories enables us to limit access to key personnel. For example, we created a repository specifically for MECT to store and share Certification documents with the State. Since some of these documents contain PHI, access is restricted to Optum, State, and IV&V staff participating in the certification effort. Technical documents, CMS checklists, and submitted documents are also captured for easy access and subsequent reference. Additionally we also created a secure repository to store SIT and UAT test results documents and reports.

User documentation

We will prepare, distribute, and maintain user documentation following the guidance of our approved Documentation Management Plan. The plan includes our approach to developing user documentation, process for conducting internal reviews, DHHR acceptance criteria, deliverable access, distribution control, and intended deliverable use.

The user documentation will written in easy-to-understand language and organized in an intuitive and easy-to-navigate manner. As part of our quality review process, we will perform readability reviews and analyze grade level and other readability scores to make certain that readers at all levels can understand written content. We will incorporate screenshots to illustrate functionality, walking the end user through each step in a business process, illustrating inputs as well as outputs. Each data element in the screenshot will be identified by number and defined in a legend. Within the manuals, we also incorporate FAQs and support contact information. User documentation will be stored in our Liferay document repository. The repository provides full version control of user documentation.

The UAT team can use the document repository to locate project specific documentation needed to conduct UAT such as requirements, design, test scenarios and cases, user training, and metadata. Throughout our contract tenure, DHHR business users will be able perform UAT to validate that downstream enhancements or modifications meet requirements and function as designed. Our team will draft all UAT scenarios and cases per DHHR direction. DHHR will be responsible for identifying the participants involved in UAT, for the overall execution of UAT scripts, and for any ad hoc UAT testing.

Software/Hardware Solution

The proposed high-level solution in Figure 115 is a cloud-based solution that can accommodate, scale based on current and future needs of DHHR's Enterprise, and most current WVOT supported versions.

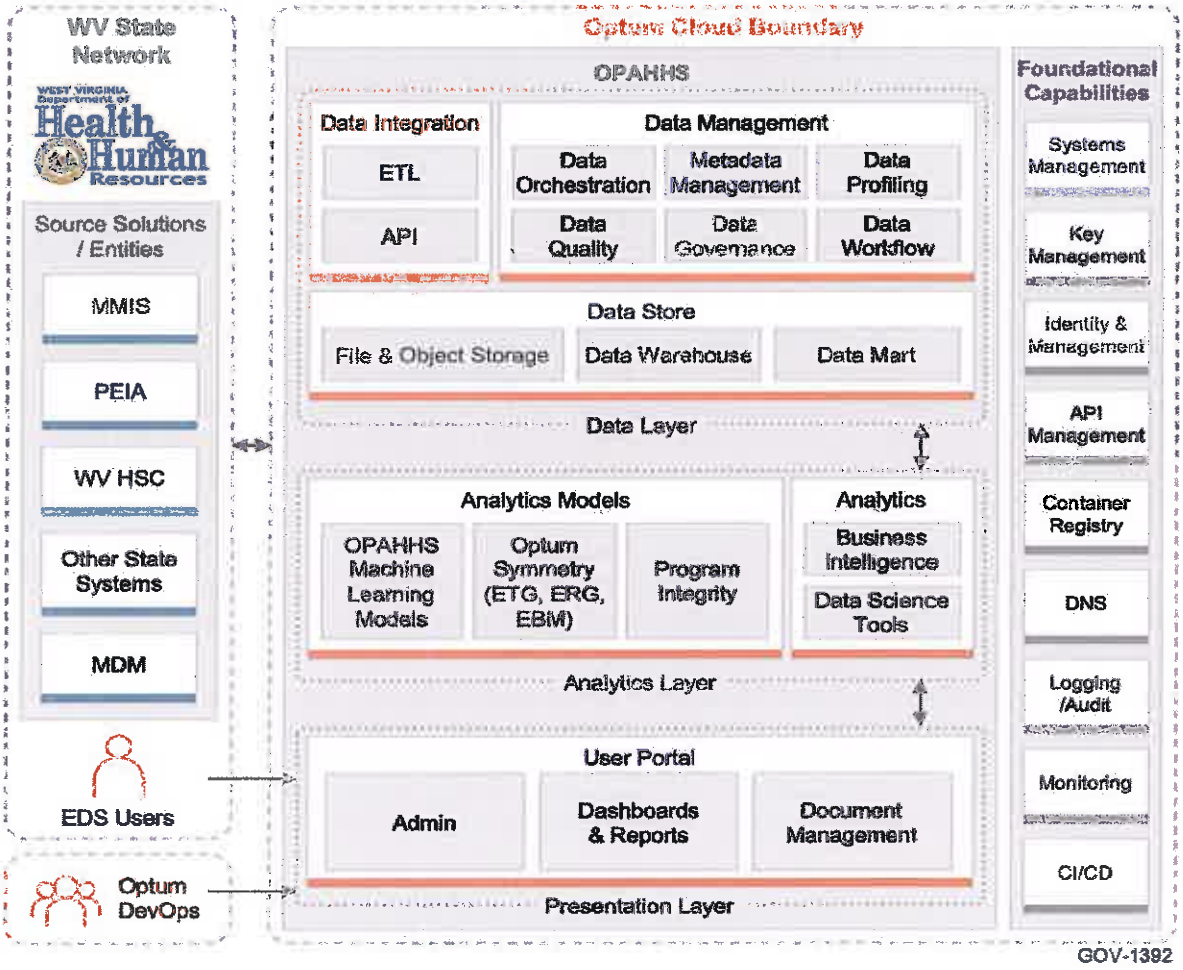


Figure 115: OPAHHS Architecture Diagram
Our proposed solution accommodates multiple data sources, data management processes, analytic tool sets and outputs to satisfy current and future needs.

Our approach to infrastructure includes implementing our integrated health care data warehouse platform in a flexible hosting environment. OPAHHS will use the infrastructure available in the FedRAMP-certified Azure hosting environment. Our hosting environment's infrastructure provides flexible, modular component scalability. This flexibility will help us provide you with full lifecycle infrastructure support and recovery in the event of component failures. We designed OPAHHS using open standards and configurable COTS components. OPAHHS supports scalable, timely sizing of infrastructure components by allocating the resources needed to meet your availability, uptime, and performance requirements.

Our component-based, SOA approach will support a "Build Once, Reuse Often" strategy. We will leverage our high-performance hosting environments and services, SOA, and secure

infrastructure for our architectural approach. Your EDS will be responsive to change and maximize your return on investment.

System Maintenance

We selected Azure as the cloud infrastructure for OPAHHS because it is designed, managed, and aligned with global and regional regulations, standards, and best practices. Our proposed solution covers the cost of all software, hardware and infrastructure maintenance and operations necessary to fulfill the requirements of this RFP. We will incorporate your operational support requirements by setting the periodic maintenance schedules.

Upgrades

Our approach to system maintenance and upgrades centers on maintaining stability and preventing unexpected outcomes. We focus on predictable performance described as follows.

Version Control and Patches

We will operate in compliance with relevant state and federal security laws and regulations related to the services we provide to our clients. We continually track and analyze new and existing privacy legislation and update existing security processes as appropriate to support compliance. Our Security Operations and Management team assists with vulnerability scans and threat remediation. The team also reviews new application deployments to minimize introduction of new threats into production environments.

We evaluate vulnerabilities and patches for software under our control, rating their severity as it relates to our environment and communicate this information to our companion services and operational teams. In addition, we monitor the information system compliance with our vulnerability and patch management standards.

When a severity rating is assigned to each of the released patches, we will communicate the information to DHHR and known operational contacts responsible for the products in a bulletin on a regular basis (e.g., standardized summary of releases). Vulnerabilities and patches with high priority ratings are communicated accordingly since they demand faster remediation. Remediation is to be completed by the product owners in the time frame associated to the patch rating.

Our team will perform the appropriate testing in a non-production environment before applying patches to the production environment. Changes to the production environment must be submitted using a formal change control ticket. Changes must include a back-out plan in the unlikely event the change needs to be reversed.

Security-related upgrades are conducted based on vulnerability recommendations. Otherwise, they are timed to facilitate periodic platform lifecycle management activities.

Upgrade/Replacement Plan

Optum subscribes to a number of advisory alert services for patches. We evaluate vulnerabilities and patches. We rate their severity as it relates to our environment and communicate that information to our companion services and operational teams. After we assign a severity rating (i.e., Priority 1 through 5) to each of the released patches, we will communicate the information to DHHR and known operational contacts responsible for the products in a bulletin (i.e., standardized summary of releases). Generally, this occurs once a week. We make exceptions for vulnerabilities and patches that receive a Priority 1 or 2 rating. We will communicate these vulnerabilities and patches to DHHR immediately for Priority 1 and within five business days for Priority 2 since they demand faster remediation. Server product

owners will complete remediation in the time frame associated with the patch rating. For lower priority patches, we will notify DHHR and present a plan to include the upgrade or replacement in our security patch releases within 20 business days of becoming aware of the notice.

We will apply security patches to our systems at least quarterly and according to the DHHR approved security and upgrade schedule. We will perform appropriate testing in a nonproduction environment before applying patches to the production environment. Changes to the production environment must be submitted using a formal change control ticket and must include a back-out plan in the unlikely event that such changes need removal.

We will work with you on scheduling periodic releases and implementing critical changes according to the DHHR-approved upgrade or replacement plan. These could include changes for system fixes or meeting CMS change deadlines. After a change has been tested and approved by DHHR, we will schedule implementation. We will work with the appropriate DHHR personnel to implement change requests when they will have the least impact to the project. Because our solution is a configurable, COTS-based solution, we will perform most changes through configuration updates. This significantly reduces the risks associated with change implementations.

System patches and minor COTS updates are generally applied on a weekly maintenance schedule. This helps us analyze and monitor for any adverse impact separately from data updates. For critical or urgent updates that cannot wait for the weekly update, we will coordinate them with you and apply them as quickly as possible. Critical or urgent updates are usually security-related. Major updates are assessed and scheduled to occur with or a maintenance release monthly. These updates frequently involve substantial user communication and may require additional training. Regular network and infrastructure patch releases are generally scheduled quarterly.

Performance Optimization

Our approach for identifying EDS optimization opportunities is based on leveraging multiple data inputs and views, which drive analyses across the overall system. These facilitate recognition of and rapid response to performance and functionality opportunities as well as issues relative to cataloged metrics, KPIs, and SLAs. Our cloud and application monitoring tools continually collect data for EDS components, which in turn suggest areas for improvement. For example, by effectively categorizing the priority of data sources, we have many times identified ETL performance improvements for our EDS clients. We also use incident and problem reports to identify less obvious performance or functionality issues, such as report timeliness or quality. These reports enable our integrated staff of clinical, business, and technical experts to mine service requests for indicators of potential problems.

Resource Capacity Utilization and Planning

EDS Administrators will monitor metrics to confirm performance and capacity meet expectations by using system reporting tools. These tools will also be used for capacity planning to support future needs. We will work closely with the DHHR staff for performance and capacity needs. Administrative tools to monitor performance and capacity include:

- **Processor Speed – Clock speed of processor:** Our performance management tools provide dashboards and detail reports for this and other KPIs on VMs.
- **Storage Capacity – Temp or persistent storage, Disk, RAM, Storage Area Network:** Our performance management tools provide dashboards and detail reports for this and other KPIs on virtual machines.

Compatibility

Our OPAHHS architectural design objectives are based on an evolving set of best practices for delivering a flexible set of COTS components. Integrated through open standards, these components remain compatible to any hardware selected. A set of logical virtual services support the business functions provided through the COTS components and are configured to enable future growth while protecting and extending your investment. An example of this is the ability to deploy OPAHHS in state-owned data centers, an Optum hosted data center, or commercial cloud providers, such as Azure.

While monitoring hardware, software and communication version upgrades and patches administrators will evaluate the compatibility across dependent software and hardware to confirm DHHR and its partner vendors can safely and effectively move forward with the upgrade. If all dependent software are compatible then it will be recommended to move forward with the upgrade to DHHR and its partners. However, if there is a conflict where dependent software is not yet compatible with a newest software version then the EDS will coordinate with DHHR and its partners to discuss the dependency and define a feasible upgrade schedule.

Programming and Unit Testing

Our developers will work closely with business analysts to understand the requirements and review the intended design in order to program/configure and unit test each system component. Once the developer has completed development the developer will conduct unit testing to determine if the tested component performs as expected. Additional testing can take place if dependent processes exist, to determine if they function appropriately in conjunction to the newly developed or modified component. After the unit testing produces results that are as expected then the programming and unit test results are peer reviewed before moving to the quality assurance team for system integration testing or more intensive testing. Additional information on unit testing may be found in Attachment I, Section 4, Testing.

Confirmation of Design Criteria and Specifications

Our design specifications provide technical details regarding a specific component or components that is or are part of our overall solution. Once the business requirements are approved, technical specifications are developed that translate the business requirements from a business need to a technical need. Based on technical requirements we create an initial design specification that supports both technical and business requirements. The team will then review the initial design with DHHR technical subject matter experts in JAD sessions. These sessions provide stakeholders the opportunity to confirm the design criteria. Design criteria is documented in Database Design Documents and Data Models, and the Detailed System Design Document. These deliverables follow the agreed upon accetance criteria and are are reviewed and approved by DHHR.

2.3 Data Conversion Strategy, Approach, and Timeline

The Vendor's proposal should describe what the Vendor believes to be an effective data conversion strategy and approach for supporting migration of data from the current solution (***Section 4.3: Background and Current Operating Environment***) to the proposed solution (***Section 4.4: Overview of Expected Medicaid EDS and Supporting Services***). The Vendor's proposal should also describe how the Vendor will ensure data integrity and consistency through all phases of the project.

Optum Response:

Effective Data Conversion Strategy and Approach

We developed our strategy and approach to data transfer and conversion based on our experience performing conversions for our state government clients. We have 25 years of experience implementing and operating data warehouse and FADs solutions and understanding their data sources. Our experience has given us best practices and proven processes we will use to transfer or convert data from your Medicaid data warehouse to the new EDS.

Our data conversion approach involves the planning and development, testing, migration, and conversion of all data and files required to support the implementation and operation of the West Virginia EDS. Successful data conversions begin with a full understanding of the character and purpose of the data in both the source and target systems. With this understanding, we will transpose this information into conversion, testing, and execution specifications.

It is vitally important that no data is lost in the conversion and loading process, as every future The key to successful data conversion, particularly one involving a Medicaid enterprise, is preserving information from the source transactional data while rendering the data in an optimized format for analytical usage in the data warehouse.

During planning activities, we work with you and your stakeholders to request data source inventories, layouts, data dictionary and sample data from your current vendor. We use the inventories and samples, to conduct data source discovery meetings. We have learned that early data profiling allows us to make sure source data is meeting our quality expectations, and helps prevent data quality issues later in the project. This proactive approach has been used successfully on all our EDS projects.

Data Conversion Plan

The plan will document and guide our approach and activities for the iterative conversion and on-going ingestion, where applicable, for all of your designated data sources. Throughout our plan, we include details to identify, describe, and define our data conversion process. We will use the potential data sources or entities listed in the to-be EDS environment as a baseline for conversion sources. The plan will also include considerations for data integrity and DHHR and federal security and privacy requirements. The Data Conversion Plan will contain our proposed conversion methodology, which includes the following major activities:

- **Source Data:** We will review the source data structures, the source data dictionary, and layouts to determine the appropriate data elements that should be available to your users with input from subject matter experts, users, and staff. We will convert the historical and active data, including EDS-related reports, letters, and imaged documents that are needed by and applicable to the solution.
- **Staging Data:** Data extract files will be loaded in the staging area of the SQL Server environment for further processing. In the staging area, we will profile and analyze the data for accuracy, formatting and content. We will present and discuss the results with you.
- **Data Cleansing:** We will share the profile analysis results and, if necessary, participate in developing data cleansing rules for any data anomalies that do not agree with expected values. A data quality assessment will be conducted, with any data quality issues (such as garbled content, invalid record relationships, data type redefinitions, invalid content)
- **Data Mapping:** Our team will document the mapping required from the source system to OPAHHS using the erwin data modeling software, which helps identify the data relationships that are part of data lineage analysis. Any approved data cleansing rules will be invoked as

we perform data mapping. Data mapping activities will result in the Data Conversion Specifications and Mapping document.

- **Data Transformation:** We will transform the data based on agreed-upon specifications and produce exception reports as required. In addition to format conversions, we will add additional fields, such as indicators, to aid in reporting. Then, we create tables with business rules that create certain summarized data files for more efficient performance.
- **Testing and Verification:** The verification process will be continual and iterative. This is required to control the initial and on-going data transformation and quality assessment processes. We will conduct unit testing through acceptance testing throughout the data conversion lifecycle. Before the final target loading, we will load and verify a subset of the data in a test database.
- **Final Target Loading:** Final target loading will start from scratch on a production database with proven data conversion procedures. We will collect target audit statistics and verify them against source data statistics and expectations. The target database will load to the approved and tested model with tested, profiled, and transformed data.

Figure 116 illustrates a checklist of the information we will address in our Data Conversion Plan.

Figure 116: Data Conversion Checklist
A successful conversion requires a methodical approach with experienced staff using proven tools and processes.

We will submit the Data Conversion Plan to DHHR for your review and approval.

Data Conversion Process and Tools

Our conversion processes will preserve the data as received from the source systems, where required, and move them beyond the staging area. In these situations, we will apply approved transformations to retain the original content and data values. We will store the new data in different tables or additional columns within the existing tables in the integration layers and the data warehouse target. This will maintain your original data while allowing for data quality analysis and other data governance activities, particularly for source systems. Figure 117 shows our process for handling data sources.

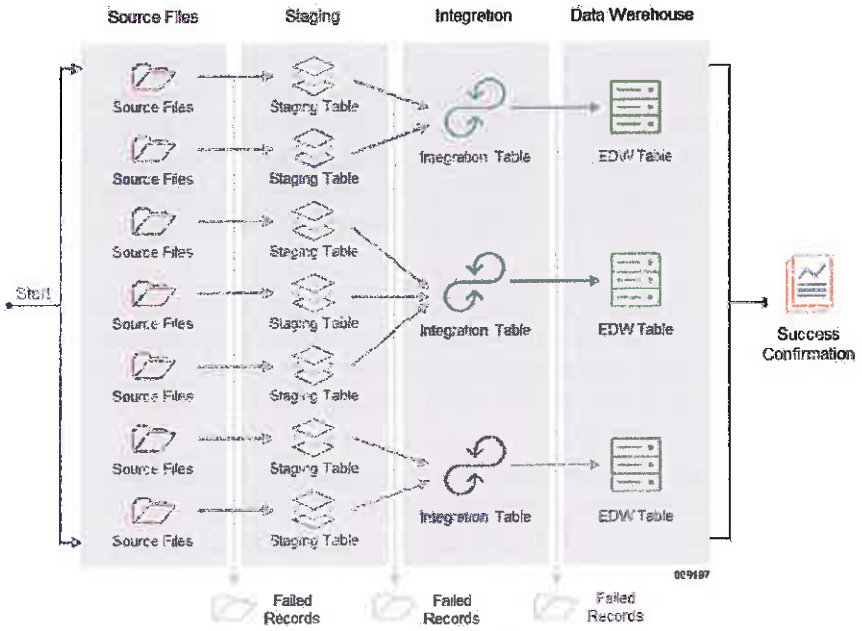


Figure 117: Data Transfer and Conversion Process
Our proven, trusted transfer and conversion processes will give DHHR oversight of your source data.

Optum uses industry-leading tools and proven data conversion processes to support the key activities comprising the data transfer and conversion effort. These tools will be in use for both development and operation according to our DevOps methodologies. These tools are already infused with our baseline configuration and architectural concepts.

We use Informatica PowerCenter to provide the capability for you to access any data required, when desired, in defined formats and structures regardless of its source. With PowerCenter, we can synchronize data from operational and transactional systems with consistent and accurate information. This will drive better, timelier analytics and business decisions. As a baseline offering, we propose accepting files of various formats in batch mode.

Informatica PowerCenter provides a collaborative development environment were our team of ETL specialists has command of the data and its attributes. PowerCenter allows us to access required source systems and data submissions. It integrates with the other aspects of our toolset. The following table lists the proposed Informatica software packages relevant to data transfer and conversion.

Informatica Component	Key Functionality
PowerCenter Advanced Edition, with SQL Server, Tableau and Azure Block Blobs connections	Extract, Transformation, and Load as well as data ingestion
Data Quality Advanced Edition	Data quality and profiling
Axon Data Governance; Enterprise Data Catalog; Metadata connectors for SQL Server, erwin and Tableau	Data governance and metadata management
Test Data Manager	Test data subset preparation and persistent data masking
Address Doctor / Geo Coding	Address validation and longitude and latitude coding
Master Data Management	Master data management and integration of common data coming from multiple sources
Multi-Product Lab License	Development and test of conversion and on-going conversion/ETL and data transfer functions

Data Mapping Methodology

We will document the mapping required from source values and formats to the EDS and supporting data model. We will use erwin and Informatica data modeling and mapping tools to do this. These tools help identify the data relationships that are part of data lineage analysis. Data mapping activities will produce data conversion specifications and data conversion mapping documentation. This documentation will provide overall technical coordination of the data conversion functions and the conversion rules used for each subject area source-to-target mapping.

Our approach emphasizes shared components, out-of-the-box transformation routines, and the use of existing designs from our knowledge base. Our deliverables serve all audiences, including business and project management readers and technical metadata experts. Everyone can view the documentation as the authoritative and up-to-date source of data conversion and transformation knowledge for the EDS.

Optum will convert the historical and active data, including all reports, letters, and imaged documents that are needed by and applicable to the EDS. As introduced previously, our conversion approach employs a hybrid waterfall and Agile methodology that includes iterative aspects of design and development for key OPAHHS components. The common theme of iterative conversion runs throughout our planning. We start with a central scope area (e.g., a particular claim type) and run iterative conversion steps and tests that subsume more and more claim types. Similarly, we work from small to large data volumes. We will convert, test, analyze, and repeat the conversion process until your quality objectives are met.

Data Extraction and Loading

After completing the conversion/transformation activities, we will move data to the target database. Loading the converted data from the staging files into the system database will consist of running the files through a set of ETL processes to load the data into test and production tables.

Data validation occurs before and after loading. We will follow processes that count the records and fields in the input files. These record and field counts can then be balanced to verify that no data was excluded during the loading process. When the data is loaded, we will perform further data integrity checks to validate that the newly loaded data displays correctly for the user.

Test Extractions

At each step in the ETL process, we will conduct quality checks to validate the accuracy of converted data against source data and the transformation rules. In addition to statistically significant sample size audits to check for outcome violations on various data elements, we will verify count balances at the file and table level and perform unit and system testing for conversion and load programs.

We will identify all subtasks and deliverables related to conversion testing in the work plan and address them in the Data Conversion Test Plan, which will include the following:

- Development and execution of unit and system testing for all conversion and load programs
- Quality check procedures
- Post-conversion data testing and auditing
- Objective pass/fail criteria or metrics, as appropriate
- Conversion Test Results Document

Data Validation Rules and Process

Our conversion approach fully accounts for a comprehensive data validation process and set of rules, such as those defined in the RFP. We document these rules and procedures as an outcome of data mapping, including the following data conversion documentation:

- **Crosswalks:** These confirm the standardization of values.
- **Problems and Problem Resolution:** If problems are encountered in the conversion process, we will capture the problem and corresponding resolution in a load issue log.
- **Pre- and Post-Data Conversions - Manual and Automatic:** The conversion process will not affect the integrity of the data received from the source systems. Whenever approved transformations are applied, we will retain the original content and data values using additional tables or columns within the same table.
- **Dependencies – Entity Relationships:** We will identify and document these within the erwin data model.
- **Outstanding Issues and Final Results:** We will document and track these in an issue log.

We will create Excel spreadsheets to store metadata on all converted data and then import the metadata into Informatica Metadata Manager, a component of MDM Data Governance. From Metadata Manager, we can then extract conversion rules into a number of formats, including text files and XML reportable formats.

We will configure our OPAHHS data handling rules and procedures to accommodate the unique characteristics of the source data and operational parameters. Our operations will account for aspects of inter-organization communications, including the disposition of data feeds and issue management.

Data Aggregation and Consolidation

Our data modeling, metadata management, and approach to transformation reveal further optimization. We have refined our baseline data models based on years of warehousing and enriching health care data experience. They are extensive and flexible. In our many customer sites, we support multi-million and billion+ row claims and encounter data warehouses with actively maintained adjustment history. We maintain data so that update history is available through date stamps and, where necessary, dimensional history. We accumulate this history from source system updates and our data-enrichment steps.

We also optimize for retrieval and analysis. We understand that the West Virginia EDS will support many enterprise functions, ranging from ad hoc analysis to standard summary reporting. Our experience in building and operating reporting, analysis and extraction tools makes our solution easy and intuitive for authorized data retrieval.

In previous sections, we described the process we use to analyze data transformation requirements and to perform design activities. The following explains features of our solution that address your requirements for converting and transforming data; creating and using master data elements; and enriching the resulting data for your authorized users.

Data Integrity and Consistency Through All Phases of the Project

OPAHHS uses the same enterprise ETL and metadata management tools and specifications for one-time data conversion, as well as for on-going data transformation. We implement and document a scalable data acquisition service. We acquire all necessary historical and operational source system data in a timely and secure manner.

Our data quality management tools (Informatica's MDM Data Governance) and associated processes handle the root cause of data problems before they can infect the data warehouse and analytics results. Our solution profiles and discovers data anomalies, structure, and overall suitability before any data migration effort begins. It matches records and identifies relationships across multiple members, providers, and other data domains. We score the perceived quality of data items and the relevance of business rules to gauge the overall health of data that feeds data quality metrics and key performance indicators. We apply reusable data quality rules and processes to master enterprise data across multiple sources, applications, and systems in batch or by using web services. Our solution corrects misplaced, misspelled, and misfielded data to capture valuable information that would otherwise be lost.

Precise, consistently reliable data leads to more accurate operational models, projections, and analysis. Quality data equals trusted results. We have applied lessons learned and defined quality checks to confirm data quality. For example, on our New Jersey project we defined the following specific requirements for quality data:

- Claim number, claim line and paid date are unique
- The adjudication date (date processed thru the MMIS) is a valid date on all claims, encounters and financial transactions (no nulls, no spaces, no 0's, no 01/01/0001, 12/31/299, 12/31/9999 etc.)
- Provider ID is unique
- Provider specialty, provider type, provider NPI, and provider taxonomy data is provided
- Providers that are MCOs are identified as a Managed Care Organization
- Provider pay to (or billing), mailing and provider service location address data is provided
- Provider demographics data (current and history is provided)
- Member original ID is unique which remains constant throughout all member services
- Member demographics data current and history is provided
- Members that are in waiver populations can be identified
- Members that are getting state plan only services (100% State funding) are identified
- Members that are in the state's hospice, Nursing Home and Long Term Care programs (level of care) are identified
- Provider and member IDs on the claim can be joined to the recipient original id/provider id on the provider and recipient tables
- Crosswalk of valid values and reference table lookups values to the claim, member and provider
- Valid values and reference table lookups values must match the equivalent values from the claim, member and provider
- There is not more than one record for a valid value code in the reference table data
- All claim types will include a billing/pay to provider
- Pharmacy claim will include a prescribing provider
- Medical/professional claims will include a rendering/treating/servicing provider
- Provider specialty, provider type, provider NPI and provider taxonomy code are populated for each provider that is on the claims; For example, if the prescribing provider is supplied then the following prescribing provider fields should be populated: NPI, provider specialty, type and taxonomy

- Logic and data available to perform adjustment processing
- Logic and data available to perform member merge processing

3. DEPLOYMENT METHODOLOGY

Describe the Vendor's overall approach regarding the following areas of SDLC and support. Please include in the response what the Vendor believes will be an effective process for each component and flow between each of the following areas:

- Implementation/Rollout Planning
- Implementation Methodology and Timeline
- Issues, Challenges, and Risks
- Lessons Learned

Optum Response:

Overall Approach to SDLC and Support

Our overall approach to the SDLC begins with comprehensive implementation planning, followed by developing our detailed implementation plan and timeline. Our approach includes processes for conducting final stages of testing to verify that each release is operationally ready for deployment into production. This section describes our approach to Implementation/Rollout Planning, Implementation Methodology and Timeline, Issues/Challenges/Risks, and Lessons Learned.

3.1 Implementation/Rollout Planning

The Vendor's proposal should describe the Vendor's methodology, tools, and techniques for implementation/rollout planning. The Vendor should include what specific staging, readiness and deployment techniques it will use to determine the proper sequencing of deployment processes and functions required for successful implementation.

The Vendor's proposal should include, but not be limited to, details on its approach and methodology for the following:

- Completing all Solution Deployment task group related deliverables
- Obtaining approval of all Solution Deployment task group related deliverables and milestones
- Operational readiness and operational readiness testing (ORT)
- Emergency back-out strategy
- Pilot testing
- Confirming stakeholder readiness for new solution implementation

The Vendor's proposal should also include details on their approach to supporting and/or supplying:

- System documentation
- User documentation
- Reports
- Report distribution schedule
- Production environment, including the final production schedule
- Data conversion

- Pre-implementation training
- Updates to project management plans for operations

Optum Response:

Implementation/rollout Planning Methodology and Techniques

Our team will begin implementation planning early in the project with a focus on the final implementation Go-Live milestone. During the planning activities, we will meet with you to discuss the implementation and deployment tasks. We do this early review to support a smooth final deployment. We will review existing documents, data, files, and other pertinent information, received from you or your current vendor, that are necessary to successfully deploy our solution.

After reviewing necessary documents, we will develop an Implementation Plan to facilitate an orderly implementation. The plan will support our detailed approach to cutover and outline the sequence of steps we will execute to deliver your EDS. The Implementation Plan will include:

- Description of major implementation tasks and implementation steps
- Detail of the configuration
- Identification of EDS components
- Explanation of the distribution of EDS components to external users
- Tasks that detail how all components of the EDS will be installed and upgraded and installation release procedures
- Key points-of-contact
- Defined installation scripts
- Implementation timeline
- Security and privacy safeguards
- Support procedures
- Implementation impacts
- Configuration management interfaces
- User documentation
- Staffing requirements and Implementation roles and responsibilities for stakeholders
- Staff training
- Risks, contingencies, and outstanding issues
- Performance monitoring
- Implementation verification and validation
- Implementation roles and responsibilities for stakeholders
- Approach to triaging issues and defects before, during, and after solution go-live

The plan will meet the acceptance criteria established between DHHR and Optum, and address the most current version of the MECT Appendix B, Required Artifacts List. We will use the DHHR-approved Implementation Plan, as a guide to strengthen readiness and prepare for final deployment and implementation.

Building off the Implementation Plan, our team will prepare a Cutover Play Book. This will provide the detailed task-by-task schedule of activities to be completed during final cutover. At the completion of ORT, we will prepare an Implementation Certification Letter that will attest that all functionality has been delivered and is ready for implementation and go-live.

The final key milestone in our approach to implementation/rollout is the Operational Milestone Review (OMR). This OMR is a systematic performance-based review of facilities, equipment, personnel, procedures, and controls. The review will demonstrate the readiness of your EDS. In support of the review, we will perform the following:

- Validate the operations and hardware, software, and the connectivity
- Confirm completion of ORR checklists

- Demonstrate readiness of functions, reporting, communications, performance, and backup capacity
- Provide a site-readiness report to confirm location and facilities readiness
- Provide defect status report

Staging, Readiness, and Deployment Techniques

Our staging, readiness, and deployment techniques have proven effective in our past solution deployments. These techniques verify that tasks are completed according to plan, and that the solution is ready for transition to the Operations & Maintenance team, staging, and operational release into the production environment.

Staging Techniques

Our migration processes will preserve the data as received from the source systems, where required, and move it beyond the staging area. We will apply approved transformations to retain the original content and data values. We will store new data in separate tables or additional columns within the existing tables in the integration layers and the data warehouse target area. This will maintain your original data while allowing for data quality analysis and other data governance activities, particularly for source systems.

Data Loads

At the heart of a data warehouse is data. When doing data loads we must be innovative and strategic. We will use our best practices and mature processes to manage data loads. Depending on the volume of data being converted, data loads are a time consuming task. For example, during the New Jersey data warehouse conversion, we had a short window of time between the close of UAT and go live. We developed a strategic plan to reduce the risk of this time consuming task. The plan was to take a backup of seven years' of UAT data and export it to the prod environment instead of loading the data to be converted through the interfaces. Any issues identified in the UAT phase were remediated through scripts mitigating the risk with this approach.

Report Deployment

For reports, instead of taking a big bang approach an iterative deployment approach has worked well in our other state accounts like Arkansas, Indiana, Michigan, New Jersey, California, and Virginia. During the requirements validation activities, we will consult with you regarding the most logical sequence of developing the reports. For example, a set of reports that runs daily or weekly might be developed in the first iteration versus a set of reports that runs annually. As the iteration is completed, reports will be made available to the DHHR user. With this approach, Optum will be able to develop reports in correct order of relevance and importance as set by DHHR.

This approach will also provide DHHR users an opportunity to tune and enhance these reports in future iterations. It will also enable DHHR users to get the maximum value out of the new system, as they will be able to run and use reports starting from the first iteration instead of waiting for all listed reports to be converted. We will work with you to define the reporting groups and number of iterations, including what reports will be delivered in each iteration.

Figure 118 shows the iterative methodology for report conversion and deployment starting from requirements validation and working through design, development, and testing.

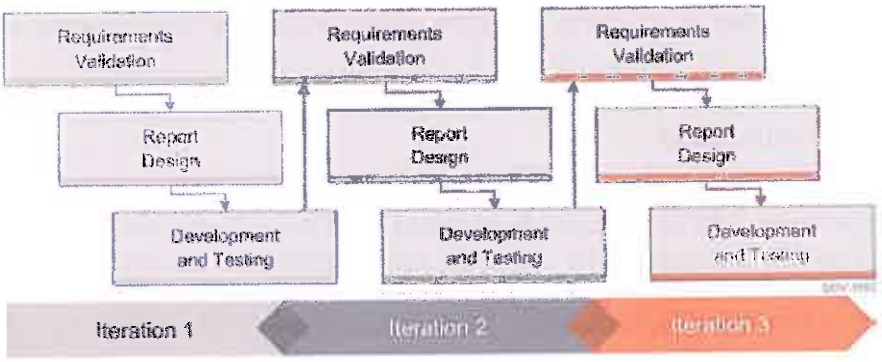


Figure 118: Report Conversion Methodology
Our report conversion methodology provides an iterative approach to completion.

Approach to Completing all Solution Deployment Task Group-Related Deliverables

We will develop and submit all required deliverables and meet project milestones defined in the project work plan. Upon contract award, we will collaborate with your team to review and amend this deliverables list prior to baselining it within our Documentation Management Plan.

We will begin by creating a template or leveraging existing templates. We will customize deliverable content for DHHR requirements and peer review the document to verify quality. We will maintain user, technical and system documentation, as well as project plans, status reports, correspondence and other deliverables and documents in file formats as documented in the Documentation Management Plan. We will discuss acceptance criteria with you, and review the quality expectations. We will update the content to address issues and incorporate your feedback.

Documentation Management Plan

We will develop a Documentation Management Plan for DHHR review and approval during the planning activities of the project. Optum has been working with DHHR for the last three years and understands the Departments documentation expectations with regard to schedules, agendas, and priorities. We will leverage applicable templates, processes, and knowledge gained from the WV PATH project that will provide efficiencies in the deliverable review and approval process. The plan will define our approach to deliverable management and documentation for the EDS Project. It will describe our approach to developing documentation and deliverable content, conducting internal quality reviews of deliverables, and the processes for deliverable submission and approval. Additionally, the plan will include a baseline matrix listing of required project documentation and deliverables. The list of documentation and deliverables will conform to RFP requirements and include everything we will need to successfully implement and operate the EDS. It will provide DHHR with an understanding of the solution and our approach to implementing and operating it. Collectively, our documents and deliverables will demonstrate to DHHR that we have fulfilled the business requirements of the EDS project.

The Documentation Management Plan will also describe our approach to providing a document repository for collaboration and information sharing across Optum, DHHR and other DHHR designated stakeholders. In the plan, we will describe use, access, and overall management of the repository, such as full version control of project and operational documentation.

During Solution Deployment, we will submit deliverables that align with the content descriptions and milestones identified in the RFP Appendix 2. The documentation will include the following:

- Cutover Play Book
- Federal Review Supporting Documentation
- Implementation Certification Letter
- Implementation Plan (Rollout Plan)
- Operations Change Management Plan
- Operational Milestone Review
- Production Screenshots, Reports, and Data for Certification
- Report Distribution Schedule
- Solution Health Monitoring Plan
- System Operations Plan
- System and User Documentation
- Training Materials
- Training Report
- Training Schedule
- Turnover and Closeout Management Plan

Approach to Obtaining Approval of all Solution Deployment Task Group-Related Deliverables and Milestones

We understand that reviewing deliverables takes your time and attention. Optum has been working with DHHR for the last three years and understands the Departments time constraints and expectations with regard to schedules and priorities. Where we can, we will use applicable current WV PATH processes to help us fulfill your project goals and objectives in a cost effective manner and reduce your time needed for approval and review. We are sensitive to the fact that you have other demands on your time so we have built a review and approval cycle that provides you with the time you need to carefully review the documents. Our process includes a two-cycle 10/5/5 approach. This means that we will provide 10 business days for DHHR to review the first submission of a deliverable. At the conclusion of that review, DHHR will provide Optum with written comments identifying any updates or revisions that need to take place. We then have up to five business days to complete our revisions and submit an updated deliverable. With the second submission, DHHR will have five business days to confirm the updates and approve the document.

We expect that you will approve the deliverable at the conclusion of the second review cycle. If for some reason you do not approve a deliverable within two cycles, we will work with you to escalate any issues and determine the dates for resubmission and review. Because our process focuses on open communication and includes frequent walkthroughs, the need for escalation of this type should be minimal.

Operational Readiness and Operational Readiness Testing (ORT)

During implementation planning, we will follow the methodology of our delivery model and implementation methodology discussed previously in this response. The model supports industry standards combined with our own best practices to define the proper sequencing of our implementation and rollout processes. Our methodology includes readiness processes and techniques to drive the successful implementation EDS.

Approach to Operational Readiness

We will perform specific implementation and operations functions to confirm that the Optum EDS solution is operationally ready. This will include performing final file conversions, recruiting and training of our operations staff, and training for authorized users at their approved levels. Operational Readiness activities will also include:

- Modifying operating procedures to reflect changes in EDS operations
- Updating the staffing plan with final operations staff details
- Revising the report distribution schedule that reflects updated State decisions on format, media, and distribution
- Coordinating and scheduling of final training on policies, systems functions and operational procedures
- Conducting ORT/pilot testing
- Reviewing emergency back-out strategies
- Obtaining approval of deployment deliverables and completing deployment milestones
- Reviewing progress and confirming readiness of all stakeholders

ORT Documentation

We will develop documentation in collaboration with DHHR to support transition to your EDS. The documentation will include:

- **Operational Readiness Plan (ORP):** Our ORP will provide the details to confirm that the solution is ready for production. We will use this plan in conjunction with requirements documentation to provide you with a holistic view of the business solution. The ORP will include:
  - Operational Readiness Review Procedures
  - ORT Details (including the timing and schedule)
  - ORT execution tasks and checklists
  - ORT execution processes and procedures
  - ORT security readiness
- **ORT Plan:** The test plan will include various types of testing including system, security, and performance testing
- **ORT Scripts:** These test scripts could be a combination of both manual and automated scripts to validate critical aspects of system operation like backup and recovery, system security like penetration testing and system performance under operational loads during peak times and peak user activity
- **ORT Results:** These results will verify readiness of the solution and related demonstration of operational tasks, including DR/BC readiness. This also includes quality and performance levels, and any remaining defects and their resolution plans

Deployment ORT Checklist

Our methodology includes comprehensive checklists of activities to support low-risk deployments. The checklists promote a controlled and repeatable release process. The following table provides more detail about the deployment checklist.

Deployment Checklist		Description
✓	**Operational Readiness Verification**	Hardware, software requirements, and design documentation, pre-production testing (including unit, integration, UAT, and initial operating capability (IOC), and validation, conducting necessary load and stress tests, and SLA compliance
✓	**Configuration Management**	**Rules configurations, code, database scripts,** and other artifacts checked in/tagged for release, including executable and documentation artifacts - requirement specifications, user stories, architecture documents, object models, and scenario diagrams
✓	**User Guide and Training**	Online guides and conduct online/classroom training to help user and technical staff for using and operating the system; all necessary training completed prior to rollout
✓	**Customer Communication Management Plan and Change/Release Approvals**	Governance of stakeholder communications, including executive management, development and operations teams, end users, and change/release management committees with necessary approvals in place prior to release/deployment
✓	**Help Desk Communication and Training**	Training for help desk staff regarding the system and issue help aids and scripts describing how to fix and escalate issues when they occur
✓	**Rollback Plans**	Detailed plans for rolling back releases, if the rollout does not go as planned
✓	**Disaster Recovery and Business Resumption Plans**	Detailed disaster recovery plan developed, tested, communicated, and accepted, including restoring access controls, databases, and other services
✓	**Post-deployment Validation/ Approval for Operational Start**	Validation of system to verify deployment is complete and ready for operational use

Approach to Emergency Back-Out Strategy

We take a pre-emptive approach to emergency back-outs. We understanding that sometimes the best plans are met with an emergency or need to restore to a previous state. In the unlikely event that a back-out is necessary we will have a back-out plan. The plan will be developed as part of our release processes and will define contingencies for emergency back-outs and rollback restores, as well as controlled back-outs. The back-out strategy will include details pertinent to the implementation release and contains checkpoints throughout the release process, in order to facilitate and accurate and efficient back out.

Approach to Pilot testing

We will leverage pilot testing as part of ORT. For each capability, feature, and function, we will work with you to identify the essential business processes, requirements and key associated operational readiness requirements. The aspects of pilot will focus on users and their total interaction with the EDS. This will include external partners, vendors, and applications. The objective is to evaluate functional, usability, performance, and accessibility on a small scale. This will help us predict how the system will function with a full implementation.

Approach to Confirming Stakeholder Readiness

As part of the Implementation Plan, we will use a deployment readiness checklist to verify each release deployed to the production environment meets the quality level established. The completion of the checklist activities includes the detailed schedule, and back-out procedures. Prior to release deployment, we will invite stakeholders to take part in, and provide sign-off on deployment activities. As part of the go/no-go meetings, key metrics will be presented to

appropriate stakeholders to help determine whether code can be promoted to production environments, or if further data on code quality, test results, or other criteria is required.

Approach to Supporting Deliverables

We will store documentation and other project-related artifacts in our document repository, providing quick access to indexed, searchable materials. We will organize, track, and maintain deliverables and documents created during the project and make them available for retrieval through the portal by authorized users. We will prepare documentation and deliverables including:

System and User documentation: We will prepare the necessary documentation to support authorized solution users in executing solution related business processes. Documentation includes Interface Control Documents, information from the Requirements Specification Document, Detailed System Design, Business Process Model materials, and supporting documentation for CMS and/or other federal agency reviews.

Report and report distribution schedule: As a component of our final system documentation, we will include a delivery schedule and report description.

Production environment support documents: We will provide a detailed checklist for the migration and staging of production environment and a final production schedule.

Final data conversion: We will carefully monitor final data conversion using conversion documentation, data, files, and other pertinent information, received from you or your current vendor. For additional details on data conversion refer to Attachment I, Section 2.3, Data Conversion, Strategy, and Approach to Timeline.

Pre-implementation training: We will provide the majority of pre-implementation training as part of operational readiness as described in Attachment I, Section 1.7, Training Approach. This training will prepare users for the transition to operations; making sure that staff are ready for their specific job roles and have the capabilities and materials necessary for day-to-day business operations.

Transition to operations documentation: We will continue to follow our project management plans, tailored to support our operations project management activities. The documentation will also include a solution health monitoring plan, and systems operations plan with production screenshots, reports, and planned data for certification.

Turnover and Closeout Plan: This plan will document the responsibilities and applicable assets we will turnover at the end of the contract.

3.2 Implementation Methodology and Timeline

The Vendor's proposal should describe an effective implementation and deployment strategy. In addition, the Vendor's proposal should include what the Vendor believes would be a realistic implementation approach and timeframe for the implementation of a solution that would meet DHHR's specifications. Please keep in mind DHHR desires a solution that can be implemented prior to the close of the existing DW/DSS contract. If some of the solution specifications are not part of the standard solution (available now or via configuration), please describe a proposed phasing methodology to deliver full functionality. Please also provide reference to the Vendor's Initial Work Plan and WBS in ***Attachment E: Initial Work Plan***.

Optum Response:

Strategy for Implementation and Deployment

Our implementation approach reflects 25 years of successful implementation experience, improved by process improvements and lessons learned. Optum has been working with DHHR for the last three years and understands the Departments expectations with regard to a realistic implementation and deployment approach. We will strengthen our implementation and deployment with the knowledge we have acquired during our WV PATH project. Our implementation approach focuses on configuration and requirement gap closures to meet your business needs. One of the benefits of our COTS-based model is that the timeline for implementation and deployment can focus on the key activities required for configuring and defining your EDS reporting capabilities. During deployment, we will work closely with you to make sure you are aware of the status of deployment and rollout activities. We will execute the final deployment checklists and make sure that hardware, software requirements and design documentation, pre-production testing (including unit, integration, UAT) and validation, training load and stress tests, and SLA compliance is complete.

Approach to Implementation Timeline

This Work Plan supports a lean iterative execution process that delivers the most critical components of the solution sooner so you can take advantage of available data quicker.

Our timeline focuses on a two-phase implementation approach. The Project Monitor, Control, and Governance task group provides project oversight and includes organizational change management and certification support.

Phase 1 focuses on implementing the EDS core and data sources. The task groups for Phase 1 include Project Initiation, and Planning; Solution Planning; Solution Design, Testing, and Operations; and Solution Deployment. Phase 1 required deliverables will follow the 10/5/5 cycle. **Phase 2** focuses on implementation of the Fraud and Abuse Detection System (FADS). The task groups for Phase 2 are Project Planning; Solution Planning; Solution Design, Testing, and Operations; and Solution Deployment. Deliverables will be amended in Phase 2 to follow a 5/3/3 cycle.

Operations (one year in duration) follows Phases 1 and 2.

Figure 119 shows our proposed timeline.

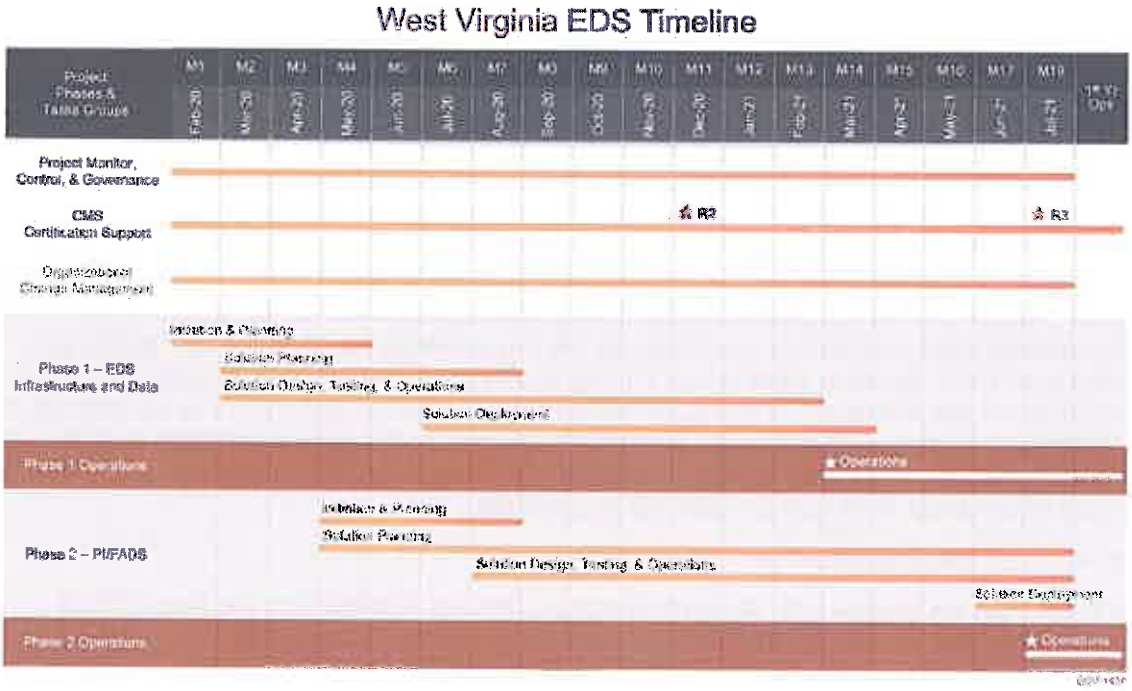


Figure 119: WV EDS and FADS Project Phases
Our iterative implementation approach is based on lessons learned from other successful EDS implementations for our state government clients.

The schedule will provide DHHR with access to critical infrastructure of the data warehouse and data sets early in the project, while development and delivery continues on FADS components later. This approach will allow DHHR to take advantage of the EDS data early in the contract as the additional FADS components are added during a second implementation period.

For details of our proposed timeline, please refer to Attachment E: Initial Work Plan.

3.3 Issues, Challenges, and Risks

DHHR is interested in any information that may help identify issues, clarify the specifications, reduce risk of the procurement, and identify issues and challenges of designing and implementing the proposed solution. Please highlight any concerns or recommendations in this section.

Optum Response:

Our mission at Optum is to help make the health system work better for everyone. We began more than 25 years ago with specialized business units delivering multi-faceted implementations for our customers. These have included OPAHHS and the FADS. We understand the issues, challenges, and risks of designing and implementing a new solution, and we have adapted our processes to include best practices for these situations.

Identifying Issues and Challenges

We recognize how critical it is to work corporately as a fully engaged and united team. Throughout the project, we will identify challenges that may negatively affect the EDS and define action plans to address them. The following table provides an example a challenge we have experienced and the successful actions we implemented.

Challenge/Issue	Situation	Action/Recommendation
Questions and answers misunderstood or miscommunicated	Miscommunication, verbal mixed messages, or unclear communication across the multi-supplier environment	Use a communication process that includes all stakeholders impacted by the EDS. Define a log template to record and distribute questions and answers. For example, In Arkansas, we control communications through collaboration in multi-supplier environments with our question and answer logs. Case in point: We have found when converting data from legacy systems or from new source systems that all vendors' teams will need to meet to discuss issues as they are encountered. We document all questions asked in a quality assurance (QA) log, tracking each question number along with the back and forth exchange of questions and answers between suppliers. Documenting responses will help prevent questions being asked twice, and will provide reference to issues if problems are encountered again later in the project. Additionally, QA logs formalize responses to sometimes difficult questions, helping make sure responses are well-crafted and well thought out.

Reducing Risks

Our risk management strategy is designed to maximize project and solution performance by minimizing risk. We will be proactive in preventing and reducing risks during the design and implementation of our Data warehouse and the FADS. As part of our collaborative management activities, we will have regular stand-up meetings where each participant reports on projects challenges, making recommendations for simplification where available. The team must remain open-minded about leveraging recommendations, where appropriate, for project success.

As described in Attachment I, Section 1.3 Risk Management, we discuss and address risks and open issues during the weekly project status meeting in all phases of the project. During deployment, we have a heightened awareness to risks and issues in our daily deployment review, with a focus on a proactive risk mitigation strategy.

The following table describes the potential implementation risks and issues we have identified for the EDS project and our proactive mitigation strategies for addressing them. If these are realized, they will enter our formal risk process as defined in Attachment I, Section 1.3, Risk Management. The risk process defines will score and weigh the associated risk in order to prioritize mitigation efforts.

Risk Concern	Action/Mitigation
Project schedule activities could be affected if deliverables are not approved within the agreed upon timeline established in the project work plan.	• Optum will finalize the work plan during project initiation activities. In addition, we will work with you, your PMO, and IV&V contractor to establish realistic approval timelines. We will give full consideration of approval resource availability inclusive of the burdens placed on them from other projects and commitments. • Optum will create draft deliverables based on templates used successfully on similar projects to accelerate the deliverable development process. We will conduct joint walkthroughs with you and key stakeholders at the beginning of the project. This will confirm our understanding of your requirements and eliminate ambiguity about deliverable content and expectations. • We will execute our quality assurance protocols and procedures to verify quality deliverables and deliverable requirements are satisfied before issuance to DHHR for approval.
DHHR key staff members who are not fully committed to project activities may be unavailable to participate in	• We will identify to DHHR project leadership the activities and timelines requiring key staff participation during the project planning activities. ◦ Optum and DHHR project leadership will agree on the identification of required resources, participation levels, and timelines.

Risk Concern	Action/Mitigation
key project milestones requiring their approval, resulting in project delays.	
State and federal mandates to program requirements occurring during the project implementation activities may affect project scope, schedule, and cost.	• Optum will work closely with DHHR project leadership to assess any new State or federal requirements. • We will invoke change management processes in a timely manner, with discussions related to project scope, schedule, and cost impacts of the change.
Certification checklists, deliverables, or artifacts are incomplete or not properly stored on the project repository.	• We will engage staff at the start of the project to prepare for the milestone reviews. The Optum team will comply with completing and storing required documentation.
The Requirement Traceability Matrix (RTM) is not maintained throughout implementation activities.	• Optum will prepare the RTM before the start of contract and maintain it throughout each project phase until go-live. This approach will help prepare us for each planned certification milestone review.
DHHR is not fully prepared for any organizational changes.	• Throughout project activities, our team will include an organizational change focus on potential impacts to organizational processes. We will collaborate with DHHR to make certain our deliverables and work products address potential changes by including specific steps in our development process, to identify organizational changes.
Compatibility between the Department and Optum firewalls may present system performance issues.	• Optum will work closely with DHHR staff to confirm firewall rules and configurations for optimal performance.
The decision-making authority and accountability may be unclear for functionality decisions required during requirements validation activities.	• Working with key DHHR stakeholders, we will establish clear functional leads who have appropriate decision-making authority. In addition, we will establish a process for leadership/stakeholder reviews at regular intervals to validate that decisions made have on-going organizational support.
Key personnel at Optum or the Department leave the project resulting in leadership or expertise gaps.	• We will execute our well-established development, staffing, and employee satisfaction programs to keep turnover low and retention high. If any key personnel leaves the project, our succession planning approach will make sure the replacement staff member has experience and qualifications that meet or exceed those of the staff member leaving the project. We will notify DHHR in advance of key personnel changes.
Access to turnover documentation and files is not timely.	• Optum will work closely with DHHR project leadership and the incumbent to identify timelines; and confirm documentation/files needed to successfully execute implementation.

3.4 Lessons Learned

DHHR would find it helpful to understand what the Vendor sees as the successes and primary challenges in the implementation of similar systems. In order to gain this insight, DHHR would like to draw upon the Vendor's experiences with similar projects. Please describe any "lessons learned" from the Vendor's relevant experience and how those lessons learned will impact the Vendor's approach to this project.

Optum Response:

We have taken lessons learned from our experiences, coupled with advanced and proven technology, to provide you with a solution that will support your future programs and EDS.

Best-Practices (Successes)

Our OPAHHS architectural design objectives are based on an evolving set of best practices for delivering a flexible set of COTS components. These are integrated through open standards while remaining agnostic to the hardware selected. A set of logical virtual services support the business functions provided through the COTS components and are configured to enable future growth while protecting and extending your investment.

The OPAHHS architecture framework has evolved with each data warehouse implementation. We have incorporated many MITA-driven best practices, including the following four best practices:

Design Best Practice 1: The OPAHHS architecture framework comprises commercially available COTS products. This best practice provides the following benefits:

- COTS products come with product roadmaps for planned enhancements to maintain functionality and capability current to industry requirements. New product releases as well as software patches and fixes are provided at no extra cost as long as software maintenance agreements remain active.
- COTS products have, out-of-the-box, extensive functionality and capability to support state Medicaid solutions. Tailoring products to perform to state-specific requirements involves configuration, with no expensive coding required.
- COTS products facilitate modular construction and plug-and-play flexibility and adaptability. As State business needs grow our COTS-based OPAHHS solution will allow you to easily and cost-effectively add data sources, COTS tools, and other functionality to grow in maturity as health care reform continues to evolve.
- COTS products are flexible and expandable to support growth in size (number of years of data retained), data sets (variety of types of data stored), and number of users.

Design Best Practice 2: The OPAHHS architecture framework is designed using service-oriented architecture (SOA) design principles. This best practice provides the following benefits:

- SOA uses industry standards and a set of common business processes and data standards. This make it possible to leverage performance metrics, measurement techniques, and corresponding utility services. You will be able to track changes in programs and policies and evaluate corresponding changes in health outcomes, measuring business performance across the Medicaid enterprise.
- SOA services maintain a relationship that minimizes component-to-component dependencies and only requires that they maintain an awareness of and ability to communicate with each other. This makes our solution technology neutral and leverages the use of existing customer equipment.
- SOA promotes service granularity, providing optimal scope and the right level of the business functionality in a given DHHR service operation. This not only facilitates our ability to design and produce summary analytics and reports, but also enhances our ability to provide point-and-click drill-down into the data details for greater understanding of performance drivers.
- SOA facilitates data exchange and data sharing while allowing each organization control and ownership of its own data. Data will be described using standard definition formats that map the data to standard data elements where appropriate, and provide the data descriptions when the data elements are non-standard.

Design Best Practice 3: The functionality and capability of OPAHHS architecture framework grows and improves every day, through the lessons learned and application of best practice

resolutions experienced within each of our projects. By leveraging the OPAHHS architecture framework as the foundation of our DHHR solution, the wheel will not be reinvented. The collective experience and best practices that both Optum and our state customers have accumulated will be passed on to the Department through the OPAHHS solution. This will have a significant positive effect to lower risk, and will contribute to our being able to more effectively and efficiently produce the defined deliverables within the timelines for all releases set forth in the RFP. As a result of our ability to deliver best practices across the DHHR SDLC, the State will recognize substantial benefits, including:

- **Reduced labor cost:** Leveraging existing artifacts from the OPAHHS architecture framework reduces the effort to build these elements from scratch. This is especially true in connection with completing the Design, Development, and Implementation (DDI) Phase of the project, while producing associated DDI deliverables in a timeframe that meets State requirements.
- **Shorter DDI timeframe:** Incorporating existing OPAHHS architecture framework assets, experiences, and methodologies into the DHHR solution will shorten the time required to implement the DHHR. The State will be in a position to begin operations of the new solution, and begin generating savings, sooner.
- **Enhanced functionality and benefits:** As a result of incorporated learning from our other projects, in the form of implemented best practices, revisions, or updates to the underlying OPAHHS architecture framework, the State will be able to leverage the enhanced functionality and benefits encountered in other state Medicaid EDS implementations.
- **Cost-effective satisfaction of evolving business needs and requirements:** The OPAHHS architecture framework is centric to our MITA and Seven Standards and Conditions aligned-DHHR solution. It provides the underlying and necessary infrastructure to support a modular, flexible, adaptable, and open system architecture. Our solution framework promotes interoperability with external exchanges, as well increased adaptability to HIPAA transaction and code set regulations at the transaction level. The OPAHHS solution will function as the common, unifying repository for information that can be trusted and shared, and will expand and evolve as the State's needs change over time.

Since we implemented the nation's first Medicaid data warehouse in Michigan in 1994, we have worked with our state government customers on iterative EDS implementations. As our customer's needs have increased and as they became more experienced with EDW/BI technologies, they have all added more and more data and analytical capabilities. Optum has worked side-by-side with these customers to recognize and extend the value of their EDS installs through our dedication to a best practices-based technical support approach.

Lessons Learned to be Applied on EDS

The following table lists provides a summary of some of the lessons learned from Optum projects and describes our view of how they apply to this project.

Lesson	Lesson Description	Adoption and Optum Considerations
Lesson 1	Assign clear project leadership to provide cohesion across tasks and a comprehensive view of progress.	As identified in your Concept of Operations DHHR will implement a data governance board/committee that will support the management and sharing of data within the enterprise. The establishment of this board will a clear governance model. Optum will understand its role in governance.
Lesson 2	Align project and organizational strategies with the resources and expertise available.	The project will benefit from strong and thorough planning-it is vitally important to select vendors with experience working in an environment where aggregate success is the goal.

Lesson	Lesson Description	Adoption and Optum Considerations
Lesson 3	Identify and address factors of organizational culture that may affect project success.	As identified in your Concept of Operations, Berry Dunn and DHHR staff comprise the integrated EDS Organizational Change Management (OCM) Team that will work cohesively to accomplish stakeholder adoption. Optum will work collaboratively with the OCM team to identify impacts and potential changes.
Lesson 4	Integrate policy and technological work to promote operational awareness.	For project success, we must communicate policies driving technology configuration early, clearly, and remain sufficiently stable through go-live. Of more importance is to establish a clear policy update and change control process as part of project initiation, and execute it consistently as the project evolves.
Lesson 5	Promote acceptance of bad news and encourage staff to identify and communicate problems.	Delivering bad news should always come first so that staff can act upon it. Leadership must establish a communication culture that encourages bad news reporting. Openness and complete transparency are keys to success.
Lesson 6	Design clear strategies for disciplined execution and continually measure progress.	All projects will have changes in direction, execution strategy, and more. Broad and clear communication of these changes to all participants is vitally important. We will include procedures to validate their full and complete adoption through project reviews.
Lesson 7	Promote continuous learning to allow flexibility and changing courses quickly when needed.	As part of regular stand-up meetings, all other WV projects stakeholders should discuss lessons learned as the project proceeds through execution phases. In addition, leadership and its governance team should maintain flexibility to course-correct when necessary.

Along with high-level summary lessons learned above, we include the following EDS-specific case studies and practical lessons from specific projects.

Project A

The Project A solution serves as a central clearinghouse that includes comprehensive claims data from commercial and government sources. Optum is also providing business intelligence, analytics, and data-delivery solutions that provide users access to project data that supports the needs of various stakeholders. Data users view the data as one set of information, whether it contains data from one or multiple sources.

Lessons learned from the project include the following:

- Requirements for security controls in the System Security Plan (SSP) workbooks are subjective and open for interpretations. As a result, the customer's security compliance team did not decide on a scoring mechanism until many months into the implementation. This required significant amount of additional work and effort to complete, review, and approve the SSP workbooks for both the Department of Health and Optum. All the security requirements should have been vetted early in the process.
- During the requirements/design sessions, many stakeholders (25 plus in each meeting) with different backgrounds were included. They all had different understanding and perspective of the analytics user stories/requirements in the RFP. As a result, these sessions took much longer than planned and elongated requirements gathering process for months. Only key representatives from various areas should have been included.
- Because Project A was a new concept to most of the stakeholders, they did not have adequate knowledge of the data from various differing data sources. As a result, lots of data analysis was required before they could make any decisions, which delayed the design/development process. Better upfront familiarization with the project concept was needed.

- The project required significant amount of documentation from the external QA vendor; however, the project was not staffed with adequate business analysts and documentation specialists to handle the need. We added additional resources as soon as we recognized the need. Better understanding of QA vendor documentation requirements was needed prior to project start.

Project B

Optum implemented and operates the DSS solution that supports and leverages the health information for thousands of Project B state health services members. A SOA platform solution supports modernization and enterprise evolution without restricting the State's ever-changing business needs. Lessons we learned from Project B include:

- Early identification of products used by the state customer and what the future plans are for those products would have given us additional important insight. Understanding future plans for changes to these products would have given us more opportunity to plan for the impact to data interfaces with these products.
- Vetting of reports during the requirements phase would have allowed us to determine if all of the reports are still needed in the system. There were many reports converted to the new solution that the customer no longer used.
- Vendors were allowed to choose the tools of their preference. This was difficult to interface in with a three-vendor (DSS, PBM, MMIS) implementation. Tools that needed to cross vendors should have been provided to all vendors by one entity.

Project C

Optum implemented a Data Warehouse and Analytics solution for a new replacement MMIS System. The goal of the project was to build a warehouse solution based on the new MMIS architecture and feeds in addition to modernizing the capabilities. Key lessons learned include the following:

- Data conversion is a critical to the project success and the layouts, volume of data need to be aligned to the warehouse needs. The MMIS upstream system needs to provide additional metadata information in addition to the transaction information. Therefore, as part of the layout design its essential there is consensus on the gamut of fields required in the warehouse and analytical systems. In addition, its important there is both quantitative and qualitative reconciliation of data between the upstream systems and the data coming into the warehouse system, punting this reconciliation process down the reports complicates the debugging process given additional layers involved.
- As part of the report development, it is imperative there is good consensus on the report scope ahead of time. Additionally, identifying the report owners so that teams can work with end users to make sure reports meet their needs as sometimes old fields may no longer be available, or data is captured in a different way than how users are accustomed.
- As part of testing process, scenarios need to be accounted for conversion, as well as new day scenarios, as part of this process its paramount that enough data is manufactured for the new day scenarios as these are all post go live scenarios. Most times emphasis is on the readily available conversion data and little effort or focus is spent on the new day data.
- Data loads in production environment need to be accounted for as part of the project planning process, this is a time consuming task as several years of data needs to be loaded post UAT and a good data load strategy needs to agree upon to reduce the risk.

4. TESTING

The primary purpose of the Testing Phase is to determine whether the developed solution is ready for implementation. During the Testing Phase formally controlled and focused testing is performed to detect errors, issues, and defects that need to be resolved.

The DHHR envisions the stages of the Testing Phase occurring concurrently with the Development Phase, with testing for each development iteration. Testing should occur throughout the development process, and the initial planning for testing activities should occur early in the project. The DHHR recommends that planning for the Testing Phase occur as early in the project as possible to ensure successful testing results.

The DHHR defines the types of testing as follows:

- **Unit Testing:** Unit testing assesses and corrects the functionality of individual or small groups of code or modules. Unit testing ensures the various objects and components that make up the system are individually tested, and that errors are detected and corrected prior to exiting the development environment.
- **Integration Testing:** Developers perform integration testing after integrating completed components or modules into the overall system codebase. This testing ensures that the completed components or modules work at a level of efficiency acceptable by DHHR and that existing components and shared components have not been broken by the new module.
- **Iterative Functional Testing:** Iterative functional testing ensures that the components developed for each logical iteration of the system meet all functional and technical requirements as defined and approved by DHHR.
- **System Integration Testing (SIT):** System testing assesses the functionality and interoperability of the solution and the multiple other systems and subsystems it interacts with, such as databases, hardware, software, rules engine, document management system, identity management system, workflow, interfaces, and web services, and their integration with infrastructure into an overall integrated solution. This test includes a test installation and configuration of the solution, with a subsequent functional regression test to confirm the installation's success.
- **Interface Testing:** Interface testing ensures the completeness of interface development and the readiness of developed interfaces for integration in the wider system.
- **Regression Testing:** Regression testing assesses the integrity of the solution subsequent to the deployment of new solution components and/or fixes.
- **End-to-End Testing:** End-to-end testing is a quality assurance testing methodology that strives to ensure correct functioning and performance of applications in production-like scenarios. This methodology checks if an application performs as designed on all levels and across all subsystems. It is intended to encompass testing for the solution's key business and functional processes in their entirety from their start through completion.
- **Security Testing:** Security testing is the testing of functional, technical, infrastructure, and operational solution components to ensure the solution and operations meet all security requirements.

- **Performance Testing:** Performance testing ensures that the solution meets the minimum performance service levels required by DHHR, in terms of query and page response times under simulated load for a number of users for multiple concurrent functions in a given period. Performance testing scenarios take into account expected peak period volumes for application processing such as closing of open enrollment periods.
- **Usability/Accessibility Testing:** Usability testing ensures the solution user interface design takes into account usability considerations for its target user groups.
- **Browser Testing:** Browser testing ensures that the solution operates in the most likely configurations of browser versions and operating solutions. The Vendor is responsible for providing the machine configurations to perform all necessary browser testing. Browser testing also includes the testing of mobile view and mobile browsers.
- **User Acceptance Testing (UAT):** UAT ensures that the developed system meets all expectations of DHHR and all solution users. UAT test scripts cover all facets of the system, and the Vendor should be responsible for drafting all UAT scenarios and cases per DHHR's direction. DHHR will be responsible for identifying the participants involved in UAT, for the overall execution of UAT scripts, and for any ad-hoc UAT testing.
- **Data Conversion Testing:** Data conversion testing ensures that data migrated from the current solution are brought across to the new solution in a usable, complete, correct, and expected state.
- **Operational Readiness Testing (ORT):** ORT is performed to examine the operational capability of the solution and its associated processes and procedures. ORT focuses on the validation or verification of the processes involved primarily outside of the system.
- **Parallel Testing:** Parallel testing is a method of comparing the activities and/or data of the old solution against the new solution. In order to reduce risk, the old and new solutions run simultaneously for some period of time after which, if criteria for the new solution is met, the old solution is disabled.

The Vendor's proposal should describe the Vendor's understanding of the aforementioned testing types, and should also include detail on the approach and methodology for the following:

- All aforementioned testing types, as well as any others the Vendor plans to deploy
- Timing for execution of each testing type
- Usage of tools the Vendor proposes be used in support of each testing type
- Testing environments to be used in support of each testing type, and for all necessary testing activities
- Validating the traceability of requirements throughout the full testing process

The Vendor's proposal should also include detail on the Vendor's proposed source code management tool, as well as details on the project repository that will be used to store usage scenarios, use cases, requirements, designs, test scenarios, test cases, test results, and other project artifacts.

The Vendor's proposal should also present a narrative description that includes the following:

- Approach to completion of the Solution Design, Testing, and Operations task group's testing-related deliverables.
- Approach to obtaining DHHR's approval of the testing-related project milestones including the proposed acceptance criteria for each milestone.
- Approach to:
    - Working with federal partners, DHHR, the Project Management Vendor, the Independent Verification and Validation (IV&V) Vendor, and/or any other Vendor throughout all testing phases
    - Developing test cases and scripts to thoroughly test system functionality
    - Supplying documentation of each testing type
    - Preparing data for each testing type
- Details on the support the Vendor intends to supply during UAT, such as the Vendor's approach to:
    - Developing the UAT Plan, scripts, cases, timeline, and supporting processes
    - Preparing test data
    - UAT results analysis, identification of defect severity, and defect resolution
    - Defect tracking, repair, and reporting
    - UAT final report that includes:
        - A written certification letter certifying that UAT was successfully completed
        - A list of all defects and issues
        - A list of all resolved critical defects and/or issues
- The Vendor's proposal should also include detail on the approach to ORT including details on:
    - ORT approach
    - ORT final report that includes:
        - A written certification letter certifying that UAT was successfully completed
        - A list of all defects and issues
        - A list of all resolved critical defects and/or issues

Optum Response:

Testing Phase

To deliver an EDS that complies fully with your requirements, we will implement a comprehensive testing program driven by the CMS Testing Framework and our Optum Delivery Model. Our model includes a proven testing methodology that we have used on more than a dozen similar and successful state enterprise data warehouse and decision support system implementations. Our complete set of testing processes described in this section will demonstrate that OPAHHS fully meets the requirements defined in your RFP.

Optum will provide comprehensive testing that includes performance testing to verify that OPAHHS meets state performance standards. Our testing program is based on our disciplined and repeatable testing processes and is designed to create a collaborative and successful environment.

Our team understands the complexities of testing EDS solutions. We have extensive experience converting and testing MMIS historical data. We have also worked with several PBM and managed care companies, processing encounters, fee-for-service claims, performing data modeling, and testing.

Our leadership and agility in managing multiple-vendor testing environments led to the successful integration of pharmacy carve-in services in the Indiana Medicaid program. Like many Medicaid agencies, Indiana's Family and Social Services Administration (FSSA) is transitioning a greater percentage of its beneficiaries from fee for service to managed care entities (MCE). This effort included carving in the pharmacy benefit with Medicaid Expansion in 2015. Pharmacy carve-in required collaboration between Indiana's Office of Medicaid Policy and Program (OMPP) and vendors, including three MCEs (Anthem, MHS and MDwise); four PBMs (Express Scripts, MedImpact, OptumRx and US Scripts); and Optum, the EDW vendor. The pharmacy carve-in data transfer processes differ from Indiana's fee-for-service data or traditional managed care data processes. They guide the transfer of pharmacy data directly from the MCEs to the EDW, bypassing the MMIS. We led the initiative to transition the transfer of pharmacy encounter data directly to the EDW by coordinating and communicating with MCEs, PBMs and the State.

The pharmacy carve-in project had an aggressive timeline and multiple partners, which required strict adherence to project management processes and effective communication with partners. A key component of our success was effective and efficient testing. We planned and implemented a phased approach to testing, including end-to-end testing. This testing approach supported a successful EDW implementation by confirming that all partners had achieved readiness. Project success was achieved because of our adherence to our proven testing approach; clear communication with stakeholders; and collaboration-building project management processes.

We will use our experience, knowledge and proven processes to deliver a fully tested and operational West Virginia EDS. Our team understands the complexities of testing the phased implementation of EDS components as well as the parallel operations phase. We will implement comprehensive, disciplined, and repeatable testing processes as part of our approach.

Overall Approach to Testing

The Optum testing methodology consists of five broad activities:

Test Strategy and Planning: We will implement Dev Suite, a comprehensive testing tool for tracking test cases from creation to completion. We will provide required training on the tool and methodology so you are comfortable with the process. The primary output of the test strategy and planning phase will be a Master Test Plan (Testing Management Plan) (TMP). The plan will detail our testing methodology, our testing objectives, the order of our testing activities, and how we separate them into logical cycles and phases. The TMP will be base our knowledge and experience successfully testing other EDS engagements, including in Arkansas, Indiana, and Virginia.

Test Design: During Test Design, we work with you to identify detailed test cases and test types required for testing a particular release. We will identify and prepare supporting test data elements for every test case and establish suitable and appropriate test environments for the testing type. Test design also includes the creation of a comprehensive RTM to map approved requirements to the appropriate test cases.

The test design phase will create the following deliverables:

- Data Conversation Test Cases
- Load and Stress Test Cases
- ORT Scripts
- Regression Test Cases
- System Integration Test Cases
- User Acceptance Testing Test Cases

These deliverables will be QA peer-reviewed, Business Analyst (BA) reviewed, and subsequently shared with State Project Management Office and DHHR for review and feedback.

Test Design cannot be formally completed until DHHR approves the test cases. The Optum QA team will also work with you and your partners to make sure the testing needs and requirements are met during test design activities.

Test case development is based on approved functional and non-functional requirements. Test steps are created based on the design phase deliverable documentation and contain a logical start and end. Examples of areas to be covered by test cases include the following:

- Browser and other interfaces graphical user interface
- User roles and access rights and security
- Regression testing with integrated systems
- Upstream and downstream application programming interfaces
- Data conversion transformation and usability
- Report generation
- Alerts/tasks reminders
- Interface Testing

Test Execution: Test Execution will begin after the completion, review, and approval of the design phase. Test results are compared with the expected results and defects are logged for any failed test scenario. Subsequently, defects are triaged, prioritized, resolved, and re-tested. During testing execution we will test all requirements in scope for each release. Additionally during testing execution:

- An RTM is established during the end of test design and the test execution phase. The RTM at the end of the design phase establishes the relationships/coverage between requirements and test cases. Wherein the RTM at the end of test execution phase captures the test cases results/status as well as associated defects.
- Test cases are reviewed and approved by DHHR business functionality owners.
- All requirements in scope and their corresponding functionalities are delivered as pre-defined software code deliveries to the appropriate environment.

Depending on the parameters defined by the testing type, test cases will be executed by either Optum QA/Delivery staff or by DHHR staff.

Test Closure: Optum will record and review the results of all tests, both successful and unsuccessful, throughout the lifecycle of the testing phases. We will use DevSuite to track all test design and execution. At the end of each release's final testing cycle, Optum QA team will supply documentation of the completed test cases. This documentation will provide a summary

of the release scope, tests carried out, test execution metrics, and any agreed upon defect remediation. The associated system risks and other important information, including workarounds, will also be documented. Optum will provide the following documentation:

- Data Conversion Test Results
- Load and Stress Test Results
- Operational Readiness Test Results
- Regression Test Results
- System Integration Test Results
- User Acceptance Testing Results and Letter

Each document will be provided to DHHR and all appropriate stakeholders for review and approval. While all testing is important, UAT and ORT are critical for the DHHR acceptance of the EDS solution.

Test Status and Metrics Reporting: As part of the test execution phase, Optum will collate and generate daily metrics reports which will outline the following:

- Overall test cases planned for a cycle and execution progress
- A day-by-day plan, which outlines the number of test cases planned per day during the entire test cycle duration and its corresponding progress
- A detailed status metrics by the Line Of Business (LOB)/programs/functional area/business area
- Associated defect Identification Number (ID)s for failed cases
- Defect metrics

As part of our Optum Delivery Model approach we conduct a progression of tests during specified implementation phases. The development phase for each release will contain multiple increments. The length of each increment will be flexible to accommodate your specific requirements and testing iterations. Initial increments will typically be longer in duration (e.g., three weeks), and designed to confirm that core functionalities fully perform to operational expectations. It is during these increments that we conduct Unit and Integration Testing.

We conduct SIT, Interface Testing, UAT and Regression Testing as needed to address issues arising in every phase of DDI.

In the deployment phase, we conduct our final stages of testing, stress/performance testing and ORT to verify the release is operationally ready for deployment into production. Figure 120 illustrates how our staged testing progression dovetails with our implementation approach.

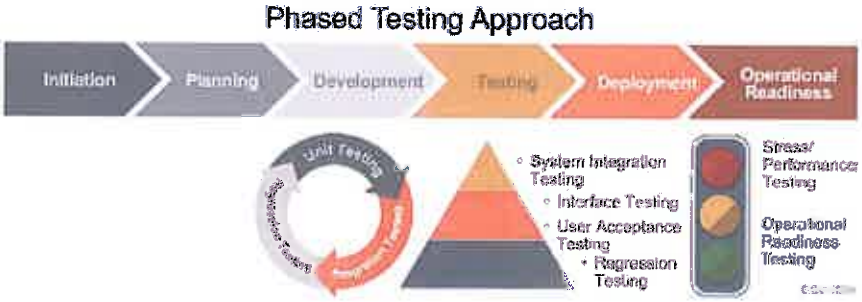


Figure 120: Phased Testing Approach
We test and deliver the West Virginia EDS Project using a hybrid waterfall-Agile methodology that has proven to enhance speed-to-market of many health care IT projects.

Approach to Creation of Test Cases and Test Data

During Test Design we will develop detailed test cases. Our approach to test case development starts with the requirements. We will work with you to trace each test case to the requirements. The following is a high-level outline of test case development:

Development and Authoring Test Scenario: Test scenarios will summarize the testable requirement that will be validated by executing a series of test steps that make up the test case. We will collaborate with you to make sure the test scenarios are representative of your business processes and requirements.

Development and Authoring Detailed Test Case Steps: Test cases will detail a series of test steps, including the test data requirements. These steps define the actions a tester will complete to validate a requirement. After they are developed the test steps are peer-reviewed and subsequently uploaded to our testing tool. We will work with you to define the specific data points you want to track for testing. A sample of our normal test case fields is included in the table below.

Field Name	Description
Test Case Name	Functionality name
Test Phase	System, System Integration, Regression, Interface, Conversion, Accessibility, Multi-Browser, Mobile, User Acceptance, CMS Testing, IV&V Attestation, Performance, Security, SIT Parallel Testing, Operational Readiness Automation and Production M&O
Test Case Type	There are four values: Functional Positive, Functional Negative, Non-Functional Positive and Non-Functional Negative
Test Designer	Author of the test case
Test Creation Date	Date the test case was created
Test Data	All test data considerations for the test case will be documented under this section, including any pre-conditions
Test Priority	High, medium, low
Functional Area	The functional area impacted
Sub Functional Area	Sub-functional area impacted
Test Requirement Coverage	Defines the requirements that the test case covers establishing the traceability between requirements and test cases
Test Scenario Description and Objective	Test scenario description and objective
Design Steps	The detailed description of each test step and expected result
Review Comments	Feedback and the actions taken
Status	DHHR-Approved, Draft, QA-Approved, QA Rework, Ready for DHHR Review, Ready for QA Review, Ready for SME Review, SME-Approved

Test case reviews are essential for everyone to agree on the scope and coverage of testing. The reviewed and approved test cases serve as the framework for testing. Our test case development approach includes:

- **Peer reviews:** Completed by a QA team member (an individual who has required business knowledge, potentially a tester or test lead who did not author the original test case that is under review) for each detailed test case to confirm that the test steps correctly validate the requirement.
- **BA reviews:** Completed once test cases are ready for external teams review. The review comments from Optum BAs will be incorporated before submitting the test cases formally for DHHR review.

- **Case Review Kickoff:** Scheduled with DHHR for test case review prior to DHHR receiving the test cases for review.
- **Testing Review:** DHHR will complete the review of test cases and share the feedback comments to the Optum QA team. This team will work on the required updates to test scenarios (the parent level row, which focuses on what to test) and test cases/steps (the child level rows, which focus on how to test).
- **Resubmission:** Revised test cases are re-submitted for DHHR review and approval.

Where needed, we will assist you with the generation of test data. The goal of test data development is to have testers with the high-quality, realistic data to successfully simulate both positive and negative test scenarios. This test data is for use in system integration and will be provisioned through the generation of modeled test data objects.

The Optum testing team will use newly created data (manually or automated) and converted data from legacy applications. If legacy production data is used for test data DHHR will have to approve and appropriate security will be put in place.

Approach to Testing Types and Environments

We understand a variety of testing methods are required for successful implementation of the EDS. Each testing type has a different scope and purpose with the same emphasis on quality. We plan to use the test methods listed in your RFP as well as the additional methodologies of Smoke Testing and Test Automation. We describe each of our proposed testing methods in the following table.

Testing Method	Description
Unit Testing	As the lowest testing level, unit testing verifies that the individual units of the EDS/OPAHHS software work properly. The objective of unit testing is to test not only the functionality of the software, but to confirm that the unit of software is structurally sound, robust, and able to respond appropriately in all conditions. Unit testing includes the following activities: • Creating unit test scripts • Executing unit test scripts • Validating unit test scripts Our development/configuration team, assisted by quality assurance/quality control (QA/QC) resources, will perform unit testing. A set of unit test cases will be prepared and approved before unit testing can start. The development/configuration team documents the unit test results; the QA/QC team then reviews and approves.
Integration Testing	Integration testing occurs when two or more units have been tested and are combined into a larger, single structure. Because our solution components routinely interact with other system components as well as each other, integration testing tests the interfaces and interoperability between components. Integration testing is used to identify and resolve defects up front, prior to the more complex SIT.
Iterative Functional Testing	Iterative functional testing verifies the components developed for each logical iteration of the system meet all functional and technical requirements as defined and approved in the Requirements Analysis Phase. The Optum QA team performs the testing. This testing phase is internal to Optum.
System Integration Testing	The primary goal of System Integration Testing (SIT) is to assess the new functionality based on all the components of the release. Optum's QA team will direct system, system integration and end-to-end testing activities with partnering teams and operate the WV EDS testing as described in the Test Management Plan. • This testing includes exercising the system functionality, system integration points (interfaces including full End-to-End testing), and system compatibility (where applicable) as defined in the scope of the effort. It also includes any re-testing that is required for defect fixes.

Testing Method	Description
	◦ System testing is to evaluate the system's compliance with specified technical requirements and design artifacts. SIT focuses on testing the back and forth transactions between multiple interconnected systems through interfaces. ◦ The objective of SIT is to validate that the system functionality works as a whole solution. Testing during this phase verifies that the various WV EDS components communicate effectively within the integrated system and that the solution meets the functional requirements and design established for the system. The detailed test cases include specifics such as navigation, the required input for each report, query, process, and the expected result of each transaction. ◦ The SIT phase is the major testing phase immediately following unit testing and before the UAT phase. The SIT testing phase includes testing types such as smoke, system, system integration (including interfaces), end-to-end, conversion, regression, security, and performance testing activities. All the test cases that are part of the SIT phase will be categorized by testing type in the DevSuite.
Interface Testing	Interface testing is performed with third-party or outside agencies that send or receive data from the EDS. The goal of interface testing to confirm these data exchange interactions behave as expected. During the Test Planning Phase Optum will work to develop an inventory of interfaces for testing. Optum QA team will coordinate with different interface owners to define the testing window and test scenarios, data to be used. Interfaces testing may be executed in SIT, UAT, and ORT testing phases.
Regression Testing	Regression testing is conducted throughout all stages and releases. It is implemented to validate that existing, tested functionality is not negatively impacted by the introduction of new functionality. This testing is conducted in a controlled environment with well-defined data management and code management practices unique to this testing. Whenever functionality is updated regression testing is performed.
End-to-end (E2E) Testing	E2E testing simulates real-world scenarios by identifying system dependencies and verifying data integrity is maintained across the entire system. QA verifies the system is integrated to all external or third-party systems defined in the requirements including functional and non-functional requirements. QA executes scenarios, both positive and negative, that test the flow of the system from beginning to the end. E2E testing includes full workflow execution of all cycles (e.g., daily, weekly, monthly), using converted and interface data as much as possible. E2E scenarios are developed using real-world business scenarios that mimic real-world use at the component, application and system level. These scenarios will be identified and approved by DHHR before testing. The satisfactory completion of every test case and your sign off on the test results will indicate the successful completion of E2E testing. Where possible, E2E scenarios may be executed in earlier testing stages for earlier validation of scenarios and/or identification of defects and added to the regression testing suite.
Security Testing	Security testing is a process intended to reveal flaws in the security mechanisms of an information system that protects data and maintains functionality as intended. Typical security requirements may include specific elements of confidentiality, integrity, authentication, availability, authorization, and non-repudiation. Security testing of system components will be performed to validate that application components follow best coding practices and are not vulnerable to opportunistic access. Security is integrated into Optum's maintenance services and the software development lifecycle to enable identification and verification of regulatory requirements and the controls required to meet compliance. Security testing validates whether the application and environments are secured and based on authorization and authentication profiles. Security requirements are met by the following: ◦ Identification of applicable security and compliance requirements, system components, functional requirements, and internal administrative controls during the requirements gathering phase ◦ Identification of existing patterns, use cases and gaps analysis during the design phase ◦ Identification of the recommended solution; includes the recommendation of acquisition solutions required to address gaps during the development phase

Testing Method	Description
	• Threat and vulnerability management through source code review, and infrastructure and application penetration testing during the QA phase • Continuous vulnerability scans, flaw remediation, and compliance verification during the production phase Optum will provide a report of the results of its security risk assessment, including all tools used, such as code scanning and application scanning tools, and an action plan of remediation for vulnerabilities identified as part of the end of Test Summary Report.
Performance Testing	At Optum, performance management and optimization are performed by tuning experts who evaluate code to determine ways in which the development team can improve the application's performance through a structured recommendation approach. These recommendations are delivered to DHHR. The objective of these recommendations is to provide a summary of the actual system performance. Tuning teams search for unusual trends in consumption to locate possible improvement opportunities. Each opportunity is documented and moves through a structured review process. This process selects the code changes that will have the greatest performance and financial impact on the application. Governance helps us make sure tuners and application owners and business owners agree prior to code changes. **Our Performance Test Approach for the EDS** In the Phase of ETL Performance testing, Optum will be involved to database Level or Core Database Level and will primarily focuses on server side tuning and the jobs tuning. **ETL Performance Life Cycle** • **ETL Workflow requirements:** In the phase of work flow requirements, Optum can identify the Performance scenarios how to connect the database to server which environment supports the performance testing and to check the front end and back end environment and batch jobs, data merging, file system components finally reporting events. ◦ **Identifying the Critical Transactions/Data Volumes per day for each ETL Job**: In this phase, Optum will be involved in identifying the critical transactions and the critical ETL jobs or reports which have to be performance tested for identifying the bottlenecks. • **Performance Baselining:** To calculate the speed of the job which is functioning as of now, Optum can test at database level to check if the database is loading the properly and to baseline the time required to load the database. This performance baseline is an expected level of performance against which all subsequent levels of performance are compared. • **Performance Testing:** With reference to the base lining values of the critical transactions and critical jobs Optum will run the jobs in dedicated environments to understand how the system behaves under huge data / high number of concurrent user (load test / volume test). • **Performing Measurements:** At the time of Performance execution, Optum will measure the following metrics: – Client side metrics – Hits/second – Throughput – Memory allocation – Process resources – Database statistics – Database user conditions ◦ **Performance Tuning:** ETL performance tuning is used to confirm if an ETL system can handle an expected load of multiple users and transactions. Optum recommends the suggestions to the tuning department based on the bottlenecks identified.
Usability/ Accessibility Testing	Usability is a cornerstone of Optum Web interface design. Starting with the design phase, Optum uses the United States Department of Health and Human Services Research-Based Web Design and Usability Guide as a blueprint to promote the intuitive and ease of use for all interfaces. After design, Optum uses hands-on testing for the user interface to evaluate aspects of usability, including ease of finding key information, page flow, print layouts, response time, ability to complete tasks, and desktop browser/mobile usability. This methodology promotes delivery of an interface that meets your needs. Furthermore, Optum runs a dedicated user interface experience lab to assist projects in meeting interface

Testing Method	Description
	requirements. Usability testing also involves multi-browser testing using Chrome, Firefox, Safari, Microsoft Internet Explorer/Edge browsers, and mobile testing with mobile devices. The methodology also performs the necessary testing for functionality to meet 504 and 508 compliance for accessibility. The Optum QA Team will be responsible for accessibility testing.
Browser Testing	This type of testing involves whether the product user interface is compatible with different browsers/views which includes but not limited to Microsoft Internet Explorer/Edge, Firefox, Chrome, and Safari. User interface test cases will get executed in different browser on a sampling basis to make sure that the user interface functionalities of the system are working as intended. Optum QA team will document the browser names and its corresponding versions in the TMP work product.
User Acceptance	After successful completion of SIT, our testing team coordinates UAT with DHHR users (typically one or more business units) to validate the EDS against baselined business requirements and approved change requests. This occurs within a pseudo-production environment. The focus of UAT is to determine how well users can perform their jobs with the set of systems and business processes currently configured for the release. Through UAT, end users: • Verify that the EDS, associated modifications and infrastructure perform according to the requirements • Validate that the solution meets the user's needs The emphasis is on evaluating the system against normal business circumstances, but in a controlled testing environment. This environment will support UAT-related activities, such as training, defect logging and resolution of other issues required prior to sign-off and release of all work products to production. Throughout our contract tenure, DHHR business users perform UAT to validate that the EDS and downstream enhancements/ modifications meet requirements and function as designed. If DHHR requests it, the Optum team can help perform UAT as well. Our team will work closely with you to provide the support you need during UAT. More details about our approach to UAT are provided later in this document.
Data Conversion Testing	Data conversion testing is essential to verify the data loaded into the EDS matches the data from previous data warehouse. Optum will perform the below testing techniques as part of the data conversation testing. • **Data Transformation Testing:** Verify that data is transformed correctly according to various business requirements and rules • **Source to Target Count Testing:** To make sure that the count of records loaded in the target is matching with the expected count • **Source to Target Data Testing:** To make sure that all projected data is loaded into the data warehouse without any data loss and truncation • **Data Quality Testing:** To make sure that ETL application appropriately rejects, replaces with default values and reports invalid data • **Data Integration Testing:** To make sure that the data from various sources has been loaded properly to the target system and all the threshold values are checked • **Data and Constraint Check:** The datatype, length, index, constraints, etc. are tested in this case • **Duplicate Data Check:** Test if there is any duplicate data present in the target systems. Duplicate data can lead to wrong analytical reports Data conversation testing is only part of the initial data load and conversation project. As other data sources or functional are added to scope Data Conversation testing will be handled as regression testing.
Operational Readiness Testing (ORT)	The last environment is established as a mock production, or staging, environment. Through ORT, DHHR verifies that the EDS has been installed and configured to successfully operate in the production environment and that end users have been satisfactorily trained to operate the system at go live. Our team will work closely with you to provide the support you need during ORT. Our full approach to ORT is documented later in this proposal.
Parallel Testing	Optum will use parallel testing to test all functionalities being replaced. This is achieved by running scenarios through the existing data warehouse and through the replacement system to confirm consistent results. This technique will be leveraged to all the applicable test phases.

Testing Method	Description
	In compliance with the TMP, we will use the parallel testing techniques in both the current and replacement systems to validate for any discrepancies. We will make sure that the new system matches the functional operations of the incumbent system and any differences are expected according to the requirements. We will define test plans to conduct parallel testing of the functional scenarios against the new and incumbent system. At the completion of successful parallel testing, Optum will review the results with state to seek approval to proceed to production.
Smoke Testing	Smoke testing is a limited testing effort that makes sure code functionality and the test environment are stable enough for test use. Smoke testing is the first step of the testing phase SIT/End-to-End, UAT & ORT phases, whenever a new code/deployment been done on a test environment smoke testing will be executed.
Test Automation	Where possible, Optum uses an automated testing framework that includes software tools and experienced staff to meet solution requirements for regression testing across multiple environments. Our proposed solution has proven successful in other state projects. Our solution is based on Selenium, an open source test automation platform, using Java and Cucumber Framework which can work on multiple browsers and can automatically log results and generate reports. The automated framework solution is a hybrid solution that is both data and keyword driven. Optum has expertise and will work with you to setup the framework/tool in the different test environments and provide access on the automation scripts to department staff as required.

We will provide logical test environments for testing the applications. We will provision environments as required by RFP to establish the full System Development Life Cycle. We will design, provide and maintain all environments in our proposed solution with capacity to support all components of the solution.

Along with the production and disaster recovery environments we plan to provision four additional environments for testing. As DHHR approves code and testing results the functionality is moved through the environments, eventually being deployed to production.

The following table describes our planned test environments and the descriptions, types, and whether production data can be used in the environment.

Test Environment	Development (DEV)	Quality Assurance (QA)/SIT	User Acceptance (UAT)	Stage
Description	This environment is the initial location for all code. It is only used by the Optum development team.	This environment is the first area where all the pieces of the solution come together. It is used by the Optum development team to confirm all the parts of their code function well with each other.	The UAT environment is used to verify the functional works as the requirements intend. Some applications require production level data to support development and integration, these may be pointed to the UAT environment as well. It is used by both the Optum development team and DHHR testers.	The stage environment most closely resembles the configuration of Production. It is the last place code is verified before being put into operations
Test Types	Unit Testing	Integration Testing, Iterative Functional Testing, SIT	Interface Testing, Regression Testing, End-to-End Testing, Security Testing, Usability/Accessibility Testing, Browser Testing, UAT For applications requiring production level data, such as FADS, and other Report development Integration Testing, Iterative Functional Testing, SIT may	Performance Testing: Data Conversion Testing, ORT, Parallel Testing

Test Environment	Development (DEV)	Quality Assurance (QA)/SIT	User Acceptance (UAT)	Stage
			occur in a UAT environment as well	
Production Data	No	No	Yes	Yes

Any non-production environment slated to house production data will have the same security as production. DHHR written approval is required before any production data is loaded in a non-production environment.

Figure 121 shows how the testing phases, environments, and testing methodologies relate.

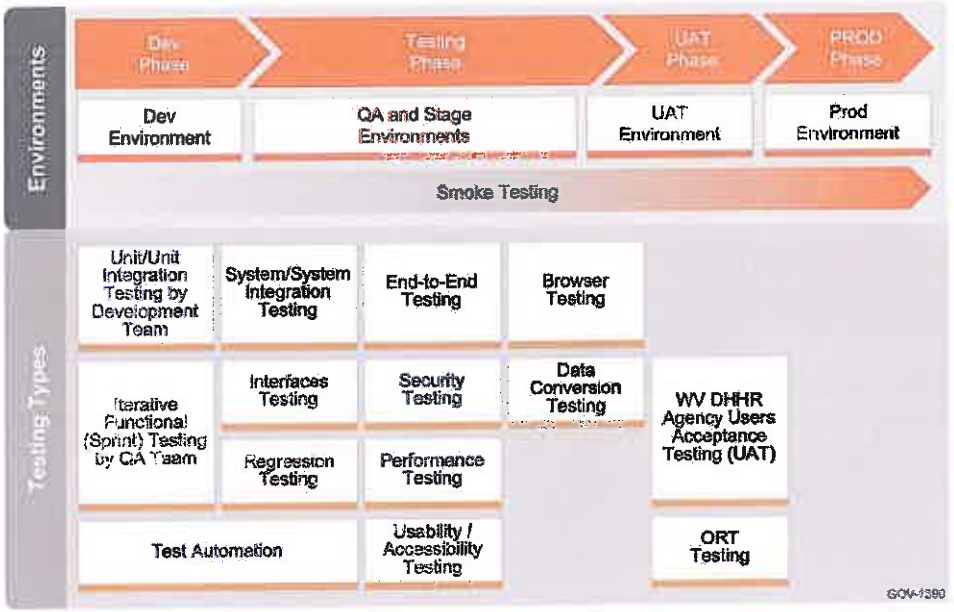


Figure 121: Alignment of Test Phases, Environment, and Test Types
We align test phases, environments, to deliver the EDS.

Approach to Testing Tools

We integrate leading COTS-based tools into our OPAHHS solution. OPAHHS leverages TechExcel's DevSuite for test management. Our test management component is a fully integrated Application Lifecycle Management (ALM) solution that has its roots in development and QA management. It has expanded to monitor and control all processes of ALM, including requirements definition, design, sprint planning, development, testing, and deployment. This component is used not only for building high quality applications but can be adapted for any type of product development. In addition, it is easily extended to support project and portfolio management of multiple development projects and is easily configurable to multiple workflows and software development lifecycles. Key features of our test management component as a test management tool include:

- **Create, plan, execute and track:** Reusable test cases and all testing assets are created within a central repository. Releases and test cycles can be scheduled using a wizard-driven interface; test assignments are then executed and results tracked in real time dashboards and reports.

- **Intuitive user interface:** This responsive, interactive user interface presents all the relevant information in context, allows easy access to most used functions and minimizes the number of clicks, refreshes and navigations. This allows the team to complete their jobs faster.
- **Manual and automation execution:** This facilitates the setup of structured and freeform test execution cycles and runs manual tests or launches automated tests in the automation tool. All results update in real time.
- **Defects and traceability:** With built-in requirements and defect tracking integration, this tool helps make end-to-end traceability easy.
- **Automation:** This features out-of-the-box integration with popular automated testing tools. Users can schedule and launch automated tests from within the component and track automation results with real-time dashboards and reports.
- **Live metrics and trends:** As team members perform their testing tasks, out-of-the-box, real-time metrics are constantly updated, thereby providing

As illustrated in Figure 122 through Figure 125, the DevSuite toolset provides complete test lifecycle management capabilities from creating test cases, logging defects, and managing them to closure in a user friendly manner.

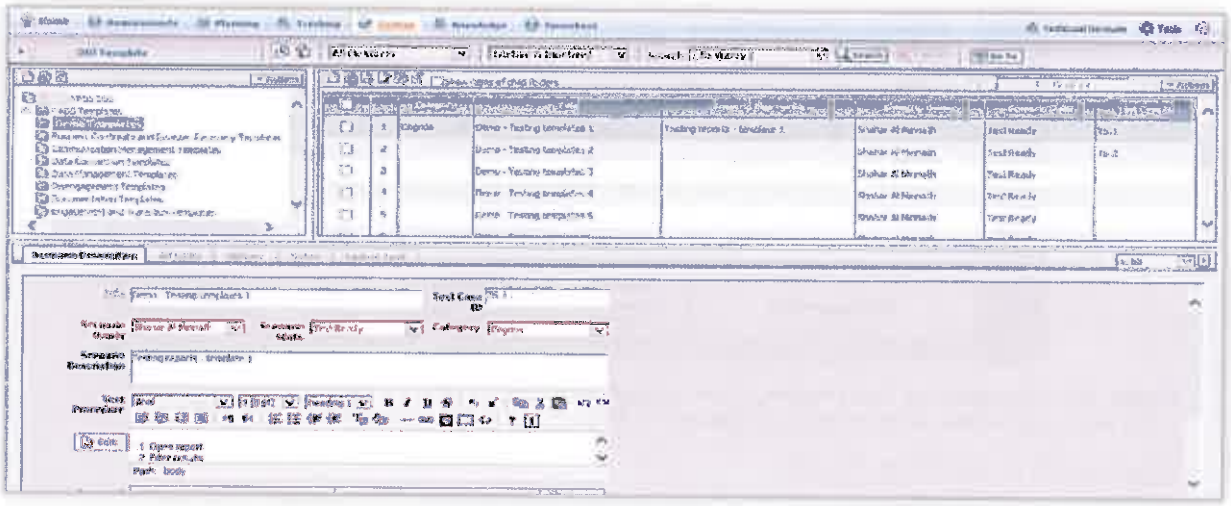


Figure 122: Test Template Example
The online test case capabilities in DevSuite make it easy for the user to document the test scenario and details to verify system functionality.

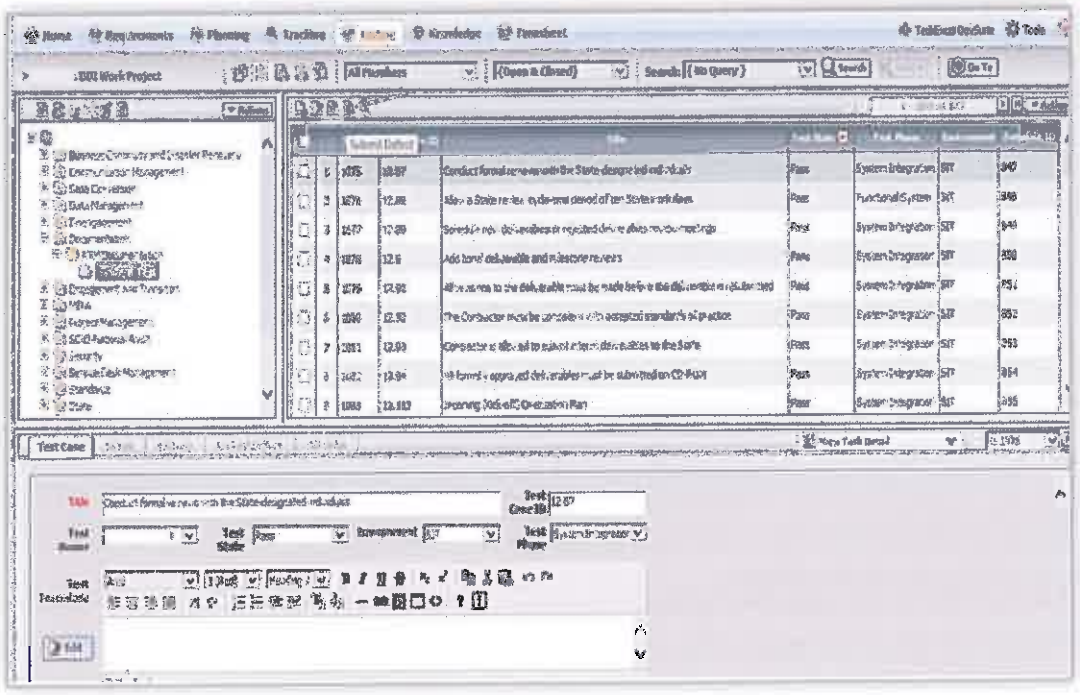


Figure 123: Example of Integrated Defect Submission
The automatic defect submission capabilities enable linking of defects to test cases.

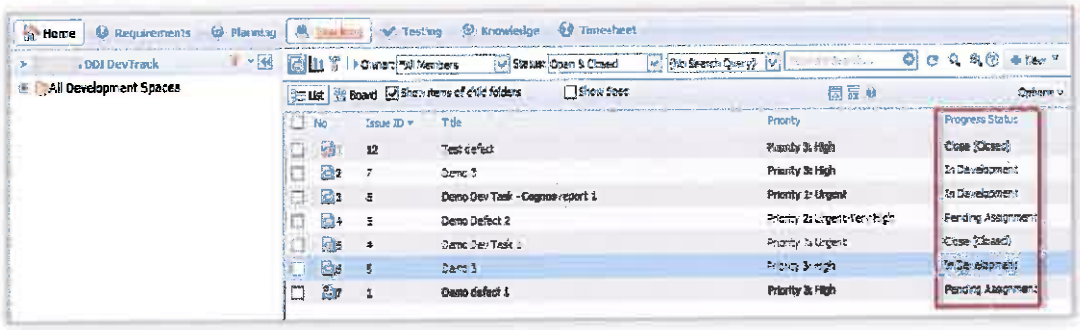


Figure 124: Example of Defect List
DevSuite allows us to manage testing status, defect tracking, and quality management using a comprehensive testing approach.

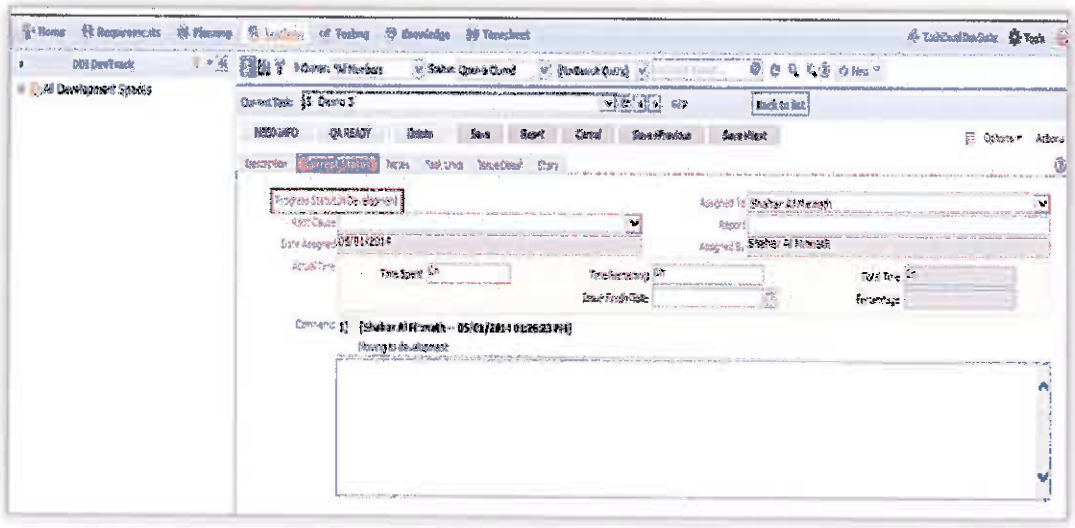


Figure 125: Example of Defect Details
DevSuite provides configurable status reports which can be displayed in a variety of formats.

Optum employs Git to manage our source code in each of the environments. These tools are built on industry best practice open source technology. The code is maintained in a source control repository with the necessary attributes applied to version the code. This control provides visibility into the evolution of the code. This versioning or tagging of the code allows build packages to be defined pulling in the necessary tagged code. Optum's source control system also gives the ability to revert to previous code versions, if necessary, to troubleshoot, or roll back a system.

We use a disciplined promotion path. Only certain staff has the ability to promote code from development to test, from the test to re-production environment, and from the pre-production to the production environment. Developers will perform unit testing in the development environment. When developers are satisfied that the code performs to specification, they request promotion by one of the release managers to the test environment. The testing team then tests the code. The test environment is a limited access environment in that the developers cannot access the environment to change code. This enables strict control over the objects that are tested in the test environment. When the testing team tests and certifies the code, they request promotion to the UAT environment by the release management team. The release management team then promotes the requested artifacts, and then the objects that are smoke tested before release to DHHR's UAT team for testing. When the code passes UAT, the test results and recommendation will be prepared for submission to DHHR.

Approach to Working with Other Partners

We will work with you and your partners during every part of the testing process, from design to sign off. During project planning, we will work with you to identify DHHR staff and other stakeholders who will support our testing work. We will work with them to develop the System Testing Plan and approve changes to the plan throughout the life of the contract. We will also need their participation in activities such as establishing the test framework and identifying devices and resources required to connect to the DHHR environment. Your staff and resources will participate in UAT to help us validate the solution functions as expected and meets your RFP requirements. Our personnel will work with DHHR and other stakeholders through each

testing stage to provide comprehensive documentation for all test results in a format you approve.

We also understand the multiple stakeholders who will contribute to the EDS. Enterprise means close collaboration with other vendors will be vital. Dependencies exist across the project that will require us to work closely with other suppliers. Optum has substantial experience in this area. As the EDS vendor for the State of Arkansas, we work closely with your MMIS vendor, DXC Technology, for critical activities like data loading and testing. In Michigan, Optum works closely with the State's Project Management/PMO vendor to make sure activities are prioritized and tracked appropriately.

The key to our success in working with other vendors has been collaboration and communication. Optum will work other suppliers to define a detailed plan for testing. The plan will cover the following:

- Clear expectation for deliverables and timeframe
- Integration point's assessment methodology, dependencies, data feeds, data pulls and batch jobs maintained to simulate production
- Test schedule
- RACI (responsible, accountable, consulted, informed) matrix

Approach to UAT

In UAT, actual product users test the software with most frequently used daily operational scenarios to make sure it meets the end user's day-to-day operational needs. The system, system integration, and conversion testing must be successfully completed before the start of the UAT phase to avoid duplication of effort and defects.

Optum will provide the recommendations for every release on when the UAT testing can begin, depending upon overall test schedule and quality of the product.

The UAT team is comprised of multiple groups including but not limited to DHHR users (related to the release), Optum Line of Business (LOB) managers, and the Optum testing team. DHHR staff will provide the UAT test scenarios for UAT testing. The Optum QA team will design and develop the UAT test cases, and DHHR users will execute the UAT test cases.

The already designed and executed test cases (as part of SIT or End-to-End testing) may be reused for UAT testing. UAT testing support activities performed by Optum QA team includes:

- Authoring the UAT test cases on behalf of the UAT Team by closely working with DHHR users
- Coordinating with user interface development team for new screens and flow demo
- Coordinating with the infrastructure team to set up UAT environment configuration and/or properties based on a LOB or work track need
- Setting up working sessions and live scribe sessions with business analysts, developers and Optum QA team
- Supporting DHHR users for ad hoc testing activities
- Supporting all aspects of the testing tool, DevSuite, which includes uploading test cases and updating the results logging defects on behalf of DHHR
- Retesting of the fixed defects prior to DHHR agency user's retesting
- Supporting regression testing for a work track for a particular UAT test cases

- Identifying existing converted test case data or creating new test case data for those UAT test cases under test
- Collaborating with DHHR for prioritization of defect

We will also support you by the creation of an overall UAT plan. The UAT plan contains documentation of UAT test cases, procedures, timelines, and processes with the Optum QA team's support. The UAT test cases must be prepared and approved by DHHR before the start of the UAT execution phase. Optum will work with DHHR to identify the key DHHR users from federal or state agencies and third parties to make sure effective collaboration starts from the early cycle of testing. The Optum QA team will be connected with existing legacy application business users to understand their current UAT needs and create UAT test cases. The overall goal is to avoid redundant or duplicate testing efforts across the teams. The Optum QA team will be primarily in charge of developing and authoring the UAT test cases by closely working with the UAT Team, in line with the expectations of different stakeholders.

As required by the UAT plan, the responsible Optum QA team will support/provide the test data to perform UAT. The test data could be converted data from a legacy application or brand new data created in the new system. Where possible Optum will use sample data to test business rules or specific edits which have been identified and developed. DHHR will be primarily in charge of executing the test cases during the UAT testing phase. Optum will assist in UAT testing if requested by DHHR.

In some cases production data is required to perform UAT. In these cases, like all test cases DHHR will approve the use of the data and the test cases. The Optum QA team identifies the legacy data or creates new data that meets the test case needs wherever applicable and will support the need of test data, batch jobs execution for DHHR.

The DHHR users will get trained on the test case execution process and defect creation process well before the start of UAT. Optum QA team and Optum training team will partner together to make sure the training materials are developed and trainings are conducted in a timely manner.

Optum will track the test design and execution to generate detailed test status reports to all the Stakeholders on an agreed upon schedule. The UAT test results must be approved and signed off by the DHHR. The report will clearly outline the content metrics by the following:

- Application/systems tested
- Sub-system functionalities tested
- Upstream/downstream interfaces tested
- Any other details which the UAT team would like to track it as part of the UAT phase

When defects are found they are logged for tracking. A defect is defined as a failure of the system to deliver the functionality as defined in the requirement. The Optum QA team primarily identifies and enters the defects during SIT phase and DHHR users identify and enter the defects during UAT phase.

Once the defect is identified we will work with to analyze the defect. The goal of this analysis is to:

- Understand the severity and priority of a defect
- Understand the root cause of the defect
- Determine an appropriate resolution of the defect

Severity defines the impact a defect is having on the business functionality or on execution of the test cases. Priority denotes how soon a fix is necessary for a defect. The Optum QA team

sets the severity and priority when the defect is created during SIT phase. The severity and priority are set by DHHR users for those defects found in UAT. Examples of these classifications are Critical – for anything blocking acceptance, High for functionality preventing a function but with a work around, or Low for a minor issue. Any disagreements between DHHR and Optum on priority and severity levels assigned will be handled on a case-by-case basis utilizing established project escalation processes.

In most cases the defect will be categorized and included in a future release from resolution and retesting. In some cases, a defect is found to be a gap in the requirement instead of a faulty functionality, it will not be considered a software defect. These gaps will be tracked as a requirement or documentation defect. All defects will be tracked and a defect report will be made available.

Both Optum and DHHR will collaborate with your PMO to develop the UAT metrics in report format. Optum will create a final report including the summary of UAT test case results, a written summary certifying that UAT was successfully completed, and a list of all defects that are fixed by Optum, and then retested and closed by DHHR. In more detail, these reports will identify the following:

- Statistics reporting test case execution
- Pass/Fail Status of test cases
- Summary description of defects identified in UAT testing by DHHR Agency users
- Defects categorized by the following, but not limited to: Functionality, severity, priority and status

The expectation is there should not be any defects outstanding at the end of UAT phase. The report will also contain any workaround related agreed upon information with DHHR for outstanding defects. All defects identified during the UAT phase, including the description of the defect, will be provided to DHHR.

Approach to ORT

The goal of the ORT tasks is to make sure that the system is ready to support the day-to-day operations of DHHR. ORT testing starts after UAT, with the approval of DHHR and after meeting the agreed on ORT entry or start criteria. Actual application users handle the required tasks in real-world scenarios according to operations processes and procedures.

Optum will be responsible for performing ORT and will provide results to DHHR in an Operational Readiness Test Results document for approval to proceed with go-live.

ORT will cover the following:

- Test availability of system functionality per Operational Readiness Test Plan
- Test solution components and connections to interfaces per Operational Readiness Test Scripts
- Test user access levels per Operational Readiness Test Scripts
- Validate monitoring for the solution per operations readiness check-lists
- Verify operations and support staff have been trained per operations readiness check-lists

Figure 126: ORT Process. *Our operational capabilities are tested through a methodical ORT steps.*

The ORT process is shown in Figure 126. Multiple federal partners may review the system prior to go live.

We will generate an Operational Readiness Test Results document at the completion of ORT. This report is provided it to DHHR for review. After DHHR reviews and approves the ORT results, the release is promoted to production.

5. CMS CERTIFICATION

The Vendor's proposal should describe in detail the Vendor's experience with CMS Certification including the MECT, and a proposed approach to certification of the solution. In addition, describe the Vendor's experience in projects subjected to IV&V oversight, the approach to interaction with an IV&V team, and responding to IV&V findings.

Optum Response:

Experience with CMS Certification

We provide solutions across 46 state agencies, and the District of Columbia has given us extensive familiarity and expertise in supporting states before and during the CMS certification process. This includes a thorough understanding of Medicaid Enterprise Certification Toolkit (MECT) and how it applies to the assessment of solutions we provide. We also support our customers by:

- Compiling reports and data required for the preliminary letter submission to CMS
- Preparing required certification manuals, reports, forms, artifacts, deliverables and other certification-related documentation
- Supplementing state personnel in certification procedures and participating in CMS milestone reviews or site visits, including vendor operational facilities
- Providing the expertise to answer questions and locate and provide additional materials the CMS review team needs
- Providing additional certification assistance as needed by the state or IV&V

CMS has recognized Optum twice for our certification best practices related to our FADS applications, which are part of our EDS suite of offerings. We have substantial familiarity and expertise in providing support to states, both before and during the CMS certification process. For example, our DW/decision support system/business intelligence solution for the State of Indiana received CMS certification within eight months of going live.

Optum has extensive experience across multiple state engagements in implementation activities, operations, project management activities, CMS Medicaid Enterprise Certification, knowledge of MMIS, CMS Standards and Conditions, MITA, and MECT checklists, Health Care Exchanges, and supporting the transition from a legacy MMIS or health care systems to modern, modular systems. We have consistently delivered on our commitments to our state customers across different types of engagements.

Approach to Certification

OPAHHS Architecture and Design

We architected and designed our state government solutions using MITA and the CMS Seven Standards and Conditions as our framework to meet state requirements and federal regulations. We designed OPAHHS to enable and assist states to achieve the higher levels of business, information and technical maturity and make certain states receive enhanced federal funding back to day one.

MITA 3.0

Our current MITA business processes meet a minimum maturity level of 3 in all areas. Additionally, we designed the information and technical solution to help enable our customers to achieve a maturity level of 4 and higher. We take every new business process through the MITA Maturity Model (MMM), using the six measurable business qualities defined by MITA. These qualities are as follows:

1. Timeliness of Process
2. Data Access and Accuracy
3. Effort to Perform Efficiency
4. Cost Effectiveness
5. Accuracy of Process Results
6. Stakeholders Satisfaction

During requirements validation and design activities, we will work with you to select existing processes and define new business processes that are in scope for this project's requirements. We will align each business process to the six measurable business qualities that distinguish performance from one level of maturity to the next to DHHR to achieve desired maturity levels in line with your State Self-Assessment (SS-A). We will align each new business process to the five levels of maturity defined by MITA:

- **Level 1** of the MMM includes capabilities to demonstrate adherence to federal and state legislative mandates.
- **Level 2** improves over Level 1 with the introduction of quality improvements and data access with the implementation of technology standards.
- **Level 3** has high use of industry standards for data exchange, and the State Medicaid Agency (SMA) is collaborating with intrastate agencies to improve health care coordination.
- **Level 4** introduces the intrastate and interstate exchange of clinical information.
- **Level 5** is defined by seamless coordination, real-time processing, and integration of state and federal agencies.

As you can see in the following table, OPAHHS meets or exceeds the MITA 3.0 maturity Level 3 across the CMS Seven Conditions and Standards.

CMS Seven Standards and Conditions	Maturity Level Assessment
Modularity Standard	3
MITA Condition	3
Industry Standards Condition	3
Leverage Condition	3
Business Results Condition	4
Reporting Condition	4
Interoperability Condition	3

Modularity Standard

OPAHHS meets the CMS Modularity Standard. OPAHHS will be a core component of your Medicaid enterprise and is a fully modular, configurable, and MITA 3.0-aligned solution. The OPAHHS technology design includes industry leading components integrated within a cloud-hosted environment.

Additionally, our solution uses a combination of data presentation technologies for business intelligence and data science. For production level reports, we include an intuitive browser

interface and powerful ad hoc features. For data visualization, we use server and Web-based user applications, which provide the technology to render meaningful visuals on various devices. For data science technologies, we provide innovative and open source tools and integration with common desktop tools such as Microsoft Excel.

MITA Condition

OPAHHS architecture combines a centralized enterprise data warehouse with integrated analytics and reporting capabilities that serve business imperatives across state programs. Our solution aligns with all three MITA Framework architectures:

- Business Architecture – what is needed by the business
- Information Architecture – what the data characteristics are
- Technical Architecture – how we retrieve and deliver the data

Our experience has taught us that implementing solutions that include higher levels of maturity into organizations typically at or below Level 3 can disrupt existing operations and culture. Understanding this, our approach for advancing MITA maturity begins with delivering solutions that align with your current maturity model while offering business processes, architecture, and an operations framework that allows an adaptive and deliberate progression into higher maturity levels. We will instill this discipline in the DDI phase and include organizational change components for those elements affected by higher levels of maturity and capabilities.

The qualities that distinguish performance at one level to another within the MITA Information capabilities include:

- **Data management strategy:** OPAHHS provides a structure that facilitates the development of information/data, effectively shared across your Medicaid enterprise environment to improve performance. We will provide this structure to effectively share information and data across your Medicaid enterprise. We will also provide an actionable data governance policy to mitigate loss of quality of existing data and provide for quality definition and relationships for new data going forward.
- **Conceptual data model:** This model represents the overall conceptual structure of the data, providing a visual representation of the high-level data needed to run an enterprise or business activity. During the DDI phase, we will build your conceptual data model that will provide this representation, and we can begin to map the conceptual data model back to the 10 MITA Business Areas.
- **Logical data model:** This model identifies the logical data elements that are in motion in the system or shared within your Medicaid enterprise. This logical data model can be mapped back to the business processes that you desire to improve to a Level 3 maturity. Having this data mapped back to business processes will enable further analysis to determine what needs to change within the process and/or Information Capability to achieve Level 3 maturity.
- **Data standards:** During the DDI phase, as we build the conceptual and logical data models, we will identify and document the applicable standards for each Medicaid enterprise data element. The OPAHHS metadata function enables the documentation and definition of each data element, including standards.

OPAHHS surfaces metadata to users through user interfaces, ranging from Informatica Data Explorer for lookup and exploration to reports and context level help. We bring the metadata as close as possible to the users so that users can properly understand the definition of the data warehouse fields. At the data management foundation level, metadata is collected in the Informatica Metadata Management tool, which will provide useful artifacts for users such as a

Business Glossary and Data Dictionary. Optum will provide updated EDS data element dictionaries as required following the completion of the Operational Milestone and MMIS Certification Final reviews. Additionally, we will prepare and develop a cross-reference matrix of the EDS required data elements for the Operational Milestone and MMIS Certification Final reviews.

Industry Standards Condition

OPAHHS meets the CMS Industry Standards and Conditions. We adhere to nationally recognized standards for business analysis and use various documents and methods to capture your requirements and understand your underlying business processes. Some of these artifacts are use cases, business glossaries, state diagrams, flow charts, functional components, and/or technical diagrams.

We adhere industry standards, such as HIPAA and other nationally recognized standards, for the exchange of information. For the EDS, we will receive data from all sources in the required formats, harmonize this data, and make it available to appropriate stakeholders in several required formats and data delivery methods. In each stage of this transformation, storage, and dissemination, we adhere to the contractual requirements, required federal and state laws, and regulations related to the protection of data in motion and at rest.

Our current data warehouse implementations in other states successfully handle a combination of data from federal, state, and private payers.

Leverage Condition

OPAHHS was specifically designed to meet the CMS Leverage Condition. While the initial deployment is typically focused on supporting a state's Medicaid program, OPAHHS can support the entire Medicaid enterprise, including other Health and Human Services (HHS) programs and other state agencies. For example, in the State of Michigan, our solution fully meets the CMS Leverage Condition by supporting multiple programs and incorporating data across the enterprise. Additionally, we were praised by DXC Technology on how our process, procedures and experience expedited the certification process in Arkansas. OPAHHS will also support inter-state sharing of transactions, which can further advance your capability maturity to Level 4. OPAHHS is an enterprise capable solution that has been designed to be scaled up and leveraged across your entire ecosystem.

OPAHHS standardizes Medicaid data, which further advances your Leverage Condition maturity. By conforming incoming data to a standard format, you can leverage the data across a multitude of business domains. OPAHHS enables this by making the metadata available to all users.

Additionally, the technical components of our solution provide bi-directional leverage opportunities. The technology stack supporting our solution is based on commercially available, industry leading technologies, beginning with the physical computing and storage platforms and extending up into the operating system layers. The same is true for middleware and database platforms. OPAHHS components will leverage other data and systems and, in turn, our components will become candidates for other systems to leverage.

Business Results Condition

OPAHHS meets the CMS Business Results Condition. OPAHHS will be a major component in helping you improve your Medicaid enterprise business results. The Business Results Condition relates to the timeliness and effectiveness of your business processes. OPAHHS actively serves your business processes by hosting the data within the data warehouse to support batch

and near real-time updates. You can use OPAHHS's robust analytic tools and methods to isolate business processes and even sub-processes to perform analysis for efficiency and quality improvements. This ability will enable accurate root cause analysis and correlation studies to identify and prioritize opportunities for business process improvements. This kind of process analysis can be extended to the broader HHS enterprise, as well as to other agencies and programs.

The opportunities to improve business process results can extend beyond the MITA business processes and into all of your programs and other state agencies if so desired. Not only will this enable a capability maturity Level of 4 for the Business Results Condition, it will also work to sustain a Leverage Condition maturity of Level 3 or greater.

OPAHHS provides the information and technical capabilities that must first exist to improve the Business Results Condition that is data driven. Furthermore, the analytic tools will allow you to build and consistently provide dashboards that monitor key metrics and performance metrics adherence. This will enable you to make your process improvement efforts enduring and, in fact, improve the auditability of your processes. OPAHHS has the ability to automate alerts to warn when service thresholds are at risk of not being met, allowing for corrective actions to be initiated before a service level is breached.

Reporting Condition

OPAHHS meets the CMS Reporting Condition. In fact, our self-assessed maturity level for the Reporting Condition is a Level 4. OPAHHS will store cleansed and enhanced data and provide extensive analytic capabilities, dashboards, pre-defined and ad hoc reporting capabilities, and performance measures.

Through Service-Oriented Architecture (SOA) based tools, OPAHHS can expose the data that is necessary for oversight, administration, evaluation, integrity, and transparency. Dashboards, interactive visualizations, and pre-defined reports can be accessed through our Web-based portal. You will have appropriate drill-down capabilities to see the details behind each dashboard measure. Reports can be scheduled and distributed automatically internally or externally through the OPAHHS integration services and Web services portal.

Interoperability Condition

OPAHHS meets the CMS Interoperability Condition. The benefit of interoperability is to allow for a high degree of coordinated interaction to maximize value and minimize burden and costs to providers, members, and other stakeholders. Interoperability provides for effective, efficient, and timely communication within the DHHR itself and externally to other systems. This communication may include providing interoperability with future external system needs such as public health agencies, human services programs, and community organizations providing outreach and enrollment assistance services. In the future, OPAHHS could also interoperate both within the state and, eventually, across states and with the federal government. It is designed for this purpose and current users are finding the extensibility of this system to be well beyond its originally intended Medicaid-centric purposes.

OPAHHS also gives you the ability to exchange data directly with internal and external customers and systems. Our information architecture facilitates the exchange of data by addressing and providing data semantics, metadata, data governance and ownership, as well as data security and privacy policies.

Alignment to MECT and Medicaid Enterprise Certification Life Cycle (MECL)

Changes in Approach as Project Phases Change – Risks and MITA/MECT/MECL Update Support

The Optum certification team has extensive experience following the MECL and using various MECT versions. Recently, the team successfully certified the South Dakota Pharmacy module under MECT 2.3 and the Arkansas Electronic Data Warehouse module under MECT 2.2. We are also embarking on modular certification activities using MECT 2.3 with the South Carolina Administrative Services Organization, Tennessee Pharmacy, and Virginia Decision Support System modules. Members of our certification team supported the State of West Virginia during the CMS MECL pilot program where West Virginia became the first state to achieve CMS certification following the new certification protocols CMS developed. The pilot MECT 2.0 is the basis of the current version in use today. Additionally, our team supports New Jersey MMIS on-going certification activities initially under MECT 2.1, then adapted to 2.1.1 and finally to 2.2 as updates were released.

From project kickoff to project completion, our team regularly evaluates risks related to certification. This includes the routine types of risks due to data issues, requirements interpretation, timing of efforts, and newly discovered items such as changes to CMS MECT and MECL requirements that may occur during the course of the project. At the direction of DHHR, we will use the most current versions subject to change management if there is a material change in level of effort in force at contract signing. Any time a risk is identified, we will communicate the risk and a recommended remediation to the project stakeholders. If MITA updates are released, we will evaluate these for impact on our solution and, if required, make a recommendation.

Certification Review Process for Preparation and Submission of Evidence

We will perform system certification readiness activities during all stages of the implementation. This approach is a key differentiator in how we manage the certification process. By taking this approach, we will be effective and efficient throughout the certification process.

Throughout the implementation phase, we will enhance in-place project management reporting mechanisms to track and report to DHHR on responsibilities and status associated with federal certification. In addition, we will work with your team to facilitate status reporting to meet your requirements and keep your leadership updated on performance in this area.

The testing team develops user stories, test cases, scripts, and reports and maps them to your RFP requirements. The certification team will map them to the CMS certification requirements so that during the testing phase, we can proactively verify that the solution can be certified, identifying and closing gaps that might lead to issues impacting any federal certification.

Upon completion of all required system activities along with integrated and acceptance testing, we will provide you with a letter certifying completion of design and development of your EDS. We will obtain documented approval from your authorizing officials for a specified go-live date for operations that officially accepts the system or component of the system as operational on that date for purposes of certification review.

Figure 127 illustrates the following MECL phases:

- Initiation and Planning
- Requirements Design and Development
- Integration, Test, and Implementation

- Operations and Maintenance

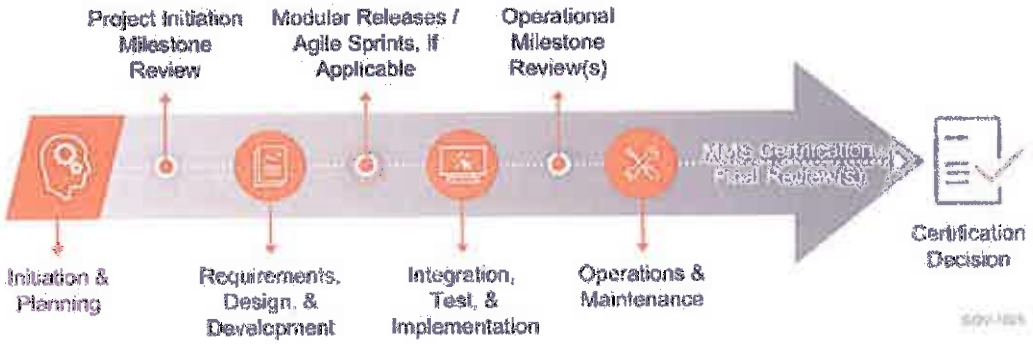


Figure 127: Certification MECL
Optum follows the MECL, which provides a path to successful certification on the first attempt.

Project Initiation Milestone Review

Project Initiation Milestone Review (R1) takes place 30 days after the state submits its Advanced Planning Document (APD). For R1, DHHR and the IV&V vendor update the set of project checklists. The IV&V vendor prepares a progress report and submits the checklists and report to CMS at least two weeks prior to the review. CMS reviews the progress report and checklists and may return comments in the CMS section of the progress report. CMS returns copies of the completed progress report to the state and the IV&V vendor when the review is completed.

Operational Milestone Review

The Operational Milestone (R2) generally takes place before user acceptance testing; you must have a module ready for deployment. The Optum certification team creates evidence artifacts containing test case evidence. You and the IV&V vendor update the set of project checklists. The Optum certification team makes updates at the state's request.

The IV&V vendor prepares a progress report and submits the checklists and quarterly progress report to CMS at least two weeks prior to the review. CMS reviews the progress report and checklists and may return comments in the CMS section of the progress report. CMS returns copies of the completed progress report to the state and the IV&V vendor when the review is completed.

R2 may be a desk review or a virtual/onsite review. DHHR works with CMS and the IV&V vendor to determine which review is more appropriate and when it occurs.

MMIS Certification Final Review

The MMIS Certification Final (R3) takes place at least six months after the system go-live. You must provide at least six months of production data to CMS as part of the review. The Optum certification team creates evidence artifacts containing evidence that supports system compliance with all applicable federal requirements. You and the IV&V vendor update the set of project checklists. The Optum certification team makes updates at the state's request.

The IV&V vendor prepares a progress report and submits the checklists and report to CMS at least two weeks prior to the review. CMS reviews the progress report and checklists and may return comments in the CMS section of the progress report. CMS returns copies of the completed progress report to the state and the IV&V vendor when the review is completed.

R3 is usually a virtual/on-site review. The state works with CMS and the IV&V vendor to determine which review is more appropriate and when it occurs.

During all phases, we will work closely with DHHR personnel and relevant stakeholders to conduct demonstrations and evaluations to help prepare you for CMS Certification virtual/on-site visits. When required and with advanced notification, we will provide you and the CMS certification team system access and/or a walkthrough of the West Virginia facility and operations.

Federal Certification and Review Management Plan

Optum will develop, submit for feedback/approval, and maintain a Federal Certification and Review Management Plan that defines our collaborative CMS certification approach and the processes and procedures we will use to comply with federal certification/gate review requirements and manage certification activities. Our collaborative approach reduces risk, reduces time needed for revision cycles, and provides a mechanism for everyone involved to participate in the content and scope of the Federal Certification and Review Management Plan.

The plan will align with the most current MECT, MECL guidance, and CMS's Milestone Review Preparation Guide to validate that the solution will meet all federal certification requirements and applicable checklist items. The Federal Certification and Review Management Plan will demonstrate that our certification team has vast experience following and adhering to the MECL and MECT guidance. At the direction of DHHR, we will update the plan accordingly as new protocols and/or guidance is released.

The following table shows the certification activities that will be discussed in detail in the Federal Certification and Review Management Plan.

Optum Support Activities and Artifacts for Milestone Reviews
Project Initiation through Implementation Phase Activities
• Certification Planning • Adhere to established certification timelines • Attend certification meetings either in person or virtually, as necessary • Submit a Federal Certification and Review Management Plan for feedback and approval • Map System Review Criteria (SRCs) to RFP requirements and compare to the State's mapping between functional requirements and SRCs • Produce required project-related documentation that includes the minimum required content from the most current version of the MECT Appendix B Required Artifacts list • Prepare folders that correspond to each of the checklist criteria (SRCs) • Contribute to quarterly MMIS IV&V Progress Report as necessary • Help DHHR prepare for meetings with the CMS Certification team • Resolve system and operational defects in accordance with the RFP • Train designated Optum and DHHR staff to prepare key personnel for seamless delivery during certification events
Review 2: Operational Milestone Review Activities
• Create crosswalk between project documentation and current MECT Appendix B Required Artifacts List • Create R2 evidence packets in approved templates with deliverables documentation and/or test evidence and passed results • Provide checklist updates with a compliance statement as requested by the State and IV&V • Provide one direct link per criterion that leads to a single folder containing all corresponding evidence • Provide list of existing system defects by severity and priority along with any workarounds • Populate document repository with current and approved project deliverables • Support DHHR during CMS review, including slide deck preparation and demonstration presentation

Optum Support Activities and Artifacts for Milestone Reviews
• Provide Subject Matter Experts (SMEs) to answer system questions and participate in presentations and demonstrations, as needed • Provide scribes as necessary • Document and resolve action items, questions and/or issues from milestone review • Updated Requirements Traceability Matrix (RTM)
Review 3: MMIS Certification Final Review Activities
• Update crosswalk between project documentation and current MECT Appendix B Required Artifacts List • Create R3 evidence packets with data from the production system and/or deliverables documentation • Provide checklist updates with a compliance statement as requested by the State and IV&V • Provide one direct link per criterion that leads to a single folder containing all corresponding evidence • Provide a minimum of six months of production evidence, including applicable reports • Provide list of existing system defects by severity and priority along with any workarounds • Populate document repository with current and approved project deliverables • Support DHHR during CMS review, including slide deck preparation and demonstration presentation • Provide SMEs to answer system questions and participate in presentations and demonstrations, as needed • Provide scribes as necessary • Document and resolve action items, questions and/or issues from milestone review • Updated RTM

Our certification team will work in close collaboration with DHHR and your key stakeholders on various certification activities. Based on our success in state certifications, we have a better understanding of the importance of considering state resource time when replacing existing systems and services. As a result, we devote adequate time and resources to certification activities so that your EDS will achieve successful CMS certification on the first attempt.

DHHR Resource Dependencies

During certification, we anticipate the following support from DHHR personnel:

- Project Initiation Milestone Review (R1) completion
- Act as the liaison between CMS and Optum Certification team
- Determine timing of Operational Milestone (R2) and MMIS Certification Final (R3) reviews
- Complete Yes/No/Not Applicable and DHHR owned Evidence columns in the CMS Checklists
- Review, provide feedback, and approve certification evidence packets and artifacts
- Provide access to checklists and evidence to IV&V and CMS
- For R3, submit MMIS Certification Request letter to CMS

IV&V

Our certification experience has included IV&V interaction along with collaboration with multiple state departments, third-party contractors, and Enterprise Project Management Office (EPMO) entities. During certification activities, the IV&V vendor represents the interests of CMS.

Our work with IV&V contractors has spanned many state Medicaid programs and projects such as our Indiana Medicaid-based data warehouse project and our Arkansas Medicaid Enterprise DSS project. During certification, we anticipate the following support from the IV&V vendor:

- Provide assessment of certification readiness activities

- Complete MMIS IV&V Progress Report and submit quarterly to DHHR and CMS simultaneously
- Evaluate certification evidence
- Adjudicate Reviewer columns of each checklist prior to R2 and R3 and submit simultaneously to CMS and DHHR

Optum CMS Certification Resources

We will assign certification, system, and business operations resources needed to develop certification materials, properly demonstrate adherence to CMS requirements, reduce risk, and help you achieve timely CMS Certification. Based on our experience in helping other states achieve certification, the Certification Lead will serve as liaison between DHHR and MES stakeholders, Optum management, and Optum certification team; assist DHHR in planning certification activities; identify certification tasks and updates for the Project Work Plan; map RFP requirements to certification requirements to create traceability; map project documentation to the current MECT: Appendix B; create evidence packets; support IV&V vendor as needed to create quarterly reports; and support DHHR as needed to successfully complete R2 and R3, including on-site participation. Specific tasks to be performed will be documented in our Federal Certification and Review Management Plan.

We understand the importance of having accurate responses to CMS questions. Our SMEs will be available to support DHHR SMEs during the CMS certification milestone virtual/on-site reviews. SMEs will be available by phone, email, and/or in person, as required. They will answer system questions and participate in review presentations at DHHR's request. We will also provide SMEs for certification meetings to respond to system questions from you and the IV&V, as requested and needed.

Certification Support

The requirements for a successful certification are a core topic that we will introduce during our initial meeting, with DHHR to review certification expectations. Addressing certification at the beginning of Phase 1, continuing through successful Phase 2 FADS implementation, and continuing up to 12 months after go-live will make certain project stakeholders meet CMS SRC. Development, documentation, training, and operational plans will reflect an awareness of certification requirements.

DDI will extend until we achieve CMS certification and resolve system and operational defects in accordance with the RFP. EDS certification activities will conclude when we have resolved all action items identified during the certification process. We will provide continued support for the certified OPAHHS, making sure it remains functional throughout the process. Working with our state partners, we have successfully supported the achievement of CMS certification on time in every implementation where certification was required.

Figure 128 provides an overview of certification-related activities and where they occur across the DHHR project work functions.

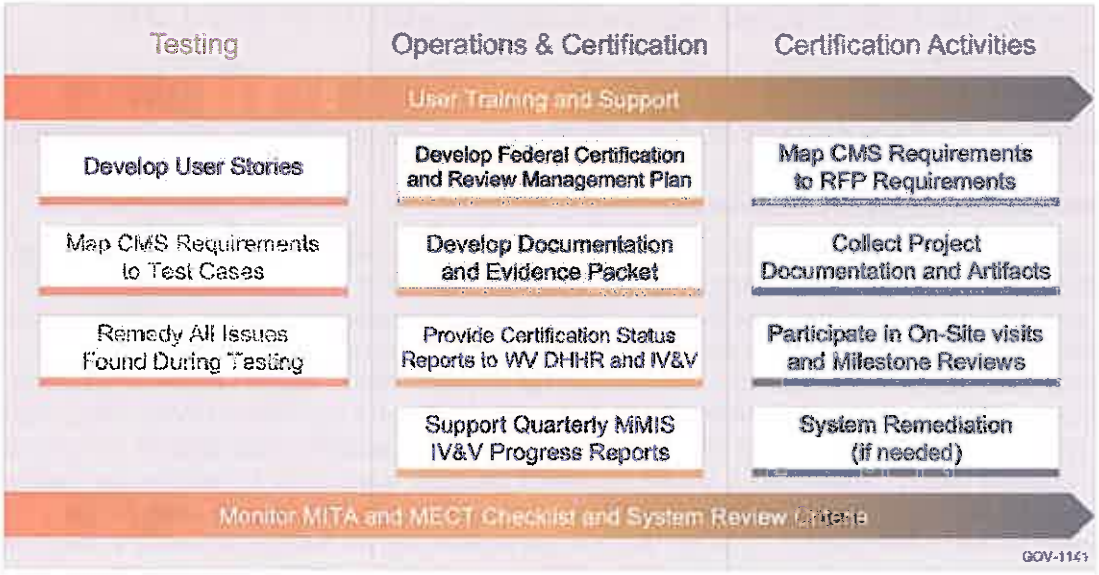


Figure 128: Certification Activities

Optum understands that certification does not occur at a single point in time—certification requires careful planning and tasks completion starting early in the life of the project.

Certification Checklist Compliance

Our certification team will produce evidence packets for each SRC to demonstrate system compliance to RFP requirements and the federal regulations. These artifacts are test case results for the Operational Milestone Review (R2). The production system provides six months of production data as the evidence for the MMIS Certification Final Review (R3). Production evidence may be supported by reports, interface control documents, screenshots, or any other relevant documentation. For certification, we will provide the necessary documentation to verify our solution performs according to the module's certification requirements.

Our Certification Lead is directly responsible for the following activities essential for creating documents necessary for CMS certification:

- Allocate and assign required resources needed to create the documents necessary for certification
- Support DHHR and IV&V teams, as needed
- Coordinate activities and resources to support CMS Milestone Reviews
- Respond to certification requests and identified issues, including management and closure of certification-related action items
- Control and report changes during the certification lifecycle
- Organize, collect, and provide DHHR data and documentation artifacts to support DHHR pre-certification review activities and CMS Milestone reviews

Certification Documentation

Optum will make available all system-related planning, DDI/operations-related activities, outputs, documentation, and test results to validate that OPAHHS meets CMS certification checklist items in additional to CMS required artifacts. Our certification team will post the most recent versions of documents and artifacts to the DHHR enterprise document management

system as they are completed and approved, which the IV&V and CMS needs to complete milestone reviews.

Examples of documents that will be maintained in the repository include the following:

- All applicable MECT 2.3 Appendix B Required Artifacts
- Set of all approved project deliverables
- MECT Checklists applicable SRC
- Updated RTM
- Evidence packets and MITA capability supporting documentation
- Reports and crosswalks
- Defects list of severity and priority assignments along with average turnaround time to complete
- Risk registry
- Technical diagram

We leverage our deliverable management process and procedures to create and provide the source documents necessary for certification. We will develop and maintain a crosswalk of the MECT Appendix B Required Artifacts list to produce or assist in the development of the applicable artifacts. These artifacts will include the minimum content as stated by CMS.

These artifacts are created over the course of the project lifecycle and updated as required for the R2 and R3. We will prepare certification folders that correspond to each SRC. These folders will contain all approved applicable State Medicaid Manual (SMM) and CMS required documentation, reports, crosswalks, checklist elements, and MITA capability documentation needed to support the corresponding SRC.

Optum will prepare updated documentation for submission to DHHR and CMS as required prior to CMS certification milestone reviews. Similarly, we will provide an updated version of the systems documentation and data element dictionary following CMS gate/milestone reviews as required following the completion of the gate/milestone review.

Our comprehensive suite of project management tools will support these activities to store and manage versions of certification documents. Microsoft Project to manage timelines and milestones, and our requirements traceability tool. We will also provide regular status reports on the progress of CMS certification activities.

Addressing Certification Issues

Our Optum Team understands the importance of preventing issue escalation by mitigating project and certification risks. During the implementation lifecycle and during the CMS milestone reviews, our Optum Team will be dedicated to quickly identify, record, investigate, and resolve action items, CMS requests, and potential risks through our IRAAD process. High-level IRAAD items identified will be presented to DHHR in weekly status meetings and status reports.

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ATTACHMENT J: MAINTENANCE AND OPERATIONS SPECIFICATIONS APPROACH

Instructions: Maintenance and Operations specifications ensure that the solution is fully functional and performing optimally until the end of the life cycle. The Vendor's response should include a narrative overview describing its approach to maintenance of its proposed solution, including updates to new versions of the underlying commercial off-the-shelf (COTS) products, and to configurations necessary to support changes in DHHR's business needs.

Use the response sections to provide specific details of the proposed approach to meeting the maintenance and operations specifications in each subject matter area. Responses should reference specifications and relevant mandatory requirements using the appropriate IDs from ***Appendix 1: Detailed Specifications*** and ***Attachment F: Mandatory Requirements***. DHHR also expects the Vendor to propose its approach for meeting any narrative in ***Section 4: Project Specifications*** of this RFP.

1. OPERATIONS

Refer to the relevant maintenance and operations specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Operations below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Optum Response:

Approach and Solution Capabilities for 4.5.4 Maintenance and Operations Specifications

Approach to Maintenance and Operations

Our approach for maintenance and operations (M&O) is to provide stability and consistency in the EDS. We establish an operational model that includes experienced staff, processes, and measures that we have built and refined while providing M&O services for government data warehouse and business intelligence solutions for 25 years, managing in excess of 30 data warehouse databases and more than 120 terabytes of data. Our operations framework will help support data sharing, interoperability, and collaboration across your programs and agencies. We have selected a highly skilled and talented team to perform maintenance and operations. They have the experience and expertise to manage modifications, configurations, customizations, and meet SLAs. Your goals and objectives are an ideal match with our overall approach to operations.

System Maintenance and Operations

We will begin with an operational foundation that includes tools, manuals, processes, and measures that were built and refined over the last 25 years. We will work with you to incorporate your specific requirements, standards, and service levels to create a comprehensive System Operations Plan. We will support M&O for the EDS using the service delivery model shown in Figure 129.

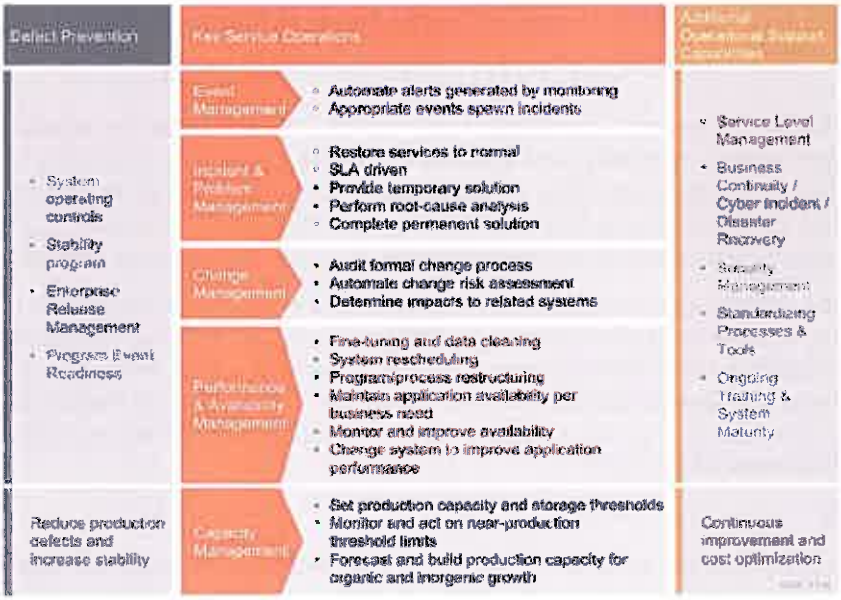

Figure 129: Optum Service Delivery Model
Our approach to M&O includes a set of integrated service delivery processes.

Our service delivery model provides a proven and coordinated approach to M&O. Successful services are driven by and include:

- Defect prevention through vigilant monitoring to preempt instability in the production environment
- Rapid detection and response to problem correction including detailed root cause analysis
- Effective transition from development to production environments supporting cross-team participation, knowledge transfer, and collaboration.
- Transparent reporting and consistent, concise communication with DHHR
- Meaningful metrics that matter to you
- Continuous improvement processes

The System Operations Plan will allow the operations staff to provide a stable system, perform maintenance activities and manage changes consistently and seamlessly. It will drive accurate and timely reporting and oversight to provide a thorough knowledge base that will be owned by the Department for defined requirements including but not limited to:

- Incorporating standards required to pass periodic reviews that CMS, the State, independent auditors, or other regulatory bodies may conduct
- Identifying, documenting, and incorporating federal and State standards and requirements
- Providing a comprehensive knowledge base you will own going forward
- Providing performance and workload data to build accurate staffing models
- Informing test plans for all environments and change and maintenance processes
- Electronically providing up-to-date, accurate documentation to you and third-party contractors
- Documenting service thresholds to quickly identify problems and provide the artifacts to facilitate effective internal control reviews with well-documented cause, effect, and resolution documentation

- Performing monitoring and reporting that provides the evidence of service level achievements
- Providing and managing secure access to the system for authorized users
- Creating and updating system operations documentation
- Providing single sign-on and role-based access reporting
- Documenting roles and access control lists by role
- Archiving operations documentation in case restoration is needed

We will track, monitor, report, operate, and maintain your EDS according to our service delivery model and the procedures documented in the DHHR-approved System Operations Plan. We will provide all system and application availability according to mutually agreed upon service level agreements (SLA) stipulated in the RFP and resulting contract. We recognize that SLAs and associated Key Performance Indicators (KPIs) may be added or adjusted by mutual agreement during the term of the contract to align with your business, organizational objectives, and technological changes. We will develop performance measures linked to achieving the business objectives of the Department and maintenance of mission-critical services. If any performance measure does not meet the required performance standards, we will take action to bring performance back in line with the requirements.

Approach to Managing Modifications, Configurations, and Customizations

Understanding that modifications, configurations, and customizations may be requested, having a well-defined change management process will help us document and track these changes to completion through the Operations Change Management Plan.

Changes to system software, application software and system hardware will be subject to the approved change management process. During the operations phase, we will manage change requests using the process as outlined in the Operations Change Management Plan. Once a change is approved, our team performs the appropriate testing in a non-production environment prior to the production environment. Changes to the production environment must be submitted using a formal change control ticket and must include a back-out plan, in the unlikely event that such changes need to be removed. We use this process to minimize downtime and any impact on the EDS or authorized solution users.

We will work with the appropriate DHHR personnel to implement change requests when they will have the least impact to the project, such as after hours and weekends. Because our solution is a configurable, COTS-based solution, we will perform most changes through configuration updates. This significantly reduces the risks associated with change implementations.

We will perform updates to hardware and software throughout the contract as necessary following the approved change management processes to reflect any new releases or changes to overall design. All changes or updates will be scheduled and approved by DHHR in advance of implementation.

Staffing & Support

Optum will have a continuing local presence in Charleston, West Virginia through the life of the contract. Our permanent Charleston office will be the primary location where design, development, and implementation (DDI) and M&O activities take place. We will also perform contract administration, key personnel responsibilities, and management activities at this site. Our approach to facility identification, implementation, and management will make certain that all aspects of the project will be fully supported. We will provide well-planned, secure, scalable facilities that meet your requirements as well as provide a foundation for future project needs.

Optum will provide the services and support necessary for the successful administration of the project and its components, which includes system availability, operational requirements, training, and support. We have extensive experience with implementing, operating, and maintaining enterprise data warehouses in Virginia, Michigan, Indiana, Illinois, Washington, and Arkansas, some of which include operating fraud and abuse detection systems either as prime or sub-contract vendors in many states. Our on-site team will give you easy access to our leadership while promoting timely collaboration and transparency to support needs of DHHR regarding project activities.

The proposed Optum staff has the knowledge and skills required to support operations and maintenance activities including report development, help desk, training, and system administration. These positions are described in detail in Attachment D, Project Organization & Staffing Approach. We have proposed a very strong team of senior data warehouse technologists with over 100 years of combined experience with Medicaid specific data warehousing, federal reporting, and fraud and abuse detection. Having experienced technologists working on the project team makes implementations smoother and simpler. Their collective experience reduces the learning curve resulting in a more comprehensive approach to tasks from the start. Our staff will actively work with Department staff to provide a level of transparency that encourages prompt issue resolution.

Operations Support Tools

Our ServiceNow IT Operations Management solution for OPAHHS maximizes operational agility and prevents service outages through enhanced monitoring and visibility to the EDS Project Infrastructure. We configure the Azure resource manager to send automated Azure service alerts to operations personnel for prompt detection and resolution of any issues. We also provide a help desk to support all authorized solution users. Our help desk service model provides a comprehensive process for tracking and remedying user questions or problems.

Our help desk will be available 24 hours, 7 days a week. The help desk will be support by members of our operations project team. This team will provide first hand expert assistance to users. They have the knowledge, experience, and training to help DHHR users resolve issues. We will prioritize and classify service tickets based on impact severity and urgency as determined by the business needs and agreed-upon definitions. Our support team will use the documented standard operating process for assessing issues and classifying them accordingly. Throughout the operations lifecycle, we will provide ongoing training for Optum staff regarding user support policies, practices and procedures to provide a consistent delivery response.

Appendix 1: Operations

Optum will meet the Operations requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

OP001	The Vendor should ensure that its staff, as defined by the Department, are located onsite at the Vendor's local facility and readily available to the Department throughout each implementation stage.

Optum will have a continuing local presence in Charleston, West Virginia through the life of the contract. Our EDS state contracts typically include onsite personnel to provide hands-on support and services for our clients. Our named key staff members will work out of the Optum facility in Charleston to support the needs of DHHR and Optum when they perform their project activities. Our onsite personnel local presence will give you ready access to our leadership team while promoting timely collaboration and transparency throughout each implementation stage.

OP002	The Vendor should supply key staff resumes to the Department for review and approval prior to key staff beginning work under the contract.

We provide resumes for our key staff in Attachment D, as well as the signed letter of intent for each key staff member we propose who is not currently an Optum employee. Key staff will begin work under the contract only after we receive your approval.

OP003	The Vendor should supply resumes for key staff substitutions to the Department for review and approval prior to key staff substitutions performing any work under the contract.

We will work to minimize the impact of personnel changes to the project and provide transparency to DHHR as we do for all of our EDW clients. To accomplish this, we will give the Department a minimum of a 10-business-day notice for staffing changes. We will replace key staff within 30 business days after the position becomes vacant unless the Department approves a longer period of time.

We will work with you to select qualified key staff replacements. We will only replace key staff with professionals whose experience and qualifications are equal to or greater than those of the individual we are replacing. Before an anticipated change, we will provide resumes of qualified replacement candidates for DHHR review and approval. Key staff substitutions will begin work under the contract only after we receive your approval.

OP004	The Vendor should collaborate with the Department to develop and maintain a process for authorized solution user support.

Successful operation of a data warehouse lies in the communication between the data warehouse users and our staff. Optum recognizes the importance of knowing and understanding what the users are really trying to accomplish from a business perspective when they report a problem, ask a question, have difficulty using EDS tools, or have problems understanding data and data context. We will collaborate with DHHR to develop and maintain a process for authorized solution user support Our help desk support will assist in the support of this process, including staff available 24 hours a day, 7 days a week, tracking, monitoring, identifying resolution, and reporting on authorized solution user support needs.

OP005	The Vendor should provide a help desk Monday through Friday, 8:00 a.m. to 5:00 p.m. ET.

Optum will provide help desk support from 8 a.m. to 5 p.m. Eastern time, Monday through Friday, with the exception of State-identified holidays. We will also provide after-hours on call support outside of normal business hours, available 24 hours a day, 7 days a week.

OP006	The Vendor should maintain and ensure contract personnel staffing levels and competencies to support software applications, data integrity, analytics, user training, and contract administration pursuant to Service Level Agreements (SLAs).

Optum will maintain adequate staff to perform analytic, operational, and technical activities. We will achieve and maintain personnel staffing levels and competencies to support software applications, data integrity, analytics, user training, and contract administration in compliance with Service Level Agreements (SLAs) for the contract.

Our approach to achieving and maintaining staffing levels throughout the life of the project incorporates Optum best practices, lessons learned, and Project Management Institute Book of Knowledge (PMBOK) guidelines. These have helped shape and refine our processes for coordinating and managing project teams. We staff key positions with professionals who have design, development, implementation, operational, and enhancement experience on Medicaid projects similar in size and scope to the this project. Our staff has successfully delivered some of the nation's largest state EDW and business intelligence solutions. Our staffing methods make sure that our project work complies with the project objectives, deliverables, and scope defined in the RFP. Our techniques include a reliable and dependable staffing selection criteria, estimation processes, and contingency plans to determine staffing levels.

OP007	The Vendor should maintain adequate staff to perform analytic functions including, but not limited to:

Optum has adequate staff to perform analytic functions. We will size our operations staff to deliver at a high level of efficiency while continuing to provide customer service excellence and operational efficiency. We include in our staffing model a dedicated analytics team who will be located in our Charleston office for the duration of the project.

OP008	Collaborate with the Department to develop and implement provider performance metrics for specific populations and Department programs

We will provide staff to collaborate with the Department to develop and implement provider performance metrics for specific populations and Department programs. The Business Lead will coordinate with other project staff to make sure the metrics meet the defined requirements.

OP009	Evaluate credibility and efficacy of measures and baseline comparisons and recommend improvements where appropriate

Optum will provide staff to work with DHHR staff, SMEs, and business users to establish baseline quality measures and recommend improvements based on industry standards where appropriate. The Business Lead and Business Analysts will participate in these activities.

OP010	Collaborate with the Department to develop analytics for payment reform activities including, but not limited to:

We will provide staff to collaborate with you on the aspects of developing payment reform activities. The Business Lead and Business Analysts will bring to the conversation relevant information regarding how other States are addressing payment reform to support both a comprehensive discussion and resolution.

OP011	Provider incentive payment programs

The Business Lead and Analysts will work with you to determine the specific data and source inputs that will capture the information related to the provider incentive payment programs.

OP012	Provider shared savings models

The Business Lead and Analysts will work with you to develop a shared savings model, including the identification of the specific data and source inputs that will capture the information.

OP013	Others as defined by the Department

The Business Lead and Analysts will work with you to develop other Department defined payment reform activities supported by the data following established change control processes if applicable. If others are identified that are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

OP014	Participate in stakeholder meetings to interpret results of analyses

Key staff will participate in stakeholder meetings as requested to interpret results of analyses.

OP015	Provide industry best practice analytics on behalf of the Department including, but not limited to:

Industry best practice analytics will be provided through Symmetry's grouping technology, which includes:

- **Episodes of care:** Episode Treatment Groups (ETGs) link claims together into clinically meaningful episodes of care. This enables tracking coordination across providers in the same episode.
- **Risk and cost prediction:** Episode Risk Groups (ERGs) provide person-level risk assessment and cost projection.
- **Care opportunities:** Evidence-Based Medicine (EBM) Connect compares treatment provided against what should have been provided.

OP016	Predictive modeling

Symmetry's Risk and Cost Prediction component contains ERGs that provide person-level risk assessment and cost projection. The Business Lead and Analysts will support Department staff in using this component to its best advantage for predictive modeling.

OP017	Member risk scores

Within OPAHHS, Symmetry's Risk and Cost Prediction component contains ERGs that provide person-level risk assessment and cost projection. The Business Lead and Analysts will support Department staff in using this component to its best advantage for understanding and using member risk scores to support the Department's defined goals in areas such as client health monitoring, care management, case management and other Department policy.

OP018	Performance monitoring and benchmarking

We will work with you to determine the specific data and source inputs that will capture the information related to performance monitoring and benchmarking. Symmetry's Care opportunities component uses EBM Connect to compare treatment provided against what should have been provided.

OP019	Evaluating utilization variances among providers

Symmetry is an effective tool in evaluating utilization including variances among providers. We provide this evaluation for other states currently.

OP020	Creating provider profiles

The Business Lead and Analysts will work with Department staff to develop with you to develop custom provider profiles supported by the data.

OP021	Others as defined by the Department

We will work with you to develop other Department defined analytics supported by the data following established change control processes. If others as defined are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

OP022	Advanced reporting abilities that include both ad hoc and a standard library of reports

OPAHHS includes both ad hoc and a standard library of reports. The Business Lead and Analysts will work with you to define a list of reports for the standard library. Further, we will assist the Department in defining the desired reporting abilities that will be present.

OP023	Support analyses that require advanced-level statistics

The Business Lead and Analysts will work collaboratively with you in supporting sophisticated analyses of data that may assist the Department in decision making, improving health outcomes, and make the best use of State and federal financial resources.

OP024	Others as defined by the Department and pursuant to Service Level Agreements (SLAs)

The Project Manager, along with the Business Lead and Analysts, will address other requirements in compliance with agreed upon SLAs.

OP025	The Vendor should maintain adequate staff to perform operational functions including, but not limited to:

The key staff members we propose have comprehensive experience in Medicaid and the entire lifecycle of our proposed EDS implementations and on-going operations. They bring the necessary skills for successfully meeting the project requirements.

OP026	Identify a primary and back-up point of contact for day-to-day operations

The Project Manager will be the chief point liaison to the State, authorized to make day-to-day project decisions and helps make sure staffing is adequate for the project. The Project Manager will designate primary and back-up contacts for key areas as defined by the Department, through a process also defined by the Department.

OP027	Maintain effective communications of project updates and problem resolutions

The Project Manager will be responsible for reporting on project activities including updates, problems, and resolutions. The Project Manager will be kept apprised of status and issues by the Operations Manager routinely.

OP028	Maintain current documentation of operational processes and notify designated Department staff of operational issues and remediation plans within the designated timeframes pursuant to Department-defined Service Level Agreements (SLAs)

The Project Manager, with the assistance of the Documentation Management Lead, will be responsible for maintaining current documentation of operational processes and reporting of operational issues following the requirements stated in SLAs and KPI reporting.

OP029	Ensure quality control procedures are in place and utilized and that issues are resolved when identified through quality checks

The Quality Assurance Manager will be responsible for establishing and executing quality control processes to verify data entry, system inputs and outputs, data integrity, and adequate internal controls.

OP030	Adhere to project and report delivery timeframes

The Project Manager monitors the DHHR approved Report Distribution Schedule to make sure delivery timeframes are being met.

OP031	Conduct business use analyses to prepare operational reports

The Business Lead is responsible for working with the Department to help make sure State reporting needs are met. Responsibilities include management of business analyst resources.

OP032	Work with the Department to automate operational reports

The Business Lead will work with the Department to identify operational reports to be automated including but not limited to those defined in the SLAs. The Business Lead will work with the Technical Lead as necessary to analyze the possibility of automating operational reports.

OP033	Others as defined by the Department and pursuant to Service Level Agreements (SLAs)

The Project Manager, Implementation Manager, or the Business Lead will work with the Department to define operational functions to be performed as outlined in the SLAs. Change control processes will be followed as necessary.

OP034	The Vendor should maintain adequate staff to perform technical functions including, but not limited to:

We will provide expert staff with technical skills and program knowledge that will design, develop, implement, and monitor all levels of the solution and technology stack.

OP035	Maintain systems by researching and resolving problems

The Technical Lead will be responsible for researching and resolving problems. The Technical Lead will serve as the SME and will be the primary contact for technical systems standards.

OP036	Maintain system and network integrity and security

The Information Security Architect / Privacy Data Protection Officer will be responsible for making sure that the architecture of the solution supports your RFP defined security needs. This officer is the contact throughout the contract period to address any issues that arise.

OP037	Develop and maintain configuration and customization of the solution, solution tools, and rules engine

The Technical Lead will be responsible for developing and maintaining configuration and customization of the EDS, its tools, and rules engine.

OP038	Establish, manage, and maintain the solution data exchanges

The Technical Lead will be responsible for successful data exchange solutions for all defined federal and state agencies.

OP039	Maintain file specifications for solution data exchanges

The Technical Lead will be responsible for maintaining file specifications for data exchanges and may delegate to lower level staff for ongoing maintenance efforts with your approval.

OP040	Establish, manage, and maintain solution interfaces

The Technical Lead will be responsible for establishing, managing and maintaining solution interfaces. Issues and solutions will be communicated by the Project Manager.

OP041	Assure that new processes/new technology installations minimize negative impact on the system and authorized solution users

The Technical Lead will be primarily responsible for system and performance monitoring. We will meet related SLAs.

OP042	Schedule and execute file transfers with external solution data exchange sources

With oversight by the Operations Manager, the Technical Lead will be primarily responsible for schedule and execution of file transfers and may delegate to lower level staff for repeat processes with your approval.

OP043	Provide regular status updates to the Department on system issues and system updates

The Operations Manager will be responsible for providing status updates on all aspects of the project through regularly scheduled meetings established by the Department.

OP044	Maintain a system of checks and balances such that the underlying data are consistent, complete, and accurate

The Technical Lead will be primarily responsible for establishing and maintaining a system of checks and balances that lower level staff can implement routinely. We will meet related SLAs. The Quality Assurance Manager provides yet another level of checks and balances.

OP045	Develop and gather requirements

The Operations Manager and Technical Lead will work with you to develop requirements with a shared understanding. Change control processes will be followed as necessary.

OP046	Design, implement, and maintain solution architecture

The Information Security Architect / Privacy Data Protection Officer will be the contact throughout the contract period to address and resolve any issues that arise.

OP047	Monitor solution performance and resolve issues

The Technical Lead will monitor solution performance and resolve issues.

OP048	Analyze test plans, technical specifications, and test results

The Quality Assurance Manager will address all aspects of the Master Test Plan. Testing is addressed throughout the project in stages.

OP049	Provide system documentation

The Documentation Management Lead, with the assistance of all key staff, provides system and user documentation.

OP050	Others as defined by the Department and pursuant to Service Level Agreements (SLAs)

Key staff will work with the Department to further define technical functions to be performed as outlined in the SLAs.

OP051	The Vendor should participate in project meetings as directed by the Department.

Key staff, and others as directed, will participate in meetings as scheduled by the Department consistent with the Project Status Reporting (weekly and monthly) outline.

The Account Manager will participate, upon Department request, meetings, and hearings of legislative committees and interested governmental bodies, agencies, and officers. Other staff will participate as directed.

OP052	The Vendor should work collaboratively with the Department to explain and support electronic data solution Vendor-based operations and reporting to stakeholders, auditors, and other parties when necessary.

Optum will work collaboratively with the Department to make certain that our solution is explained to stakeholders, auditors, and other parties as requested by the Department.

OP053	The Vendor should participate in audit activities including, but not limited to:

Optum will work hand-in-hand with the Department to participate in all audit activities required by the State or federal government.

OP054	Attending meetings

Key staff members, as directed by the Department, will participate in audit meetings. Should additional staff members be required, the Project Manager will coordinate their participation.

OP055	Running reports

The Project Manager, along with the Operations Manager, will make certain that audit compliance activities include the running of reports and will respond to any audit inquiries.

OP056	Providing documentation

The Project Manager will supply any audit related documentation to support audit inquiries.

OP057	Providing access to all system components and modules as requested by the Department

The Information Security Architect / Privacy Data Protection Officer will establish access to system components and modules at your request consistent with access protocol.

OP058	The Vendor should support the State with data integration needs prior to and subsequent to the solution's implementation.

Optum will work with the State to identify the data integration needs as defined in the RFP and include them as required in the Data Management Plan.

OP059	The Vendor should provide the Department with a Data Management Plan as defined in Appendix 2 - Deliverables and Milestones Dictionary.

Optum will provide a Data Management Plan that includes, but is not limited to, technical infrastructure, policies and procedures, a complete inventory of data elements, file formats and naming conventions, and a quality assurance methodology. We will use RFP Appendix 2, Deliverables and Milestones Dictionary, as the template for constructing the Data Management Plan.

OP060	The Vendor should agree to perform according to approved Service Level Agreements (SLA) and identified Key Performance Indicators (KPI) with associated metrics in the areas of system availability, performance, data quality, and problem management, and should consent to the Department retaining a percentage of payment if agreed-upon metrics are not achieved.

We have reviewed the SLAs and KPIs as outlined in RFP Appendix 5 Service Level Agreements and Performance Standards, and agrees to them as described. Optum acknowledges and consents to the Department retaining a percentage of payment if agreed-upon metrics are not achieved as defined in the final contract.

OP061	The Vendor should develop, maintain, and implement a Department-approved System Operations Plan as defined in Appendix 2 - Deliverables and Milestones Dictionary.

Optum will provide a Systems Operations Plan as outlined in RFP Appendix 2 Deliverables and Milestones Dictionary. The Systems Operations Plan will describe system functionality, including user roles and responsibilities, containing system documentation, and guidance on system maintenance.

OP062	The Vendor should pay and arrange for an annual Statement on Standards for Attestation Engagements, System, and Organization Controls (SOC) 1, Type II audit, using the most current version of the audit, which should cover work performed by the Vendor at the Vendor's facility and data center sites.

Optum will have an independent third party conduct a SOC 1 Type 2 audit under the SSAE 18 audit standard for the relevant aspects of the solution after go-live in the first year of Operations, and continuing on an annual basis thereafter. The first SOC 1 Type 2 report period from Optum would be commence after go-live to October 31, 2021 with the final report completion planned for December 15, 2021 and delivery to the State immediately thereafter. For subsequent reports, the specific annual audit period and the timing of the delivery of the audit report shall be consistent with the audit period and audit report due date that Optum provides to other customers with audit requests for the solution and consistent with similar conditions from any cloud service provider of their applicable infrastructure. For example in the second year, the SOC 1 Type 2 report period from Optum would be January 1, 2022 to October 31, 2022 with the final report completion planned for December 15, 2022 and delivery to the State immediately thereafter. Our solution is built upon within the Azure cloud service provider (CSP). To manage cost and disclosure risk, Azure provides their SOC 1 Type 2 report directly to you from their portal.

OP063	The Vendor should submit the annual Statement on Standards for Attestation Engagements, System and Organization Controls (SOC) 1, Type II audit report, using the most current version of the audit, to the Department for approval with an action plan to remediate findings within a timeframe agreed upon by the Vendor and the Department.

Optum will have an independent third party conduct a SOC 1 Type 2 audit under the SSAE 18 audit standard for the relevant aspects of the solution after go-live in the first year of Operations, and continuing on an annual basis thereafter. The first SOC 1 Type 2 report period from Optum would be commence after go-live to October 31, 2021 with the final report completion planned for December 15, 2021 and delivery to the State immediately thereafter. For subsequent reports, the specific annual audit period and the timing of the delivery of the audit report shall be consistent with the audit period and audit report due date that Optum provides to other customers with audit requests for the solution and consistent with similar conditions from any cloud service provider of their applicable infrastructure. For example in the second year, the SOC 1 Type 2 report period from Optum would be January 1, 2022 to October 31, 2022 with the final report completion planned for December 15, 2022 and delivery to the State immediately thereafter. Our solution is built upon within the Azure cloud service provider (CSP). To manage cost and disclosure risk, Azure provides their SOC 1 Type 2 report directly to you from their portal.

OP064	The solution should provide an authorized solution user test environment (sandbox) to test new queries and reports prior to execution in production.

Optum's solution will provide test environments for testing the application. We will unit, SIT, UAT, interface, performance, regression, system recovery Sandboxes will be provisioned to power users and operational readiness testing client data scientists with proper authorization through role-based authentication. These users will use the provided resources to gain access to the additional database sandbox environment.

OP065	The solution should have test environments (sandboxes) that include metadata necessary to test new queries and reports prior to execution in production.

The test environments for UAT will include metadata to allow power users to test new queries and reports prior to deployment to production.

OP066	The solution should have a test environment (sandbox) that can be refreshed as requested by the Department.

We will refresh data in the test environments as requested by the Department according to the schedule outlined in the approved Change Management Plan.

OP067	The solution should utilize the same hardware, operating system, and relational database management in the test environments (sandboxes) that are used in production.

The test environments host identical key infrastructure and software components and technology landscape to Production environment. Virtual hosting provides the desired capabilities for meeting your current requirements and future expansion needs. This configuration is based on the use of adaptable, reusable services using flexible modular components to enable scalability and interoperability and help provide a long lifespan with low lifecycle maintenance costs.

OP068	The solution should have test environments (sandboxes) that mirror the production environment.

The test environments host identical functional elements and capabilities to production environment. Our solution hosting provides the desired capabilities for meeting your current requirements and future expansion needs. This configuration is based on the use of adaptable, reusable services using flexible modular components to enable interoperability and help provide a long lifespan with low lifecycle maintenance costs.

OP069	The Vendor should develop, implement, and maintain a configuration management solution to migrate tested hardware and software to the production environment.

Changes to system software, application software and system hardware will be subject to the approved change management process. During the operations phase, we will develop, implement and ,maintain configuration management using a combination of commonly accessible DevOps tools and cloud native services that govern system changes, configuration management, and the Configuration Management Database (CMDB), and automate Integration and Deployment. Discussed earlier in this section, the tool provides the flexibility and reporting to support the migration of hardware and software into the production environment.

Using our proven tools, we plan and track changes and then automate build, test, and deployment of infrastructure and hardware into production.

OP070	The solution should supply access to the user acceptance testing (UAT) environment on the enterprise data solution (EDS) portal for authorized solution users.

Our solution provides a UAT environment for the EDS portal to authorized users.

OP071	The solution should provide access to the enterprise data solution (EDS) portal test environments (sandboxes) for authorized solution users.

The EDS portal test environment will be available to authorized solution users.

OP072	The Vendor should provide access for authorized solution users to all solution test environments as requested by the Department.

Optum will work with the Department to determine which users will be authorized to access all of test environments in the solution.

OP073	The solution should have a development environment to develop and unit-test all software contained within the solution.

We will provision environments as required by RFP to establish the full System Development Life Cycle. The solution will have a development environment to develop and unit-test all software contained within the solution.

OP074	The solution's user acceptance testing (UAT) environment should have the ability to support all components of the solution.

The UAT environment will contain and have the ability to support all components of the solution.

OP075	The solution's unit test environment should have the ability to perform full-scale system integration testing (SIT) for the solution.

Our unit test environment will have the ability to perform full-scale system integration testing.

OP076	The solution should have a unit test environment that mirrors production in hardware, software stack, and data volumes.

Optum is capable of mirroring the production system in its size, files, databases, processing and reporting. As described in earlier requirement responses, Our solution provides a cost-effective approach where test environments can be scaled up to production capacity instantly when needed and therefore while the unit test environment will be on the non-production environment, the hardware, software, and data volumes can be scaled up to mirror production environment when needed.

OP077	The solution should have a unit test environment that exists for all relevant components.

The unit test environment will contain all of the solution's relevant components.

2. Solution Backup, Disaster Recovery, and Failover

Refer to the relevant maintenance and operations specifications located in ***Appendix 1: Detailed Specifications*** and pertinent narrative in ***Section 4: Project Specifications*** in this RFP to cover solution capabilities in this area. The Vendor should describe its approach to Solution Backup, Disaster Recovery, and Failover below. The narrative response for this category should be organized using the appropriate subject matter area as per ***Appendix 1: Detailed Specifications***.

Optum Response:

Approach and Solution Capabilities to 4.5.4 Solutions Backup, Disaster Recovery and Failover

Approach to Solution Backup

Our approach to solution maintenance, backup and recovery will protect your data from loss and increase the overall reliability of your enterprise data and associated assets. Optum's business continuity, disaster recovery and emergency management standards align with industry best practices, including BS 25999 standard, the National Fire Protection Association (NFPA) 1600 update, the ASIS Security standard, and the ISO 22301. The program is reviewed against each new standard and evolving professional practice on an ongoing basis.

To guide our Disaster Recovery and Business Continuity activities, we develop, update, maintain, and test Disaster Recovery (DR) and Business Continuity (BC) Plans. We submit them to you for your review and approval. We update the plans at least annually, in alignment with major system updates, or as directed by DHHR. Our DR and BC Plans are developed according to guidelines provided by NIST 800-53 control Contingency Planning (CP) 2, NIST 800-34 and NIST 800-37.

We validate the DR and BC Plans for operational and system functions, including subcontractor systems and operations. We also validate compliance with the appropriate HIPAA and NIST controls.

The plans detail our response to declared disaster events, including restoration of business-critical services and processes. The DR and BC Plans define how we resume normal business operations in a prioritized manner. They outline the benefits of our strategy and address the major potential risks and mitigations. Our processes enable us to recover from outages caused by events, such as hardware or software failures, natural disasters, and other emergencies that could interrupt services.

Disaster Recovery Plan

Planning for disasters is essential to mitigating risk for our customers and overall business. Our data hosting solution includes designing and implementing the appropriate DR infrastructure as well as creating the supporting recovery documentation and regular testing of the DR solution.

Disaster Recovery Prevention and Protection

Optum's approach to DR is based on the two fundamentals: prevention and protection. A focus on balancing the combination of disaster prevention and protection results in reducing both the probability and impact of a disaster. We first reduce disaster risk in critical areas and then plan for the most probable disaster scenarios. While the DR Plan handles events, such as the complete failure of a data center or region, incident management processes accounts for solving high-priority events outside a disaster scenario.

We engineered our solution hosting to minimize disaster potential. Optum designed OPAHHS critical components as both highly available and fault tolerant. In the event of a connectivity loss affecting one hosted region, OPAHHS has redundant infrastructure in another region to assure continued solution availability.

Optum invests in creating an effective combination of people, processes, and technologies in a proven methodology that results in a stable, scalable environment for our applications to perform at operational excellence. This investment creates the prevention, which is fundamental DR.

People

Optum recruits and develops talent within our industry. Our technical staff is geographically dispersed and collaborates virtually. This enables the organization to hire and retain the best people, regardless of their location. Optum has system operations and facilities management teams with on-call rotations providing access to technical staff at any time day or night. All data storage, operations and support are conducted within the continental United States.

Process

Optum has established formal best practice processes that reduce the likelihood of unexpected infrastructure occurrences. We use an IT Infrastructure Library (ITIL)-based service delivery model to govern our operations reducing the risk of unplanned situations. By adhering to ITIL practices, we consistently follow our change management process by avoiding changes that could affect availability. Our processes validate deployed versions of software are within the general available support provided by our vendors. This reduces infrastructure variability and promotes standards and stability. Optum's patch management automation further safeguards the availability and stability of Optum's core applications by eliminating human error for repetitive processes. Systems application team then validate that the patch process did not negatively impact the system.

Technology

We take advantage of numerous technologies to reduce the probability of unexpected conditions affecting services. For your EDS Project, we will use Azure Cloud Services and their Tier III and IV rated data centers. OPAHHS is designed in such a way that practices and procedures are in place to avoid preventable errors. Our highly available and resilient core infrastructure maintains superior service levels and recovers quickly from a degraded state.

Protection – Planning for Probable Scenarios

While we focus on preventing disasters, we also recognize there is always potential for disasters to occur. We developed strategies to protect the business if an unforeseen event does occur. DR at Optum is based on anticipating and planning for the common types of disasters and designing solutions to address them. Disaster protection addresses recovery from the most probable disaster scenarios to complete data center loss.

A core component of our DR strategy involves identifying critical business processes and transitioning these critical applications, data, and supporting infrastructure to an alternate location in a timely manner. This reduces the impact of an event to our business clients. Critical applications are hosted in multiple availability zones using technology that synchronizes data and application code to allow automated rapid failover in a disaster scenario.

Additional DR strategies include:

- Duplicate operational and data backup restoration methods, including using high performance disk-to-disk copy and replication at the recovery site to make sure that applications and data are recoverable
- Annual refresh and testing of DR plans for critical applications, improving the probability of timely and successful response in the event of a disaster
- Monitoring and alerting from solution components that provide system health metrics to enable immediate action when defined thresholds are exceeded

Protection technologies include the failover of production processing to geographically dispersed sites and the use of data replication approaches. Storage and server virtualization increases the portability of host systems through consolidation and replication, making the transition to an alternate site quickly, reliably, and in large numbers. These capabilities combine to help achieve the objective of resuming operation with limited disruption and no data loss for stakeholders.

DR Testing

Optum simulates disaster scenarios annually to prepare staff members for their roles during a declared disaster event. While technology can synchronize applications and data, it is imperative to have staff prepared to act confidently and calmly during the event. Knowledgeable, trained staff is a major component of reducing the time between assessing an incident and determining it will become a disaster to fully validating application functionality in an alternate location.

Optum deploys a wide variety of technology solutions and leverages several methods to exercise and validate recovery capabilities. Our standard DR exercise is a tabletop exercise that walks all participants through a simulated disaster. Our Enterprise Resiliency and Recovery team simplifies, plans, conducts, evaluates, and manages DR simulation exercises. During this simulation, contacts, call trees, and contingency plan documents are validated. The team performs a detailed review of all infrastructure dependencies, application dependencies, and recovery and validation procedures. Topics covered during simulation include:

Training on DR Processes

- Why we exercise and different types of exercises
- Exercise objectives
- DR policy, procedures, and philosophy
- Plan assumptions, types of possible events, disaster declaration, and statistics
- Restoration Documentation
- Communications encountered during and after an event
- Individual and departmental responsibilities

Simulation and Scenario Walk-through

- Open bridge line and triage hypothetical reported issues
- Page participants to appropriate executive, application and infrastructure bridges
- Obtain copies of the DR Plan
- Validate contacts and call tree
- Notify vendors per critical vendor information
- Review infrastructure requirements and application dependencies
- Review the recovery and validation procedures ensuring steps are clear, concise and executable

The results of the DR exercise are validated and recorded for an operational postmortem. Where necessary, disaster recovery plans are updated based on the results of the DR exercise.

Standard RTO/RPO

Recovery time frame objectives, including Recovery Time Objective (RTO) and Recovery Point Objective (RPO) are based on customer requirements. Our proposed hosting design has a 24-hour RTO and a 24-hour RPO. The RTO is the period of time within which systems, applications, or functions must be recovered after a disaster event is declared. The RTO is measured in minutes, hours, or days and is an important consideration in recovery planning. The RPO is the point in time to which you must recover data as defined by the business. This is generally a definition of what an organization determines is an acceptable loss of data in a distressed situation. The RPO is expressed backwards in time from the instant the failure occurred, and it can be specified in minutes, hours, or days.

Business Continuity Plan

Optum's BC Plans are written to accommodate the following four scenarios:

- **Loss of Facility:** Complete interruption of facilities without access to its equipment, local data, and content. The interruption may affect a single site or multiple sites in a geographic region. Recovery from anything less than complete interruption is achieved by using appropriate portions of the plan.
- **Loss of Critical Resources:** Complete interruption with 100 percent loss of personnel within the first 24 hours and 50 percent loss of personnel long term. The interruption may affect a single site or multiple sites in a geographic area. Recovery from anything less than complete interruption is achieved by using appropriate portions of the plan.
- **Loss of Critical Systems:** Complete interruption and/or access of critical systems and data located at the various data centers for an extended period of time. Recovery from anything less than complete interruption is achieved by using appropriate portions of the plan.

- **Loss of Critical Vendors:** Complete interruption in a service or supply provided by a third-party vendor(s). This may include SaaS vendors that host cloud based services used by the Optum team, but may not be directly related to the Azure cloud environment. Recovery from anything less than complete interruption is achieved by using appropriate portions of the plan.

BC Plans are used when needed to address emergencies that may affect business operations, including short- and long-term events. Examples of short-term events include power outages and winter weather office closings. These plans have also been invoked to address more severe long-term situations, such as building fire and major hurricanes.

Business functions classified as critical provide near-immediate failover of core services by leveraging geographically dispersed redundant operations and maintain a RTO of 24 hours or less. The plans are written to respond to a disaster lasting a minimum of 90 days.

In the event of a loss of the Optum facility used for managing DHHR functions, we will work with our Event Management Team (EMT) to re-establish services using the following techniques:

- **Remote working:** Includes the concept of working from home or telecommuting and working from other non-corporate locations using secured connections
- **Resilient operations:** Work with the EMT to find another Optum site within commutable distance to fulfill the contract responsibilities
- **Buddy-up:** Makes use of existing in-company accommodation in an alternative facility, such as a training facility or lunchrooms to provide recovery space by increasing the density of an undamaged facility
- **Off-loading:** Consists of offloading additional critical tasks to staff at available site or staff cross-trained to perform that function, for example, other call center staff could take helpdesk calls if staff are unavailable because of a disaster
- **Displacement:** Involves displacing workspace used by staff performing less urgent business processes with staff performing a higher priority activity

The DR and BC Plans defines the DR structure, communication, processes, and roles and responsibilities for the Optum operations team. The plan covers how we secure and synchronize the data and software. It also describes the details and reporting related to the DR backup solutions. We provide annual reporting used to validate there are no gaps with your requirements. The results of each annual test of the DR and BC Plans will be provided to DHHR, within 30 business days of the report being completed. It will also include the testing results/outcomes, any identified risks, corrective action plans, and any revisions to policies and procedures that are a necessary result of such tests. We will provide DHHR with an updated copy of the plans in a secure, centralized, online location and at an off-site location that you approve.

By following the plans, we will rebuild your vital operations to protect personnel and resume operations and services in the event of an emergency. In addition, we will demonstrate the remote site functionality of each plan component before go-live.

Working with you, we will review any new Optum business processes we adopt for impacts on mission-critical functions. We will perform, at minimum, annually. Optum will update the DR and BC Plans before implementing any new business processes for DHHR to maintain mission-critical functionality. We will update key personnel contact information as it relates to DR and BC immediately when there is a change. Changes that may require an update to the plans include, but are not limited to, new data sources, new or changed service level agreements (SLAs), new

applications, hardware refreshes, system changes, and system enhancements that could affect capacity.

Manage and control backup, recovery, and failover

Optum has established best practice processes that will reduce the likelihood of unexpected infrastructure events. Using our product lifecycle management processes, we validate that new versions of software we deploy are properly supported by the software vendors. This will reduce infrastructure variability and promote standards and stability. Our strategy will first eliminate or reduce risk in critical technology areas. We will then plan for the timely and predictable restoration of key applications, data, and supporting critical infrastructure. Key communications and connectivity infrastructure is provided with redundant/failover services to provide multiple paths of access.

Our strategy includes focusing on ways we can prevent a disaster or event from taking down systems or affecting operations in the first place. OPAHHS includes several services to support the DR and BC Plans.

Automated backups: We will create backups of the primary site to a geographically separate storage location according to the DR and BC Plans. We will work with the DHHR to define the system and data backup and recovery points. This enables failover to an alternative site.

We have an enterprise approach to DR and BC of operations that evolves as your Medicaid Enterprise changes and matures over time. We configure the OPAHHS environment to automate the process of geo-replicating backups in the recovery location. We will manually verify the replication is successful. Our backup and recovery system will comply with State and federal rules and regulations to validate we generate full backups. This will help us eliminate data loss and minimize disruptions.

Separation: Our design separates functional systems on individual devices. For example, the Business Intelligence (BI) tool and the Extract, Transform, and Load (ETL) tool function independently on separate servers. If a problem occurs with one server, the other servers continue running. The BI tool, EDW service, ETL tool, and the portal all operate independently.

To minimize downtime and disruption of services, the technical design of a DR solution requires supporting a compliant cloud platform with advanced security and protection. When defining our DR technical design, we will analyze and research your needs to quickly restore and recover applications and data in a structured manner. Our cloud hosting solution allows us to provide several features that enable a highly available solution including:

- **A wide range of offerings and availability zones:** We have assembled a government-compliant solution with continuous monitoring that allows recovering the solution from an alternate location.
- **Maintenance:** We will establish a comprehensive patch management process and perform technical refreshes for the virtual machines and managed services for OPAHHS.
- **Automatic Replication:** The cloud service includes automatic replication across multiple zones within the continental United States.
- **High uptime SLAs:** The cloud platform SLAs provide 99.99 percent or higher levels of uptime.
- **Monitoring and notification:** The cloud platform offers extensive monitoring and notification capabilities providing proper notifications to the appropriate parties in the event of issues.

Optum will leverage system snapshots and backups for your EDS. According to our baseline recommendations, these backups and/or snapshots will occur daily. They will be a sufficient type and frequency to cover all aspects of the system to meet the RPO of 24 hours and the RTO of no more than 24 hours. After discussions with you during Design, Development, and Implementation (DDI), we will document the agreed-upon design for backup, recovery, and failover in the Detailed System Design (DSD) document.

The DSD will contain the processes we will follow to verify and report to you on the status of our backups. We will break the report down by target, type, and number of versions retained. It will also document our methods and processes for restoring data as needed.

Protecting your data not only means we need to back it up and retain those backups; it also means we must be prepared to restore it. The elasticity of cloud services makes the initialization of storage for test and live restores fast, accessible, and secure. We will demonstrate our recovery readiness by performing recovery tests annually as part of requirements validation and system design. We will document this recovery test it will be revisited as affected by project change control and capacity planning.

Maintaining COTS products, and Configurations Necessary to Support Needs

For our OPAHHS solution that will be implemented for the EDS, Optum uses several COTS products, including but not limited to Liferay, Tableau, and Informatica. We maintain support and maintenance contracts that allow us access to all security and other software patches provided by the COTS vendors. We apply security and software patches on a defined schedule that will be coordinated with DHHR.

At times we may find it necessary to perform software upgrades with major revision changes. For those major software upgrade, we will work with DHHR to clearly define what benefit will be gained from the major upgrade and then work on timelines and test plans for implementation of the major version changes.

Appendix 1: Solution Back-up, Disaster Recovery, and Failover

Optum will meet the Solution Back-up, Disaster Recovery, and Failover requirements as stated below. The Appendix 1 Excel file is located after Attachment K.

DR001	The Vendor should deliver a Disaster Recovery and Business Continuity Plan to the Department for review and approval 30 business days prior to the start of solution operations.

Optum's policies regarding DR and BC planning require that the plans are verified and tested prior to being deemed "production-ready". We will make the DR and BC plans available for review 30 days prior to commencing operations.

DR002	The Vendor should develop, maintain, and submit to the Department within the Disaster Recovery and Business Continuity Plan all proposed offsite procedures, locations, and protocols.

Optum provides disaster recovery, cyber incident, and business continuity planning for all of our current EDS and analytic clients. We have significant expertise in developing continuity approaches and designing artifacts such as plans, critical contact lists, application recovery scripts, and validation procedures.

Within the DR and BC plans we will develop, we will define offsite procedures. This will include all locations that are considered secondary sites. We will also include the protocols necessary to be followed to allow all personnel to be competent in the implementation of the procedures.

DR003	The Vendor should perform a review of the Disaster Recovery and Business Continuity Plan annually and submit to the Department for review and approval within 30 calendar days of the review.

Optum has 25 years of experience planning, conducting, evaluating, and managing disaster recovery simulation exercises for EDW and analytics solutions. Our experience will help us perform continuity of operations activities for you with precision and accuracy. We will conduct an annual plan review. Upon completion of the review, Optum will provide DHHR a copy of the review for approval within 30 calendar days.

DR004	The Vendor should submit substantive change(s) to the Disaster Recovery and Business Continuity Plan to the Department for review and approval within 30 calendar days of the proposed change(s).

As part of the DR and BC plan review, our subject matter experts and DR and BC specialists test and update the recovery and validation procedures for conformance to the current system configurations. When there are substantive changes to the plan they will be submitted to the Department for review and approval within 30 calendar days of the proposed change(s).

DR005	The Vendor should provide the Department with up-to-date copies of the Disaster Recovery and Business Continuity Plan in electronic and printed versions annually and within 30 calendar days of when substantive changes are made.

Current copies of the DR and BC plans will be made available at minimum annually, within 30 days of any substantive change or as otherwise requested. An online copy of the documents are maintain in the appropriately shared document repository.

DR006	The Vendor should ensure a copy of the most recent Disaster Recovery and Business Continuity Plan is available in hard copy and electronic form at an offsite location approved by the Department.

Current copies of the DR and BC plans will be stored online in multiple zone within the cloud environment. They will also be stored offline at an agreed upon location.

DR007	The Vendor should ensure that each aspect of the Disaster Recovery and Business Continuity Plan is detailed as to both Vendor and Department responsibilities.

Optum's DR and BC implementation is a team effort between several Optum internal team and the Department. Each functional area is documented individually and lists areas of responsibility for both DHHR and Optum. DR and BC recovery and validation procedures are treated similar to a project plan with work breakdowns.

DR008	The Vendor's Disaster Recovery and Business Continuity Plan should account for all input, processing, and output procedure functions.

Each component within the environment is individually documented and tested. Integration points are annotated and validated as being available during the annual testing of the DR and BC plans. The plans will account for all input, processing, and output procedure functions.

DR009	The Vendor should ensure that each aspect of the Disaster Recovery and Business Continuity Plan satisfies all requirements for federal and State certification.

Our DR and BC Plans are developed according to guidelines provided by NIST 800-53 control Contingency Planning (CP) 2, NIST 800-34 and NIST 800-37. We validate that the DR and BC Plans for operational and system functions, including subcontractor systems and operations, comply with HIPAA and NIST standards. We will also validate that all aspects of the DR and C plan satisfy all requirements for federal and State certification.

DR010	The Disaster Recovery and Business Continuity Plan should include a hierarchy that is approved by the Department of critical services, resources, and infrastructure to determine the order that services are restored.

We will work with you to determine which components of OPAHHS are vital business functions. Once the vital business functions are identified the order or restoration will be determine. Upon your review and approval these critical services, resources and infrastructure component restoration activities will be documented as part of the DR and BC plan. The DR and BC Plans

will account for our solution's different computing and operating environments. They will outline the minimum focus necessary for recovery of services during a declared disaster.

DR011	The Vendor should create and maintain a Disaster Recovery and Business Continuity Plan that details procedures to address events including, but not limited to:

While we value the safety and security of our employees and the Department's staff and constituents, we understand that some events are outside of our control. To guide our DR and BC activities, we will develop, update, maintain, and test DR and BC Plans for this project.

DR012	Terrorist acts

Optum will work with local law enforcement and first responders in the event of a terrorist attack. Optum has a diverse work force that is distributed across the continental United States that can be brought in to support Department activities in an emergency.

DR013	Power disruptions or power failures

Because we are using cloud services located in Tier-III data center, there is an expectation that power disruptions or failures will not be an issue. However, in the event it does occur, our system will be redundant across a separate availability zones allowing us to failover to another availability zone if required.

DR014	Solution failures

Optum employs many monitoring tools to understand solution overall health. In the event of a complete solution failure we will take steps to recover the solution. Once the solution has been recovered to an operational state any failures are evaluated and documented for root cause analysis.

DR015	Significant compromise/degradation of data warehouse performance

Optum's monitoring tools and data engineers allow us to understand when the data warehouse is performing optimally or in a degraded state. If a compromise or degradation is detected, we will engage the proper teams to evaluate the situation and determine a course of action. Different degradation scenarios require that subject matter experts be brought in to determine a correct course of action. Some examples of compromise/degradation may be errant database queries, corrupt datasets, or outdated\invalid indexes. Each of those examples require a different expertise set and solution to solve the problem. Optum has the expertise to solve these and other problems that may arise.

DR016	Processing shutdowns

In the event that solution processes and functions shutdown or fail to operate as expected, a ticket will be opened in Optum's ticketing system. Appropriate parties are then contacted and the troubleshooting triage process begins. Because of complexities in large-scale solutions such as the EDS, there are several teams that may need to be brought in to ensure fast and accurate analysis. Once the problem is resolved, the issue is analyzed and a root cause analysis is determined.

DR017	Labor strife or strike

While Optum may not be directly impacted by labor strife or strike, we understand that there are many chains and channels which can be affected by labor issues. Optum's distributed workforce and robust remote worker capabilities allows Optum employees to work from nearly any location in a secure manner. The utilization of cloud service also allows the flexibility of the primary services to not be affected by regional labor issues.

DR018	Natural disasters

We will respond to Natural disasters and public health emergencies as needed. When Hurricanes Irma and Maria struck a devastating blow to Puerto Rico in 2017, an Optum client, Triple-S Salud, was severely affected. After the 1.1-million-member BlueCross BlueShield Plan in San Juan lost power, we provided back-up power and generator support. Partnering with Triple-S, we also went door-to-door in affected communities and visited senior living facilities to check on the well-being of residents.

DR019	Production site becoming unsafe or inoperable

In the event the primary production site becomes unsafe or inoperable, we have the capability to failover to a secondary location for production data flows. The flexibility of the cloud allows us to take advantage of distributed data set and near instant workload shifting from one location to another.

DR020	Hacking attempts or viruses

We follow a structured, systematic incident response program to recover from cyber incidents. Our goal is to minimize the loss or theft of information or disruption of critical computing services. We will create an Incident Response Plan as required by MARS-E IR-8: Incident Response Plan that details our response to any cyber or security related event. This plan will describe how we protect information systems, data, and personnel.

DR021	Others as defined by the Department

DR at Optum is based on anticipating and planning for the common types of disasters and designing solutions to address them. Disaster protection addresses recovery from the most probable disaster scenarios to complete region loss. A core component of our DR strategy involves identifying critical business processes and transitioning these critical applications, data, and supporting infrastructure to an alternate location in a timely manner.

We will work with the Department to determine if the additional defined failure scenarios fall may require the change management process. If others are defined are in addition to what is available in the base OPAHHS solution they can be addressed through the EDS project change management process.

DR022	The Vendor should ensure the Disaster Recovery Platform contains the same security safeguards to protect solution data during emergency operations as during normal business operations.

All environments within the solution are held to the same security standard for personnel access. While certain non-production system may not be allowed to have access to PHI\II data, the DR platform and environment is secured identically to the production environment.

DR023	The Vendor should ensure access to all solution components, systems, and data, 24 hours a day, 7 days a week, 365 days a year, except for Department-approved scheduled and emergency outages.

Optum will work with the Department to define approved scheduled outages. The solution is designed to operate 24 hours a day, 7 days a week with allowances for unexpected/emergency outages and Department-approved scheduled maintenance.

DR024	Pursuant to the Service Level Agreements (SLAs), the Vendor should define, maintain, and adhere to a problem identification, notification, and resolution process that includes but is not limited to the identification of the problem, its impact, root cause analysis, and resolution.

Optum has extensive processes in place to identify and track problem and issues. Our subject matter experts then evaluate the impact and assist in determining the root cause. Once a resolution is agreed upon, with communication to proper leadership and the Department, the fix can be implemented within a proper change window.

We follow a five-step process to manage and restore incidents according to business imperatives, as shown in Figure 130.

Figure 130: Key Phases of Incident Management.
Optum applies a five-step process to identifying and resolving incidents.

Recording and Detection

OPAHHS applications have automated performance monitoring capabilities which trigger automated alerts when specific thresholds are breeched.

Classification and Triage

The next step in incident management is classification. The Optum initial support team prioritizes and classifies tickets based on the impact and urgency, determined by the business needs. We use a documented process for assessing incidents and classifying them appropriately. One such classification is the impact level. A production failure constitutes a high-impact incident. A high-impact incident is an incident that severely affects, or has the potential to severely impact a mission-critical business operation, or it has high visibility to external customers. Classification as high impact triggers further alerts and notifications so that critical parties receive immediate notification of the issue.

Analysis and Diagnosis

After the incident is logged and triaged, we will analyze and diagnose the issue. For production service disruptions, this step focuses on diagnosing the immediate problem and identifying potential resolutions. Upon diagnosis, we may proceed with service restoration and trigger a more in-depth analysis to begin so we can identify ways to prevent future recurrence.

For all high-impact incidents, Optum generates a separate problem ticket to track, document, and conduct a formal Root-Cause Analysis (RCA). The RCA is linked to the original incident within the online ticketing tool. This lets the RCA occur on a separate timeline from the incident itself, while still allowing it to be accessed from the original ticket. When the RCA ticket is created, we follow a formal analysis process. The RCA identifies why, when, and how problems were introduced into the system development or production operations lifecycle. The RCA is an iterative process and therefore, a framework for continuous improvement. It uses analytical methods to identify and prioritize improvements that reduce future defect opportunities.

To conduct the incident analysis, Optum uses a combination of multiple techniques depending on the type of failure that has occurred. These include:

- **Cause-Effect Analysis:** The cause-effect analysis uses fishbone (Ishikawa) diagrams to illustrate how various causes can be linked to an identified effect. In this type of analysis, the Optum team identifies a series of causes, one leading to another. The team pursues this series of causes until the real root-cause has been identified.
- **Events and Causal Factor Analysis (Bottom-Up):** This involves analyzing a series of actions and tasks in time sequence, along with the environmental conditions that lead to an

incident occurrence. The resulting events and causal factor chart provides a graphical representation of the timeline as well as relationships of the causal factors and events. This method provides more granular details than cause-effect analysis.

- **Fault Tree Analysis (Top-Down):** Fault tree analysis uses deductive methodology to analyze preceding events leading to the failure in a time-driven relational sequence. The resulting fault tree is a graphical representation of the potential combinations of failures that generated the incident. The tree starts with a top event representing the analyzed incident, and breaks down into contributory events and their relationships until the root causes are identified.

Restoration

When the problem is diagnosed, options for restoring service are evaluated. Restoration for production faults occurs according to the business priority and processes established in the Disaster Recovery Plan.

Closure

The problem is considered resolved when the potential risk and the possibility of re-occurrence of the issue are eliminated. Both the RCA ticket and the original problem ticket are reviewed and closed only when both Optum and the DHHR agree upon the resolution.

DR025	The Vendor should recover the solution and make it fully operational in the event of a disaster to the primary physical hosting site within 24 hours of the time of the solution failure.

While a full solution failure is very rare, Optum takes the time to define and test the procedures necessary to fully recover from a failure. In the event of a declared disaster, the vital business functions, as agreed to by DHHR, will be fully operational within 24 hours.

DR026	The Vendor should include in its system design the capability to switch operations from the production environment to the failover environment in the event technical problems incapacitate the production server.

Optum's standard system design includes the capability to switch to a secondary site in the event of a critical component failure. Once a critical failure has occurred and a decision has been made to failover, Optum work continuously to bring the system up in a timely fashion.

DR027	The Vendor should maintain an operational backup power supply at both primary and alternate sites capable of supporting vital functions indefinitely or until primary power is fully restored.

Optum will be utilizing a cloud service provider that operate Tier-III certified primary and alternate data centers. Availability of backup power supply and other redundant infrastructure components is part of Tier III certification.

DR028	The Vendor should provide backup network connectivity at both the primary and alternate sites with the capacity to support the system and its components.

Optum will be making use of Azure cloud services for this solution. Azure's regional data centers are designed for multiple pathways and connectivity to help reduce failures and use software-defined networking for flexibility.

DR029	The Vendor should identify and maintain a computer site at a separate location to be designated as the disaster recovery site to be approved by the Department.

We will design the solution for a separate Disaster Recovery site location. Optum will utilize the Azure cloud services to design Disaster Recovery in a differing region than the primary production location.

DR030	The Vendor should have a remote backup facility at least 50 miles away from the primary data center.

Optum will be using multiple availability zones within the cloud service provider to ensure minimum 50 miles disaster isolation of backup facility.

DR031	The Vendor should perform an annual review of the disaster recovery backup site, procedures for all offsite storage, and validation of security procedures and submit a report of the backup site review within 30 calendar days of the review.

Optum will be using a cloud service provider for the solution. Because of this, there is no specific backup site. However, an annual review can be accomplished to document the cloud services that make up the disaster recovery components of the solution. A report of the annual review will be made available to DHHR within 30 calendar of review completion.

DR032	The Department reserves the right to inspect the disaster recovery backup site and procedures at any time with 24-hours' notification.

Azure cloud services is being used to implement the EDS. Azure cloud services are provided using multiple data centers. We will not have physical access to any of the Azure data centers hosting the solution for DHHR. This is a standard practice with third party cloud hosting service providers. We will provide procedures in the Disaster Recovery Plan that is available upon 24-hours' notification. Azure cloud service is an approved service for the West Virginia Department of Information Technology (WVOT).

DR033	The Vendor should execute a test of the Disaster Recovery and Business Continuity Plan as part of user acceptance testing (UAT).

Prior to any go-live, Optum requires that all systems perform and are able to successfully failover from the primary production site to the DR site. Part of this exercise includes working with the Department to ensure you understand the procedure and step that were followed and that you understand the success criteria and approve of the test outcome. We will execute a disaster recovery exercise as part of UAT during DDI.

DR034	The Vendor should exercise/test the Disaster Recovery and Business Continuity Plan annually and provide the disaster recovery testing reports to the Department within 30 calendar days of the exercise/test.

We will test the DR and BC plans annually and provide a written report for your review within 30 calendar days of exercise completion. We will coordinate the test with you and your teams so we can walk through each functional area with the associated responsible stakeholders and SMEs.

DR035	The Vendor should have the ability to restore all tables utilizing the onsite backup copies to their state prior to the erroneous load within timeframes pursuant to Service Level Agreements (SLAs). This includes, but is not limited to, source system- or application-dependent errors that result in invalid data being loaded into the data warehouse.

Optum treats data quality and loads as a critical step in the solution. Because of that, we follow several step to validate data has been loaded correctly. Our cloud solution enables us to keep your data locally with copies in geo-redundant location. In the event that there was an erroneous data load, we keep the original data that is being loaded in local storage. This data always remains in its original form and we can then rollback to a pre-load state and re-apply the data load after the error has been identified and fixed.

DR036	The Vendor should develop and maintain an automated scheduling system for running the backup processes for all environments.

Backup processes within the solution can be run manually or scheduled for all environments. Backups are typically run once a day. However, in the event that many system changes are taking place (e.g., code deployment), a backup and\or snapshot can be manually triggered.

DR037	The Vendor should backup all data files that reside in multiple environments ensuring that any data set can be restored from the backup medium within ten (10) hours of notification that a restoration is needed.

Each environment within the solution is treated and managed separately. Cloud based services allow for flexibility and speed in restoring data or systems from backup. In some scenarios, a

system may even be restored to allow for parallel comparison with the active system. We will be able to restore data files as needed within 10 hours of notification.

DR038	The Vendor should backup all databases and other data on a weekly basis and store the backups at a secure offsite location.

Optum will use cloud native database system for the primary EDS database. The cloud native systems have robust and flexible backup routines and options. The backups are stored in local and geo-redundant manner thus meeting the requirement for off-site storage.

Non cloud native databases will be backed up using vendor specific tools (such as RMAN) and stored in a cloud native storage location, again replicated across multiple locations with the solution availability zone.

DR039	The solution should have the ability to backup all data sets, files, transaction logs, documentation, program code, authorized solution user libraries of reports and queries, operating system (OS) software, databases and other items as determined by the Department.

We are able to backup all solution data and software assets for potential recovery. Optum's use of cloud service allows us the capability to take an instant snapshot of any system or component running within the solution. These snapshots can be created manually or scheduled. Other backup routines\scenarios can be run for functions that do not support snapshots.

DR040	The Vendor should ensure that backups performed by authorized solution users of reports and queries are stored on a single shared drive in the solution.

Authorized solution users will have authenticated access to shared cloud storage for backups of their reports and queries. This can be a single shared location or isolated to specific users or group members.

DR041	The Vendor should store all backup copies in a Department-approved backup storage location for a minimum of five (5) years.

Optum takes advantage of lower cost cloud storage for archival purposes. The archived data will be held for a minimum of 5 years.

DR042	The Vendor should develop and maintain a process to verify that backup and restoration processes were run appropriately, and all scheduled backup procedures have run successfully.

Optum will document and perform quarterly validation tests of critical backup routines. All backup and snapshot routine audits are captured in the management tools and alerts can be generated in the event of a failure.

Utilizing the Azure web console, we can create backup profiles which define such thing as backup frequency, time and retention. Virtual machines can be assigned to these profiles and the status of the backups are monitored via the same console.

DR043	The Vendor should maintain an on-site copy of backups at the onsite facility for a period of seven (7) calendar days.

Optum will be using cloud service to provide the solution. This allows us to create and manage data snapshots and backups through an on-site copy of backups at the onsite facility for a period of 7 calendar days, within the cloud locally and in geo-redundant data center locations and automatically purge or archive old data that is no longer required. The high speed networking with in the cloud environment allow for easy and fast access to backup data as needed.

DR044	The Vendor should store weekly backups at the remote backup facility.

Optum is taking advantage of native cloud storage solutions, including but not limited to snapshots and geographically redundant storage that store weekly backups at the remote backup facility. The use of cloud technology allows us to keep several copies of data at various locations within the United States.

DR045	The Vendor should be responsible for the cost associated with the backup storage process and location.

Optum has identified and included the costs of backup data to be stored in the cloud as part of the EDS solution.

DR046	The Vendor should provide to the Department, within 30 calendar days of request, a Turnover and Closeout Management Plan detailing the approach to transitioning systems and operational responsibilities to a successor.

Optum will provide the Turnover and Closeout Management Plan to the Department 30 calendar days of request. The plan will define the responsibilities of Optum, the Department and the successor in order to facilitate a smooth transition.

DR047	The Vendor should transfer all backups to the successor vendor within the agreed-upon timeframe defined in the Department-approved Turnover and Closeout Management Plan.

Employing cloud-based backups and storage solutions, Optum will be able to transfer backup data to a successor vendor in a timeframe that will be defined in the Turnover and Closeout Management Plan.

DR048	The solution should create and retain an audit trail of all interface activity in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

Optum applies stringent audit trail and tracking of all user activity within the solution. We collect audit trail into a centralized system and perform analytics on the data to alert on defined incidents or possible suspicious activity. We will collect and retain all audit trail of all interface activity in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

DR049	The Vendor should ensure that data is retained, archived, protected from destruction, and accessible in accordance with Department, State and federal security and privacy laws, policies, and/or procedures.

We will retain and archive data in accordance with DHHR, State and federal security and privacy laws, policies and procedures. Optum protects all data, including backup and archive data, from unplanned destruction by applying appropriate access controls. Backups are not stored on physical backup media so physical controls to prevent destruction are not relevant.

DR050	The Vendor should ensure that hard copy documents are retained, stored, imaged, archived, and destroyed in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

Optum has governance and systems in place for document retention and disposition. We will work with the Department to meet specific requirements that may be more stringent than our standard policies. Hard copy documents will be retained, stored, imaged, archived, and destroyed in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.

REQUEST FOR PROPOSAL

Department of Health and Human Resources, RFP#HHR200000001

ATTACHMENT K: TERMS AND CONDITIONS RESPONSE TEMPLATE

1. INSTRUCTIONS

The Vendor should review ***Attachment K: Terms and Conditions Response Template*** signing each provided signature block using blue ink in order to note the Vendor's acknowledgement and intent of compliance. The Vendor should identify any exceptions to the Terms and Conditions. If exceptions are not noted in ***Attachment K: Terms and Conditions Response Template*** of the RFP but raised during contract negotiations, the State reserves the right to cancel the negotiation if, at its sole discretion, it deems that to be in the best interests of the State.

2. RFP TERMS AND CONDITIONS

RFP Terms and Conditions consist of provisions throughout this RFP. Moreover, these provisions encapsulate instructions, State and federal procedures, and the State's expectations of the Vendor when submitting a proposal. The Vendor should understand and strictly adhere to the RFP Terms and Conditions. Failure to follow any instructions within this RFP may, at the State's sole discretion, result in the disqualification of the Vendor's proposal.

Please provide an authorized signature stipulating the Vendor's acknowledgement, understanding, and acceptance of these RFP Terms and Conditions.

Amy Shaw, Senior VP, Finance  February 4, 2020

Printed Name / Signature of Authorized Personnel — Date

REQUEST FOR PROPOSAL

Department of Health and Human Resources, RFP#HHR200000001

3. STATE CUSTOMARY TERMS AND CONDITIONS

The selected Vendor will sign a contract with the State to provide the goods and services described in the Vendor's response. The following documents shall be included in any contract(s) resulting from this RFP:

- ***Section 3: General Terms and Conditions (attached PDF file Section_2_Instructions_To_Vendors_Submitting_Bids_and_Section_3_General_Terms_and_Conditions)***
- ***Section 7: Provisions Required For Federally Funded Procurements***
- ***Appendix 5: Service Level Agreements and Performance Standards***
- ***Appendix 8: IT Terms and Conditions***
- ***HIPAA Business Associate Agreement***

Please provide a signature stipulating the Vendor's acknowledgement and complete review of these documents.

Amy Shaw, Senior VP, Finance  February 4, 2020

Printed Name / Signature of Authorized Personnel **Date**

If the Vendor is <u>not taking exceptions</u> to any of the State Customary Terms and Conditions, then the Vendor needs to provide a binding signature stipulating its acceptance of these documents.

Printed Name / Signature of Authorized Personnel **Date**

REQUEST FOR PROPOSAL

Department of Health and Human Resources, RFP#HHR200000001

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Printed Name / Signature of Authorized Personnel **Date**

4. MANDATORY REQUIREMENTS AND TERMS

The following items are Mandatory Terms and Documents. Please be advised, the Vendor **should** provide its affirmative acceptance of these items in order to move forward with consideration under this RFP.

- Attachment F: Mandatory Requirements (attached Microsoft Excel file, ***Attachment F – Mandatory Requirements)***
- In no event shall the State agree to terms that (a) require indemnification by the State of the Contractor; (b) waive the State's right to a jury trial; (c) establish applicable law anywhere other than the State of West Virginia, or jurisdiction in any venue other than the Thirteenth Judicial Circuit Court; (d) designate a governing law other than the laws of the State of West Virginia; (e) constitute an implied or deemed waiver of the immunities, defenses, rights, or actions arising out of the State's sovereign status or under the Eleventh Amendment to the United States Constitution; (f) limit the time within which an action may be brought; (g) require arbitration, (h) require the ability to defend lawsuit without the approval of the Attorney General's Office; or (i) pay attorney fees.
- ***HIPAA Business Associate Agreement***
- ***Appendix 5: Service Level Agreements and Performance Standards***

Vendors that are not able to enter into a contract under these conditions should not submit a bid.

Please provide an authorized signature stipulating the Vendor's acknowledgement, understanding, and acceptance of the Mandatory Requirements and Terms stipulated in this section.

Amy Shaw, Senior VP, Finance — February 4, 2020

Printed Name / Signature of Authorized Personnel — Date

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- ***HIPAA Business Associate Agreement***
- ***Appendix 5: Service Level Agreements and Performance Standards***

Vendors that are not able to enter into a contract under these conditions should not submit a bid.

Please provide an authorized signature stipulating the Vendor's acknowledgement, understanding, and acceptance of the Mandatory Requirements and Terms stipulated in this section.

Amy Shaw, Senior VP, Finance		February 4, 2020
Printed Name / Signature of Authorized Personnel		Date

5. COMMERCIAL MATERIALS

The Vendor should list any commercial and proprietary materials it will deliver that are easily copied, such as Commercial Software, and in which the State will have less than full ownership ("Commercial Materials"). Generally, these will be from third parties and readily available in the open market. The Vendor need not list patented parts of equipment.

Optum Response:

5.1 Commercial Materials For Which Optum Grants a Term Based License

Optum will be delivering the following Optum proprietary, commercial off the shelf (COTS) products and Optum proprietary material as part of the Deliverables under the Contract where the State will have less than full ownership rights. Instead, the State will be granted a non-exclusive right and license to use for the term of the EDS Contract between Optum and DHHR based on the license terms set forth as part of the supplemental terms and conditions found in Section 7 of this Attachment K.

5.1.1 OPAHHS Software - Commercial Software as Part of a Deliverable

Optum's pre-existing OPAHHS Software that will be included as a Deliverable to DHHR consists of the object code version of Optum's proprietary software containing pre-configured analytics and ad hoc analytical functionality (the "OPAHHS Software").

5.1.2 OPAHHS Software Standard Reports - Proprietary Material as Part of a Deliverable

The OPAHHS Software also contains, and Optum will include as part of its Deliverables to DHHR, the Optum pre-existing, proprietary reports (the "OPAHHS Standard Reports") identified in the following table.

Optum Performance Analytics for Health and Human Services: Standard Reports		
#	Report Name	Report Description
1	**Acute Claims Utilization**	Analysis of acute care claims allows the user to assess the utilization pattern of often very high cost services. Case mix by grouper is shown visually, as well as utilization patterns that are often tied to specific quality measures (most frequent episode/grouper associated with re-admissions, for example). Metrics can be shown by hospital, hospital network or other organization. If MCO or ACO data is available, reporting and analytics can be provided for in-network and out-of-network utilization allowing drill-down into utilization by category of service within these parameters.
2	**Behavioral Health / Substance Abuse**	Provides a detailed report showing geography, utilization and other metrics on recipients with a history of BHSA diagnosis.
3	**Care Management / Disease Management**	A geographic representation of members with chronic conditions appropriate for care management programs (e.g., COPD, asthma, diabetes) is presented, along with indications for MCO enrollment. Various metrics are presented to show member populations with high associated emergency department (ED) visits, inpatient admissions, risk scores, PMPMs, etc.
4	**Category of Service**	Utilization of services is presented for high level categories (i.e., inpatient, outpatient, professional and pharmacy) as well as drill-down into more detailed levels, down to line-level assignments.
5	**Claims Ad Hoc**	The ability to perform essential ad hoc functionality against the data is provided across different levels. Users can create variables and design reporting with their own visualizations and analytics.
6	**Claims Detail**	The claims detail report provides a visual representation of a member's claim activity over time. Drill-down detail information is available to the line level. All types of claims (e.g., inpatient, outpatient, professional, pharmacy) are included. Visualizations are developed to identify outlier services.
7	**Claims Lag Triangle by Paid Date**	The claims lag triangle by paid date presents statistics on incurred-but-not-reported rates by various claim types and categories of service. Various other metrics on

Optum Performance Analytics for Health and Human Services: Standard Reports		
#	Report Name	Report Description
		completion factors are also presented to allow a more detailed understanding on the impact of utilization metrics across time.
8	**Claims Lag Triangle by Submission Date**	The claims lag triangle by submission date presents statistics on incurred-but-not-submitted rates by managed care encounters and categories of service. Various other metrics on completion factors are also presented to allow a more detailed understanding on the impact of utilization metrics across time.
9	**Cost Drivers**	An analysis of the different drivers of costs of delivery of services.
10	**Delivery Analysis**	Identification of delivery events, including low birthweight deliveries, both from a provider perspective and a geographic perspective.
11	**Determinants of Health**	Reporting and analysis that looks at other determinants of health, including access to education, nutritious food, housing and transportation, as well as clean water and non-polluted air. Measuring health disparities across populations by looking at the social and environmental determinants is driven by availability and access to data. The above factors are included in demographic reporting that supports drill-down to the member level.
12	**Diagnosis Code**	Standard report showing the prevalence and use of diagnosis codes.
13	**Disease Prevalence**	Population-level disease prevalence metrics by episodes within the episode treatment group (ETG) hierarchy are shown, along with cost-per-episode statistics. Disease prevalence can be characterized by different demographic and geographic groupings. Drill-down into category of service utilization by various episodes is shown, with appropriate utilization metrics.
14	**Eligibility Group Profile**	Utilization, demographics, clinical, geographic and enrollment detail are summarized in one template allowing the user to do a deep-dive into one particular eligibility group or groups.
15	**Enrollment Analysis**	A complementary report to the Enrollment Overview, this report dives deeper into analytics around enrollment and utilization for different enrolled groups. Metrics related to member churn, risk-adjusted PMPMs as well as comparative information is provided.
16	**Enrollment Breakdown**	More detailed information showing demographic data for enrolled groups.
17	**Enrollment Overview**	The user is presented with enrollment trends over time, variation analysis, and year-over-year metrics to track enrollment by many different characteristics as well as sub-groups.
18	**Finance Detail**	This report supports rate setting analyses such as: pay for performance, episode-based payment, revenue modeling, including analysis of Federal Medical Assistance Percentages (FMAP) differences, risk-adjusted payment, and capitation calculations (including risk-adjusted capitation). This report helps in the determination of the value of services, regardless if carve-in or carve-out, such as: pharmacy, behavioral health, long term services and supports.
19	**Geography Profile**	Utilization, demographics, clinical, geographic and enrollment detail are summarized in one template allowing the user to do a deep-dive into one particular geographic area.
20	**Long Term Care**	Provides geographic representation of the use of long-term care (nursing facility) services.
21	**LTSS Member Utilization**	A more detailed review of members receiving long-term services and supports (LTSS) services, particularly those receiving high levels of service and/or overlapping services.
22	**LTSS Utilization Overview**	High level analytics of LTSS delivery of services.
23	**MCO Disease Management**	Assessment of the prevalence and management of disease, especially manageable chronic conditions, across the MCO enrolled population.
24	**MCO High Level Comparison Report**	A high level comparison of MCO performance, across financial, utilization, and quality content areas.
25	**MCO Outpatient Emergency Department**	This report provides a thorough analysis of ED utilization, grouped either at the MCO/ACO level or other levels. Using an algorithm for classification of ED visits developed at the New York University (NYU), the report characterizes visits as

Optum Performance Analytics for Health and Human Services: Standard Reports		
#	Report Name	Report Description
	Utilization Report	Avoidable, Required, Questionable and Other for analysis at the pattern of utilization. Drill-down and drill-through is provided.
26	**MCO Quality Achievement**	A deep-dive into quality measure achievement across MCOs.
27	**MCO Quality Achievement PCP Detail**	Further detailed analysis around the primary care providers affiliated with MCOs to give granular detail around quality measure achievement.
28	**Member Access to Care**	The view supports analysis that compares the provider availability and utilization by zip code or county and population attributes for any program (e.g., in order to assess provider capacity in a specific area based on the number of open practices, time and distance criteria, provider type). In-network and out-of-network metrics are provided where appropriate. Member-to-provider ratios and provider workload (compared to average for peer) are included to further determine access to open care.
29	**Member Outlier**	Groupings of members are presented visually allowing easy identification of 'like' cohorts of members by common conditions, service utilization and clinical measures. Clustering and other outlier measures are also utilized. The report has the capability to create groups of beneficiaries for profiling and analysis by conditions, populations, services, clinical outcomes, or other identified attributes.
30	**Member Profile**	The member profile shows detailed information about a particular member, including demographics and enrollment history, geographic location in relation to providers, clinical and utilization information. This is a key report, linked to from many other reports.
31	**Multivariate Forecasting**	A more advanced version of single variable forecasting is presented with more sensitive adjustments to the forecasting model.
32	**Opioid Utilization - Member**	Provides reporting and analytics to address opioid abuse issues with actionable information from a member perspective. Advanced analytic techniques are used to identify those members who are most at risk of addiction. Includes a KPI dashboard.
33	**Opioid Utilization - Provider**	This view presents a view of the opioids prescribing pattern by provider specialty.
34	**Pediatric Asthma Prevalence**	Provides a population-level report on the prevalence and severity of pediatric asthma, leveraging the pediatric asthma machine-learning module.
35	**PMPM Cost By County**	An analysis of costs and utilization at the county level is provided to allow comparison across geographic areas, including drill-down into categories of service for those areas. Comparative metrics include clinical measures, such as disease prevalence and comorbidities as well as quality measure adherence as well as standard utilization and cost metrics. Year-over-year comparisons are provided to establish the necessary frame of reference for data points.
36	**Prescription Drug Utilization Analysis**	A specific deep-dive into prescription drug utilization is provided, both from a member and prescribing provider perspective. Where available, drug costs and rebate information is integrated into the reporting to show the true costs of prescription drugs.
37	**Procedure Code**	Standard report showing the prevalence and use of procedure codes.
38	**Provider Comparative Analysis**	The composition of a provider's population, in terms of both attributed versus total seen, is shown by various demographic, geographic, clinical and utilization metrics. Each provider is compared to a peer group and, where available, other comparative groups. Measures of efficiency, such as relative resource use, and service levels by member acuity, are also shown.
39	**Provider Outpatient Emergency Department Utilization**	This report provides a thorough analysis of ED utilization, grouped either at the billing or rendering provider level. Using an algorithm for classification of ED visits developed at NYU, the report characterizes visits as Avoidable, Required, Questionable and Other for analysis at the pattern of utilization. Drill-down and drill-through is provided.
40	**Provider Overlapping Claims Analysis**	Analysis that pulls overlapped services (e.g., LTSS services while a member is an inpatient), both at the member and provider level of detail.
41	**Provider Profile**	The provider profile yields information about a specific provider and its panel of

Optum Performance Analytics for Health and Human Services: Standard Reports		
#	Report Name	Report Description
		members, whether attributed or seen. The distribution of the provider's population is shown across demographic, eligibility, clinical and utilization categories.
42	**Quality Measure Analysis**	Adherence rates for identified quality measures at a population, network (ACO/MCO/other) are shown, as well as distribution of rates by various sub-group (age/gender/race/other). Drill-down to provider-level adherence as well as trends over time (if available) is shown. Outcome-based measures are risk-adjusted to more accurately reflect the underlying population driving the measure results.
43	**Retrospective Utilization Analysis by Paid Date**	This view pulls together utilization patterns for multiple populations, showing not only overall utilization rates by category of service but also more detailed analytics such as readmissions, avoidable ED utilization and if available avoidable hospitalizations. Drill-down into specific groups by age, gender, race and eligibility category provide a more detailed understanding of which cohort may be driving patterns. More analytic metrics such as PMPMs, risk-adjusted PMPMs and services per member are delivered in the detail view. Benchmark data, either internal or external, is provided for utilization metrics at various levels of aggregation (peer groups, health plans/MCOs/ACOs or other networks).
44	**Retrospective Utilization Analysis by Submission Date**	This view pulls together utilization patterns for multiple populations, showing not only overall utilization rates by category of service but also more detailed analytics such as readmissions, avoidable ED utilization and if available avoidable hospitalizations. Drill-down into specific groups by age, gender, race and eligibility category provide a more detailed understanding of which cohort may be driving patterns. More analytic metrics such as PMPMs, risk-adjusted PMPMs and services per member are delivered in the detail view. Benchmark data, either internal or external, is provided for utilization metrics at various levels of aggregation (peer groups, health plans/MCOs/ACOs or other networks).
45	**Single Variable Forecasting**	Users are provided with the ability to forecast various metrics across time, with appropriate filters and functionality.
46	**Trending**	Trending over time is available for a range of variables, along with relevant statistical metrics.
47	**Waiver Enrollment**	This is an enrollment report focused specifically on the waiver population, intended to help assess and manage this population particularly where enrollment caps and member churn need to be evaluated.
48	**Waiver Impact Model**	This view provides users the ability to assess the impacts of an increase in a waiver population. Utilization, financial and demographic results are presented.

5.1.3 FADS Software – Commercial Software as Part of a Deliverable

Optum's pre-existing, Fraud and Abuse Detection System ("FADS") software that will be included as part of a Deliverable to DHHR consists of the object code version of Optum's proprietary software containing the following components, collectively, the "FADS Software":

- **Case Tracking** is used to track and refer investigative cases throughout the investigative, findings, and appeals processes.
- **Peer Group Profiling (statistical analytics)** detects outlier behaviors within the provider or member population when compared to a peer group who should be behaving similarly.
- **Focused Analytics** are comprehensive strategies that detect suspect intra-claim and cross-claim situations and complex or collusive health care fraud, waste and abuse.
- **Provider Activity Spike Detection (Spike)** automatically detects providers who have had large increases (or decreases) in billing activity from one data load to the next.
- **Long Term Care (LTC)** Review monitors billing activity on behalf of the residents of LTC facilities to overcome the difficulty in tracking claims for other services purported to be rendered for LTC residents.

- **Browse and Search** is a query tool that enables users to view the details of claims without leaving the FADS module. It is not intended to replace a robust query tool, but our users report that it meets about 80 percent of their daily querying needs without having to leave FADS.
- **Analytical Library** contains pre-built reports that include Top N Reports for claim types, procedures, diagnosis codes, and NDCs; analytical reports with summarized data by billing and rendering providers by year, quarter, and month; and reports focusing on pharmacy and prescribing patterns.
- **Random Sampling** provides users with a statistically valid and court tested capability to create random samples for provider audits, member utilization analysis, and recoupment of funds.
- **Product Support** provides ongoing experienced support to assist with the building of statistical and focused analytics, and provide consultative services in the effective use of FADS.

5.1.4 FADS Software Standard Reports and User Interfaces – Proprietary Material as Part of a Deliverable

Optum will also include as a Deliverable to DHHR pre-existing, Optum proprietary reports and user interfaces ("UIs") that are produced by the FADS Software ("FADS Software Standard Reports and User Interfaces") identified in the following table.

		Fraud and Abuse Detection System Propriety Information	
UI/Report	Component	Name	Description
Report	Case Tracking	Appeals Browse and Search	This report displays appeal case information. Cases that have been created but do not contain any appeals information are not displayed in the report. Therefore, a case must contain a value in Appeal Type before it will be included in this report.
Report	Case Tracking	Financial Terms Browse and Search	This report displays financial terms information. Cases that have been created but do not contain any financial terms data are not displayed in the report.
Report	Case Tracking	Config Browse and Search	This report displays information from the Config page. Cases that have been created but do not contain any fraud data are not displayed in the report.
Report	Case Tracking	Full Scale Aging by Current Case Status	This report displays the number of days that a full scale case has been in its current case status. Cases that have been created but do not contain a full scale case status are not displayed in the report.
Report	Case Tracking	Full Scale Case Browse and Search	This report displays full scale case information. Cases that have been created but do not contain any full scale information are not displayed in the report. Therefore, a case must contain a value in at least one of the below listed full scale fields to be included in the report: • Case Status, Priority, Issue, Period Reviewed Dates • Assignments • More Details
Report	Case Tracking	Full Scale Case Referral Browse and Search	This report displays full scale case referral information. Cases that have been created but do

		Fraud and Abuse Detection System Propriety Information	
UI/Report	Component	Name	Description
			not contain any full scale referral information (Referred To/Agency/Date) are not displayed in the report.
Report	Case Tracking	Full Scale Summary of Assigned Staff	A summary count of cases by assigned staff person based on one of the following user selected criteria: • Case Status • Issue • Reason Closed • Disposition Cases that have been created but do not contain any full scale assignment information are not counted in the report.
Report	Case Tracking	Full Scale Summary of Cases	A summary count of cases based on one of the following user selected criteria: • Case Status • Issue • Assigned Staff • Reason Closed • Disposition Cases that have been created but do not contain any full scale assignment information are not counted in the report.
Report	Case Tracking	Preliminary Aging by Current Case Status	This report displays the number of days that a preliminary case has been in its current case status. Cases that have been created but do not contain a preliminary case status are not displayed in the report.
Report	Case Tracking	Preliminary Case Browse and Search	This report displays preliminary case information. Cases that have been created but do not contain any preliminary information are not displayed in the report. Therefore, a case must contain a value in at least one of the below listed preliminary fields to be included in the report: • Case Status • Priority • Issue • Period Reviewed Dates • Assignments • More Details
Report	Case Tracking	Preliminary Case Referral Browse and Search	This report displays preliminary case referral information. Cases that have been created but do not contain any preliminary referral information (Referred To/Agency/Date) are not displayed in the report.
Report	Case Tracking	Preliminary Summary of Assigned Staff	A summary count of cases by assigned staff person based on one of the following user selected criteria: • Case Status • Issue • Reason Closed Cases that have been created but do not contain any preliminary assignment information are not counted in the report.
Report	Case Tracking	Preliminary Summary of Cases	A summary count of cases based on one of the following user selected criteria:

		Fraud and Abuse Detection System Propriety Information	
UI/Report	Component	Name	Description
			• Case Status • Issue • Assigned Staff • Assigned Section • Reason Closed
Report	Peer Group Profiling	Peer Group Ranking	This report identifies the peers (providers or members) who have met the user established criteria for the Study Group (peer group) and whose behavior for at least one Report Item is outside of the norm determined during Exception Processing. This report aids the user in identifying the peers most likely to have aberrant behavior.
Report	Peer Group Profiling	Report Item Summary	This report gives the user an option to select values for all peers (provider or member) in the peer group by for the report items on a report for each time period. The user is first presented with a list of the Report Items from which to select. The report is sorted by Total Exception Weight in descending order. The provider or member demographic information displayed on this report is the same as the Individual Profile.
Report	Peer Group Profiling	Study Group Peers	This report identifies all of the peers (providers or members) who have met the user established criteria for the Study Group (peer group), without regard to whether they were accepted or excepted.
Report	Peer Group Profiling	Individual Profile	This report displays the summary of the utilization patterns (Report Items) of each provider or member who met the user established criteria of the Study. A version of this report is produced for each excepted, accepted and forced providers or members. The forced process allows providers or members, regardless of whether or not they match the criteria for the Study Group, to be included in the Study. The report is used to support reviews or investigations of providers or members.
Report	Peer Group Profiling	Claims Header Report	This report displays specific claim header information, with a drill through from the ICN to the claim details. Access to this report is only available from the Individual Profile Report by using the hyperlink placed on the Report Item value.
Report	Peer Group Profiling	Study Profile	This report supports the Exception Processing techniques employed in the production of the Individual Profile report. It also provides a means by which the statistical validity of the user-defined Library and Study Parameters may be verified and by which realistic exception criteria may be established. This report is secondarily intended to provide management and administrative personnel with a detailed presentation of the overall utilization patterns of the various services provided by the program. Because the Report Items for which statistics are generated are derived from user parameters, the Report Items displayed can vary

		Fraud and Abuse Detection System Propriety Information	
UI/Report	Component	Name	Description
			according to user needs.
Report	Peer Group Profiling	Report Item Excerptors by Time Period	The Report Item Excerptors report includes two tabs, Excerptors across Time Periods and Excerptors by Time Period. These reports display a list of the providers or members who excepted for a single Report Item and Time Period based on the defined upper or lower limit. • The Excerptors across Time Periods tab lists peers (providers or members) based on the number of Time Periods in which they excepted. The RI Value for Peers whose value is above the defined Upper Limit or below the defined Lower Limit is written in red and bolded. • The Excerptors by Time Period tab lists all of the peers who excepted in each Time Period. The user has the option to select one peer from a drop-down list and see the rows for the selected peer highlighted in each time period.
Report	Peer Group Profiling	Frequency Distribution Histogram	This report is a graphical display of one utilization pattern (Report Item) found on an Individual Profile or Peer Group Study Profile across all providers or members for a selected time period. Frequency distribution is a type of descriptive statistic. More specifically this is a relative frequency distribution, as it shows the proportion of Study Group peers for each Report Item value range. The graph makes it easier for the user to inspect the data values, and to easily see trends hidden in the data. This report provides the user with a graphical tool that can be used to determine whether the statistical distribution of a Study Group, for any Report Item for any time period, is normal or skewed. It may also assist users to identify Studies for which the standard deviation defined may be inappropriate. The graph can also be used to identify statistical outliers.
Report	Peer Group Profiling	Peer Group- Behavior Pattern Tools	This report is a summary of the aggregate totals for all of the Behavior Patterns included within the Report Items the user included in this Study. This report is a management tool to indicate activity volumes for the Behavior Patterns included in the Study and to aid in defining worthwhile Report Items for each Study Group/Study.
Report	Peer Group Profiling	Peer Group -Report Item Exception Parameters	This report assists the user in determining the Exception Processing criteria that were established for Report Items on the Study pages at the time the Study was submitted to run. This eliminates the need for the user to access each entity individually through the appropriate browser pages to determine the criteria the user specified, and which may have changed between the time the Study began and the time that the user is researching the results.
Report	Peer Group Profiling	Peer Group- Study Parameters	This report assists the user in determining, in a concise and efficient format, the Study Group, Report Section, Report Item, Behavior Pattern and

		Fraud and Abuse Detection System Propriety Information	
UI/Report	Component	Name	Description
			Data Rule criteria that were established for a Study at the time the Study was submitted to run. This eliminates the need for the user to access each entity individually through the appropriate pages to determine the criteria the user specified, and which may have changed between the time the Study began and the time that the user is researching the results.
Report	Peer Group Profiling	Peer Group-Report Item Value Graph	This report gives the user the ability to produce a graphical representation as well as a list showing how an individual peer (provider or member) compares to their peers for a selected report item. This report is accessed by clicking on the Z value on the Individual Profile. The first page shows the graph of the top 50 peers and indicates where the individual peer falls in that grouping if the peer is within the top 50 peers. Below the graph is a listing of all peers who have a value for the report item. The individual peer is bolded.
Report	Focused Analytics	Current Focused Analytics	This report is a listing of the most recent execution of all analytics that are currently available to the user. This listing aids the user in investigating and analyzing the leads created from the most recent analytic reports.
Report	Focused Analytics	Historical Focused Analytics	This historical report is a listing of all analytics that have been previously executed by the application. Access to the report is available by clicking the hyperlink from the FADS home page.
Report	Focused Analytics	Actors Identified in Focused Analytics	This report is a list of all provider and members who have ever appeared in an analytic. Access to the report is available by clicking Actors or New Actors from the following reports: • Current Focused Analytics • Historical Focused Analytics • Actors in Multiple Focused Analytics.
Report	Focused Analytics	Actors in Multiple Focused Analytics	This report is a list of providers or members who appear in multiple analytic reports, both current and historical. This report aids the User in identifying and analyzing providers or members who appear in more than one analytic report and may be participating in multiple fraud/abuse schemes. Access to the report is available by clicking the hyperlink from the FADS home page.
Report	Provider Activity Spike Detection	Provider Activity Spike Detection – Increase (or) Decrease	Provider Activity Spike Detection identifies providers with a significant increase in activity from one payment period to the next or a significant decrease in activity from one payment period to the next. A prompt page enables the user to select the Week Ending Date (based on first date of service), the Activity Type (Increase, and Decrease) and one or more Provider Types. Access to this report is available from the portal page by clicking on the Discovery component and selecting Increase/Decrease Activity under the Provider Activity Spike Detection module.

		Fraud and Abuse Detection System Propriety Information	
Report	Component	Name	Description
Report	Provider Activity Spike Detection	Provider Activity Spike Detection New Providers	New providers are identified during the weekly data load by comparing the re-loaded or new provider table with the previous provider table. Providers on the new provider table who are not found on the previous provider table are added to a new Provider Activity Spike Detection report. The claims data for the new providers are examined and the current week paid amount, current week member count and the current week claim detail count are calculated to display on the report. Access to this report is available from the portal page by clicking on the Discovery component and selecting New Activity under the Provider Activity Spike Detection module.
Report	Long Term Care Review	Long Term Care Facility Summary	A summary by LTC facility calculates the number of services for non-nursing home claims identified for residents living in a facility provided by other than the LTC facility. The rendering provider type on the claim will be used to identify facility providers along with a facility claim type. The other services include 10 to 12 groups based on the provider type found on the non-nursing home claims. Aggregations and averages for each group include the number of claims, distinct number of members, total dollars paid, average of claims per member, average dollars paid per member and average dollars paid per claim.
Report	Long Term Care Review	Long Term Care Provider Type Groups	A drill down report from the LTC Facility Summary, it provides a list of provider types included in each of the provider type groups.
Report	Long Term Care Review	Long Term Care Facility Details	A drill-down from either of the two summary reports that provides the supporting details in a user interactive format similar to the Browse and Search claim reports.
Report	Long Term Care Review	Long Term Care Rendering Provider Summary	A summary by rendering provider of the services provided to members in Long Term Care Facilities.
Report	Long Term Care Review	Rendering Provider by Long Term Care Facility	A summary by rendering provider of the services provided to members in Long Term Care Facilities.
Report	Browse & Search	All Claims Browse & Search	This report gives the user the ability to browse and search data from the claim detail table within the database. All claim/invoice types are included in this report.
Report	Browse & Search	Professional Claims Browse & Search	This report gives the user the ability to browse and search data from the medical claims within the database
Report	Browse & Search	Dental Claims Browse & Search	This report gives the user the ability to browse and search data from the dental claims within the database.
Report	Browse & Search	Pharmacy Claims Browse & Search	This report gives the user the ability to browse and search data from the Pharmacy Claims within the database.
Report	Browse & Search	Institutional Claims Browse & Search	This report gives the user the ability to browse and search data from the institutional claims within the database.
Report	Browse &	Providers Browse & Search	This report gives the user the ability to browse and

		Fraud and Abuse Detection System Propriety Information	
UI/Report	Component	Name	Description
	Search		search provider data from the provider table within the database.
Report	Browse & Search	Members Browse & Search	This report gives the user the ability to browse and search data from the member table within the database.
Report	Random Sampling	Claims Random Sampling	This report is the result of the user creating a random sample based upon the data in the claim table by entering parameters on a prompt page. The sampling is based on unduplicated claims (header). The universe statistics are calculated using the subset of claims that qualified based on the user selected criteria. The sample statistics (a subset of the universe) are calculated based on the random sampling process executed against the subset of qualified claims.
Report	Analytical Report Library	Drug Density by Pharmacies	A report to analyze a drug or a group of drugs dispensed by pharmacies and categorized according to the counties where the pharmacies are located.
Report	Analytical Report Library	Drug Density by Prescribers	A report to analyze a drug or a group of drugs prescribed by providers and categorized according to the counties where the prescribing providers are located.
Report	Analytical Report Library	Drug Density by Members	A report to analyze a drug or a group of drugs filled by members and categorized according to the counties where the members live.
Report	Analytical Report Library	Member Analysis by Calendar Year	A report to assist the user in the investigation of a member's claims patterns year to year.
Report	Analytical Report Library	Member Analysis by Calendar Quarter	A report to assist the user in the investigation of a member's claim patterns quarter to quarter.
Report	Analytical Report Library	Member Analysis by Calendar Month)	A report to assist the user in the investigation of a member's claim patterns from month to month.
Report	Drill Through Report	Provider Summary (FACT)	This report is a detailed display of an individual provider's demographic information, enrollment status, algorithm participation, and billing statistics. Different tabs display the different types of information.
Report	Drill Through Report	Member Summary (FACT)	This report is a detailed display of an individual member's demographic information, eligibility history, payment history, and the member's presence in the High Cost Member Report. Tabs are used to organize the information.
Report	Analytical Report Library	Billing Provider Analysis by Calendar Year	A report to assist the user in the investigation of a provider's billing patterns on a calendar year basis.
Report	Analytical Report Library	Billing Provider Analysis by Calendar Quarter	A report to assist the user in the investigation of a provider's billing patterns quarter to quarter.
Report	Analytical Report Library	Billing Provider by Calendar Month	A report to assist the user in the investigation of a provider's billing patterns month to month.
Report	Analytical Report Library	Prescribing Summary Totals	The report lists prescribing physician information related to brand vs. generic drugs and the volume of Schedule 0-5 drugs prescribed by physicians.
Report	Analytical Report Library	Pharmacy Summary Totals	This report summarizes the pharmacy information based on generic and brand drugs and the counts of prescriptions filled for Schd Lvl 1-5 drugs.
Report	Analytical Report Library	Analytical Library- Procedure Code Misuse	A report to assist the user in the investigation of two procedure codes (or range of procedures

		Fraud and Abuse Detection System Propriety Information	
UI/Report	Component	Name	Description
			codes) billed on the same day (or within a range of days) by the same or different providers, for the same member. The user selects the date range to be searched and any two procedure codes (or procedure code ranges) by entering parameters on a prompt page. This report could help to uncover unbundling of proc codes, doctor shopping by a member, or 'ping ponging' (unnecessary referrals) of a patient between providers.
Report	Drill Through Report	Individual Claim Details	This report is a detail display of an individual claim, viewed as a drill through report from anywhere the claim number is displayed on a report.
Report	Analytical Report Library	Individual Claim Details	A series of reports to provide the user with information related to a specific provider's billing practices for a variety of data elements. The user inputs a provider number as either the Billing, Rendering, or Prescribing provider and enters a date range for the dates of service.
Report	Analytical Report Library	Rendering Provider by Calendar Year	A report to assist the user in the investigation of a servicing provider's billing patterns on a calendar year basis.
Report	Analytical Report Library	Rendering Provider Calendar Quarter	A report to assist the user in the investigation of a servicing provider's billing patterns quarter to quarter.
Report	Analytical Report Library	Rendering Provider by Calendar Month	A report to assist the user in the investigation of a servicing provider's billing patterns month to month.
Report	Analytical Report Library	Top N Claim Type Codes by Paid Amount	A report to assist the user in the investigation of the top Claim Type Codes by paid amount.
Report	Analytical Report Library	Top N Diagnosis Codes by Paid Amount	A report to assist the user in the investigation of the top Diagnosis Codes by paid amount.
Report	Analytical Report Library	Top N Procedure Codes by Paid Amount	A report to assist the user in the investigation of the top Procedure Codes by paid amount.
Report	Analytical Report Library	Top N NDCs by Paid Amount	A report to assist the user in the investigation of the top NDCs by paid amount.
Report	Reference	Categories of Eligibility	This report gives the user the ability to look up the valid values and descriptions a member's category of eligibility codes.
Report	Reference	Claim Types Reference	This report gives the user the ability to look up the valid values and descriptions for Claim Type/codes.
Report	Reference	County Codes Reference	This report gives the user the ability to look up the valid values and descriptions for County codes.
Report	Reference	Diagnoses Reference	This report gives the user the ability to look up the valid values and descriptions for Diagnosis codes.
Report	Reference	Diagnosis Related Groups Reference	This report gives the user the ability to look up the valid values and descriptions for DRG's.
Report	Reference	Procedure Modifiers Reference	This report gives the user the ability to look up the valid values and descriptions for Modifiers.
Report	Reference	National Drug Codes (NDC) Reference	This report gives the user the ability to look up the valid values and descriptions for NDCs.
Report	Reference	Places of Service Reference	This report gives the user the ability to look up the valid values and descriptions for Places of Service codes.
Report	Reference	Procedure Codes Reference	This report gives the user the ability to look up the

		Fraud and Abuse Detection System Propriety Information	
UI/Report	Component	Name	Description
			valid values and descriptions for Procedure codes.
Report	Reference	Provider Specialties Reference	This report gives the user the ability to look up the valid values and descriptions for Provider Specialty codes.
Report	Reference	Provider Types Reference	This report gives the user the ability to look up the valid values and descriptions for Provider Type codes.
Report	Reference	Revenue Codes Reference	This report gives the user the ability to look up the valid values and descriptions for Revenue codes.
UI	Peer Group Profiling	Data Rule Library	This page is used to view the library of previously defined Data Rules and to navigate to the Data Rule Detail page.
UI	Peer Group Profiling	Data Rule Detail	This page is used to maintain an existing or create a new Data Rule.
UI	Peer Group Profiling	Study Group Library	This page is used to view the library of previously defined Study Groups and to navigate to the Study Group Detail page.
UI	Peer Group Profiling	Study Group Details	This page is used to maintain an existing or create a new Study Group.
UI	Peer Group Profiling	Behavior Pattern Library	This page is used to view the library of previously defined Behavior Patterns and to navigate to the Behavior Pattern Detail page.
UI	Peer Group Profiling	Behavior Patterns Details	This page is used to maintain an existing or create a new Behavior Pattern.
UI	Peer Group Profiling	Report Item Library	This page is used to view the library of previously defined Report Items and to navigate to the Report Item Detail page.
UI	Peer Group Profiling	Report Item Details	This page is used to maintain an existing or create a new Report Item.
UI	Peer Group Profiling	Report Section Library	This page is used to view the library of previously defined Report Sections and to navigate to the Report Section Detail page.
UI	Peer Group Profiling	Report Section Details	This page is used to maintain an existing or create a new Report Section.
UI	Peer Group Profiling	Relationships	This browser pop-up page is used to view a library entity's relationships with other library entities. A relationship is an automatic dependency created between library entities as the user defines and saves Data Rules into Study Groups or Behavior Patterns, Behavior Patterns into Report Items, Report Items into Report Sections and Study Groups and Report Sections into a Study.
UI	Peer Group Profiling	View	This browser pop-up page is used to view the construction details of a specified library entity. All library entities that are included in the selected entity are displayed.
UI	Peer Group Profiling	Study Library	This page is used to view the library of previously defined Studies and to navigate to the Study Detail pages.
UI	Peer Group Profiling	Study-General	This page is used to maintain an existing or create the new general information for a Study.
UI	Peer Group Profiling	Study-Study Group	This page is used to maintain an existing or create a new Study Group for a Study.
UI	Peer Group Profiling	Study-Report Section	This page is used to maintain an existing or create a new Report Section for a Study.
UI	Peer Group	Study-Exception Processing	This page is used to review and/or update

		Fraud and Abuse Detection System Propriety Information	
UI/Report	Component	Name	Description
	Profiling		Exception Processing options for the Report Items included in a Study.
UI	Peer Group Profiling	Study-Activity Limits	This page is used to maintain an existing or create a new Activity Limits for a Study.
UI	Peer Group Profiling	Peer Group Profiling-Job Monitor	This page is used to view the status of a previously submitted job, change the scheduled run or purge date/time, cancel a job, refresh the job status display, or view the details of a job.
UI	Case Tracking	Case Tracking- General Information	The purpose of this page is to enter new case information or view/modify general information for a previously entered provider case.
UI	Case Tracking	Case Tracking- Investigation - Preliminary	The purpose of this page is to enter or update preliminary case information.
UI	Case Tracking	Case Tracking- Investigation - Full Scale	The purpose of this page is to enter or update full scale case information.
UI	Case Tracking	Case Tracking-Configuration	The purpose of the page is to allow the user to customize a UI specific to their needs.
UI	Case Tracking	Case Tracking-Emails	Used to create emails related to a specific case. The emails can be sent current date or scheduled for a future date.
UI	Case Tracking	Case Tracking-Notes	Used to enter general notes regarding a case.
UI	Case Tracking	Case Tracking-Findings -Peer Group Jobs	Used to associate related peer group jobs to a case.
UI	Case Tracking	Case Tracking-Findings-Algorithms	Used to associate related fraud algorithms to a case.
UI	Case Tracking	Case Tracking-Files	Used to link file paths that reside on a common share drive or link Web addresses such as an agency's SharePoint website or a provider's website.
UI	Case Tracking	Case Tracking-Financial	The purpose of this page is to enter or update financial data for a case.
UI	Case Tracking	Case Tracking- Appeals	The purpose of this page is to display appeal data from an external system (HAL) feed.
UI	Case Tracking	Case Tracking- Associations	Used to capture associations between existing cases or create new associations where a connection or unusual relationship is suspected to be present.
UI	Case Tracking	Case Tracking-Contacts	Used to enter basic contact information for persons relative to a case.
UI	Case Tracking	Case Tracking-Preliminary History	Displays changes made to the Preliminary case information.
UI	Case Tracking	Case Tracking-Full Scale History	Displays changes made to the Full Scale case information.
UI	Case Tracking	Case Tracking-Appeals	Displays changes made to the Appeals case information.
UI	Case Tracking	Case Tracking-Config History	Displays changes made to the Config page case information.
UI	Case Tracking	Case Tracking-Case Library	The purpose of this page is to view the list of all existing cases and to access an existing case to view/modify.
UI	Case Tracking	Case Tracking-My Assigned Case	The purpose of this page is to view the list of all cases assigned to the user.
UI	Case Tracking	Case Tracking-Associated Cases	The purpose of this page is to view the list of all existing cases and their association to other cases or entities.

5.2 Other Commercial Software Not Provided As Part of a Deliverable But For Which a Non-Exclusive License to Use for the Term of the EDS Contract is Granted to DHHR

The RFP permits bidders to propose a Software as a Service ("SaaS")-based solution that provides the services required in the RFP. Consistent with a SaaS-based offering, Optum's OPAHHS Solution includes granting DHHR a non-exclusive access, usage and license right for the term of the EDS Contract, as set forth more fully in Section 6.2 of this Attachment K, for the Optum and third party proprietary COTS based Commercial Software (where such Commercial Software will not be a "Deliverable" and where DHHR's rights shall be less than full ownership)(collectively, the "Other Commercial Software Used by DHHR") identified in the following table.

OEM	Software Description	Environment	Software Category	License Type	DHHR Use Restriction	Optum Use Restriction
Informatica	Enterprise Data Catalog (Up to 15 Metadata Resources)	Production	ETL	Database Server connections to Metadata Resources	Server connection to no more than 15 Metadata Resources	Server connection to no more than 15 Metadata Resources
Informatica	Axon Data Governance 20 Users (per Named User)	Production	ETL	Named Users	15	5
Tableau	Explorer Software	Production	BI	User	65	11
Tableau	Creator Software	Production	BI	User	10	16
RStudio	RStudio Pro Server Software	Production	BI	Server	Server	Server
RStudio	RStudio Pro Server Software	Non-Production	BI	Server	Server	Server
IBM	Cognos Analytics User	Production	BI	User	15, growing 10% each contract year	26
Oracle	Oracle Enterprise Edition	Production	DBMS	Named User – Proprietary Hosting	15, growing 10% each contract year	26
Oracle	Oracle Partitioning	Production	DBMS	Named User – Proprietary Hosting	15, growing 10% each contract year	26
Oracle	Oracle Tuning Pack	Production	DBMS	Named User – Proprietary Hosting	15, growing 10% each contract year	26
Oracle	Oracle Diagnostic Pack	Production	DBMS	Named User – Proprietary Hosting	15, growing 10% each contract year	26
Oracle	Oracle Advanced Security	Production	DBMS	Named User – Proprietary Hosting	15, growing 10% each contract year	26
Oracle	Oracle Enterprise Edition	Non-Production	DBMS	Named User – Proprietary Hosting	15, growing 10% each contract year	26
Oracle	Oracle Partitioning	Non-Production	DBMS	Named User – Proprietary Hosting	15, growing 10% each contract year	26
Oracle	Oracle Tuning Pack	Non-Production	DBMS	Named User – Proprietary Hosting	15, growing 10% each contract year	26
Oracle	Oracle Diagnostic Pack	Non-Production	DBMS	Named User –	15, growing 10%	26

OEM	Software Description	Environment	Software Category	License Type	DHHR Use Restriction	Optum Use Restriction
				Proprietary Hosting	each contract year	
Oracle	Oracle Advanced Security	Non-Production	DBMS	Named User – Proprietary Hosting	15, growing 10% each contract year	26

5.3 Other Commercial Software Not Provided as a Deliverable and Where Use is Only by Optum

As part of Optum's OPAHHS Solution, there is additional Optum and third party proprietary COTS based Commercial Software that will not be provided to DHHR as either a Deliverable, nor for which access or usage rights shall be granted; instead, such Commercial Software shall be used solely by Optum as part of delivering to DHHR the Services and Deliverables required by the RFP (the "Other Commercial Software Used Solely by Optum"). In so far as neither ownership or access/license rights are accorded to DHHR in such Other Commercial Software Used by Optum, Optum has not set forth any license terms for the Other Commercial Software Used Solely by Optum in this Attachment K.

6. EXCEPTIONS

The Vendor should indicate exceptions to the State's Terms and Conditions in this RFP. Any exceptions should include an explanation for the Vendor's inability to comply with such term or condition and, if applicable, alternative language the Vendor would find acceptable. Rejection of the State's Terms and Conditions, in part or in whole, or without any explanation, may be cause for the State's rejection of a Vendor's Proposal. If an exception concerning the Terms and Conditions is not noted in this response template, but raised during contract negotiations, the State reserves the right to cancel the negotiation, at its sole discretion, if it deems that to be in the best interests of the State.

The terms and conditions of a Vendor's software license, maintenance support agreement, and SLA, if applicable, will be required for purposes of contract negotiations for this project. Failure to provide the applicable Vendor terms, if any, as part of the RFP response may result in rejection of the Vendor's Proposal.

Instructions: Identify and explain any exceptions to the State's terms and conditions using the tables provided below, adding tables, as needed. If no changes are listed, the Vendor is indicating that no changes to the Terms and Conditions are proposed, and that the Vendor intends to accept them as written if the Vendor's Proposal is selected. Mandatory Requirements and Terms noted in this RFP are non-negotiable.

- The Vendor may add additional tables, as appropriate.
- Do not submit Vendor's Standard Terms and Contracting Provisions in lieu of stipulating exceptions below.

- Making revisions to State statutes and regulations is prohibited.
- The State has no obligation to accept any exception(s).

6.1 Exception #1 – Cancellation

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Section 3, General Terms and Conditions, §19, Cancellation	DHHR should have the right to cancel the agreement if the Vendor fails to deliver Services or provide Deliverables that conform to the contractual requirements buy the Vendor should be given thirty (30) days to cure such breach of contract prior to cancellation. This permits DHHR to mitigate its damages by not having to incur reprocurement costs when a vendor does cure while providing DHHR with meaningful relief. DHHR has also accepted this in prior contracts and it is consistent with the intent of an opportunity to cure in Section 7, Provisions Required for Federally Funded Procurements, Subsection 5.2.c. DHHR has also accepted similar alternative language in other procurements.	Change §19, First Sentence to read as follows: "The Purchasing Division Director reserves the right to cancel this Contract ~~immediately~~ upon at least thirty (30) days prior written notice to the vendor if the Deliverables or Services~~materials or workmanship~~ fail to conform to the specifications contained in the Contract without the Vendor curing such failure within such thirty (30) day period, provided that the initial notice specifies what Deliverables and/or Services fail to conform."
NOTES/COMMENTS: <FOR STATE USE ONLY>		

6.2 Exception #2 – Time is of the Essence

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Section 3, General Terms and Conditions, §20, Time	The RFP requires a mutually agreed upon Project Schedule that will specify the dates required for the delivery of sixty-nine (69) Deliverables. Failure to meet those Deliverables can result in either DHHR withholding payment or deducting liquidated damages from amounts otherwise owed the Vendor. A time is of the essence clause is both unnecessary in light of the above as well as ambiguous as to what is required. DHHR has also accepted similar alternative language in other procurements.	Delete the following provision from §20: ~~"20. Time. Time is of the essence with regard to all matters of time and performance in this Contract."~~
NOTES/COMMENTS: <FOR STATE USE ONLY>		

6.3 Exception #3 – Warranty

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Section 3, General Terms and Conditions, §28,Warranty	The current standard warranty found in Section 28 does not align with the Software as a Service solution that has been requested by the RFP, where the OPAHHS Solution is offered consistent with that requirement. In addition, the undefined duration of the warranty, as well as its scope, are inconsistent with the Deliverables-based portion of the RFP where Deliverables must meet mutually agreed upon acceptance criteria during the Design, Development and Implementation (DDI) Period nor do they recognize the ability for DHHR to receive Operations and Maintenance from the Vendor after DDI concludes to address failures of the Deliverables to conform to agreed upon acceptance criteria. Based on all of these reasons, we believe that a warranty for the scope of services covered by this RFP is not needed but that the alternative proposed is more in keeping with the services-based nature of the procurement. DHHR has also accepted similar alternative language in other procurements.	Delete Section 28 and replace it with the following: "28. Warranty. Vendor warrants that each of Vendor's employees, agents and subcontractors assigned to perform any services under the Contract shall have the proper skill, training, and experience to perform the services, and the services will be performed in a professional and workmanlike manner. Vendor agrees to re-perform any services not in compliance with this warranty that are brought to its attention in writing within ninety (90) days after those services are delivered to DHHR. Additionally, Vendor warrants that it's mutually agreed upon Deliverables shall conform in all material respects to their relevant specifications and/or published documentation for a period of ninety (90) days after delivery to DHHR. Vendor agrees to correct any such Deliverables not in compliance with this warranty if brought to its attention in writing within ninety (90) days of such delivery. EXCEPT AS EXPRESSLY PROVIDED ABOVE, VENDOR MAKES NO OTHER WARRANTIES OR REPRESENTATIONS RELATING TO THE SOFTWARE, THE DATA PRODUCTS, THE SERVICES, OR THE DELIVERABLES, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIMS THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE."
NOTES/COMMENTS: <FOR STATE USE ONLY>		

6.4 Exception #4 – Additional Agency and Local Government Use

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Section 3, General Terms and Conditions, §38, Additional Agency and Local Government Use	Optum understands the State's desire for an extendable solution, and Optum's OPAHHS Solution can meet this need when it comes to adding additional data sources. However, the scope of work required by this RFP and its resulting Contract do not lend themselves to an expansion of use by additional agencies on the same terms, conditions and pricing such that this standard General Terms and Condition should be removed. DHHR has also accepted similar deletions of this clause in other procurements.	The provision entitled "**Section Three: General Terms and Conditions; 39. Additional Agency and Local Government Use**" is removed in its entirety.
NOTES/COMMENTS: <FOR STATE USE ONLY>		

6.5 Exception #5 – Ownership of Work Product, Pre-Existing Materials Contained in Deliverables

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Appendix 8, IT Terms and Conditions, §2.1, Ownership of Work Product, Second and Third Paragraphs	The third paragraph of Section 2.1 within Appendix 8, IT Terms and Conditions, requires Vendors to seek and obtain prior approval as part of Vendor's Proposal to the extent the Vendor desires to incorporate any "Pre-existing Material" into a Work Product. Optum desires to incorporate the OPAHHS Software, OPAHHS Software Standard Reports, the FADS Software and the FADS Software Standard Reports and User Interfaces, as those terms are defined in this Attachment K, Section 5 as "Optum's Pre-existing Material" for inclusion in various Deliverables that will otherwise meet the definition of a Work Product. By awarding a Contract to Optum, DHHR shall be deemed to have given its approval. By doing so, DHHR will benefit from the fact that Optum can leverage its pre-existing intellectual property to provide DHHR with the Deliverables that it requires at a lower price and with a shorter DDI period than would otherwise be the case. In so far as Optum's OPAHHS Solution that includes the use of Optum's Pre-existing Material is offered as a SaaS solution, the license terms set forth in the third paragraph are subject to certain modifications so as to be consistent with Optum's standard terms and conditions. It is also important to note that the RFP expressly asks for bidders to include "the terms and conditions of a Vendor's software license" under Section 6. The scope of the license terms for Pre-existing Material included in a Work Product (or "Deliverable") are inconsistent with Optum's	Please ~~amedamend~~ the second and third paragraphs of Section 2.1 of Attachment 8 as noted below: "The State owns all "Work Product" (or "Deliverables") the Vendor produces under this Contract, including any software modifications, and documentation, with all rights, title, and interest in all intellectual property that come into existence through the Vendor's work being assigned to the State. Additionally, the Vendor waives any author rights and similar retained interests in Work Product. The Vendor must provide the State with all assistance reasonably needed to vest such rights of ownership in the State. The Vendor will retain ownership of all tools, methods, techniques, standards, and other development procedures, as well as generic and preexisting shells, subroutines, and similar material incorporated into any Deliverables ("Pre-existing Materials"), if the Vendor provides the non-exclusive license described in the next paragraph. For purposes of this Contract, the OPAHHS Software, the OPAHHS Software Standard Reports, the FADS Software and the FADS Software Standard Reports and User Interfaces, as those terms are defined in Attachment K, Section 5 of Optum's Technical Proposal, shall be considered State approved- Optum Pre-Existing Material and can be included in appropriate Deliverables. The Vendor will grant the State a worldwide, nonexclusive, royalty free, perpetual (subject to termination by Vendor if the

	software license terms for such Pre-existing Material. The limited exception that Optum is proposing reconciles these conflicting provisions of the RFP.	State breaches the scope of the license set forth herein) license to use, modify, and distribute solely within the State's Agency all Optum Pre-existing Materials that are incorporated into any Deliverables rather than grant the State ownership of the Optum Pre-existing Materials as well as the additional license terms covering such Optum Pre-Existing Materials as are found in Section 6.2 of Attachment K to Vendor's Technical Proposal. The State may distribute such Optum Pre-existing Materials to third parties only to the extent required by governmental funding mandates and only as part of the Deliverables. The Vendor may not include in any Deliverables any intellectual property unless such has been created under this Contract or qualifies as Optum Pre-existing Material. If the Vendor wants to incorporate any Optum Pre-existing Materials into Deliverables, the Vendor must first disclose that desire to the State in writing and seek the State's approval for doing so in advance, where the State acknowledges that it has approved the materials that fall within the definition of Optum Pre-Existing Materials. The State will not be obligated to provide that approval, unless the Vendor disclosed its intention to do so in their Proposal."
NOTES/COMMENTS: <FOR STATE USE ONLY>		

6.6 Exception #6 – State Intellectual Property

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Appendix 8, IT Terms and Conditions, §2.1, Ownership of Work Product, Last Two Paragraphs	Optum is requesting a limited license back from the State to use certain State Intellectual Property that will provide the State with two (2) exciting and tangible benefits. The first benefit is that if the State grants Optum the requested license back for Optum to use State De-Identified Data, once Optum has three States who have granted Optum such rights, Optum will be able to create and share with DHHR some Medicaid Benchmark De-Identified Data. The second benefit is that if the State grants Optum the requested license back, Optum will be able to create enhancements to its OPAHHS Solution that can also be provided to DHHR to the extent such enhancements become part of the core OPAHHS Solution during the term of the EDS Contract. This benefit is also consistent with CMS' encouragement of re-useability. In making this request, we are sensitive to the need to de-identify	Amend the last two paragraphs of Section 2.1 of Appendix 8 as described below: "Vendor may not use State Intellectual Property for any purpose other than as specified in this Contract. Upon expiration or termination of this Contract, Vendor shall return or destroy all State Intellectual Property and all copies thereof, and Vendor shall have no further right or license to such State Intellectual Property. If Vendor opts to destroy, Vendor shall provide a certificate of destruction to the State. Vendor acquires no rights or licenses, including, without limitation, intellectual property rights or licenses, to use State Intellectual Property for its own purposes, other than as stated in the paragraphs that are set forth below. In no event shall the Vendor claim any security interest in State Intellectual Property. The State hereby grants to Vendor a non-exclusive, perpetual, fully paid up right to: (a) Periodically extract any and all of the claims, eligibility, provider and other similar health and human services data and information resident on the State's Enterprise Data Solution (the "State Data") for Vendor to de-identify using the processes described in this Section 2.1, where such de-identified data is hereinafter referred to as the "De-Identified Data"; (b) Create manuals and other written material that Vendor may elect to distribute to the State and other Vendor customers with the De-Identified Data (the "De-Identified Data Documentation"); and (c) Use the De-Identified Data and the De-Identified Data Documentation (collectively, the "De-Identified Data Products") to develop, market, license, sell and support (1) a set of national Medicaid benchmarks based on Medicaid data collected from Vendor's state Medicaid data warehouse customers against which Vendor will apply Vendor's proprietary analytics found within the OPAHHS Software Product (the "Medicaid Benchmark De-Identified Data") and (2) other products and/or services for Vendor and Vendor's customers. Vendor shall solely determine if, when and the extent to which Vendor creates either the

	the State Data in a manner that addresses those confidentiality concerns and that can be audited by DHHR. We are also acknowledging the State ownership of such State Intellectual Property and providing DHHR with periodic audit rights.	Medicaid Benchmark De-Identified Data and/or other products or services referenced above. As of the Effective Date of this Amendment, Vendor is conditioning the creation of the Medicaid Benchmark De-Identified Data on having obtained the consent of at least three (3) states' to similar provisions with respect to their State Medicaid data. 2.1.1 De-Identification of State Data At any time during the Term of this Contract, Vendor shall use a method of de-identification of State Data that meets both the requirements of the HIPAA Privacy rule's de-identification provisions as well as the requirements of de-identification established by DHHR, if any, and each other State who is contributing their data for de-identification by Vendor for similar purposes (the "De-Identification Methodology"). The State will be provided with access to and approve the de-identification logic to be used by Vendor and resulting Data prior to Vendor extracting a copy of the De-Identified Data so that the State is assured that the processes will in fact comply with relevant security requirements and standards. At any time during the term of this Contract, DHHR shall have the right to audit the de-identification process undertaken by Vendor to confirm compliance with the foregoing provision upon reasonable advance written notice to Vendor and subject to the State undertaking such audit in a manner that abides by reasonable confidentiality provisions. 2.1.2 License Provisions Applicable to the Medicaid Benchmark Data If and to the extent Vendor develops Medicaid Benchmark De-identified Data, the following provisions shall apply: 2.1.2.1 Right to Use Vendor grants DHHR a non-exclusive, non-sublicensable, non-transferable license to download one copy of the Medicaid Benchmark De-Identified Data onto DHHR's servers in the State's Facility solely for DHHR's internal business purposes by the Authorized Users, within the U.S. An "Authorized User" means (a) an individual employee of DHHR or (b) a Contractor. A "Contractor" means a person or persons acting as supplemental staff for DHHR who: (a) are under the direct supervision and control of DHHR; (b) access the Medicaid Benchmark De-Identified Data through DHHR servers located in the State Facility; (c) are not employees of a competitor of Vendor or an Vendor Affiliate; and (d) are bound in writing under terms relating to confidentiality. Vendor shall deliver the Medicaid Benchmark De-Identified Data by making the Medicaid Benchmark De-Identified Data available for download. All Medicaid Benchmark De-

		Identified Data shall be deemed delivered and accepted upon delivery. The Medicaid Benchmark De-Identified Data is an informational tool that may be used for analytical and research purposes. Any reliance upon, interpretation of and/or use of the Medicaid Benchmark De-Identified Data is solely and exclusively at the discretion of DHHR. 2.1.2.2 Ownership DHHR hereby acknowledges that Vendor and their licensors retain all right, title and interest in and to the Medicaid Benchmark De-Identified Data, including any updates, translations, customized versions or derivative works thereof, and all modifications, enhancements, improvements and derivative works thereto and all intellectual property rights therein (collectively, "Vendor IP"). No title to or ownership of the Vendor IP is transferred to DHHR. DHHR acknowledges and agrees that any unauthorized use, distribution or disclosure of the Medicaid Benchmark De-Identified Data would result in irreparable harm to Vendor and shall entitle Vendor to immediate injunctive or other equitable relief. 2.1.2.3 DHHR Obligations 2.1.2.3.1 Compliance with Laws. DHHR agrees to use the Medicaid Benchmark De-Identified Data only in accordance with all applicable federal, sState, or local laws, regulations and orders which shall include without limitation, the Health Insurance Portability and Accountability Act and Subtitle D of the Health Information Technology for Economic and Clinical Health Act, as part of the American Recovery and Reinvestment Act of 2009 (42 U.S.C. §§ 17921-17953) (collectively, "HIPAA"). 2.1.2.3.2 Publication. DHHR may not publish the Medicaid Benchmark De-Identified Data in research results or cite Vendor as the source of the Medicaid Benchmark De-Identified Data in research or materials intended for external audiences without Vendor's prior, written approval. If the parties agree to publication, DHHR shall furnish copies of any proposed publication or presentation to Vendor at least thirty (30) days before submission. During that time, Vendor shall have the right to review the material for Vendor Confidential Information and use of Vendor's name. At Vendor's request, Confidential Information provided by Vendor and/or Vendor's name shall be deleted from the proposed publication or presentation. 2.1.2.3.3 Summary Results. DHHR owns any Summary Results it produces through use of the Medicaid Benchmark De-Identified Data, excluding any of the Medicaid Benchmark De-Identified Data therein, and subject in all cases to the limitations set forth in this Contract. "Summary Results" means an aggregation or

summary of information contained within the Medicaid Benchmark De-Identified Data, which contains no actual Medicaid Benchmark De-Identified Data, but instead presents the results of DHHR's manipulation and/or analysis of the Medicaid Benchmark De-Identified Data in a graphical, tabular, or written form such as a pie chart, summary table, statistical analysis, grid, abstract, executive summary, glossary or other descriptive format. DHHR may publish Summary Results in any manner it deems appropriate as long as the Summary Results do not contain Medicaid Benchmark De-Identified Data or reference Vendor as the Medicaid Benchmark De-Identified Data source. DHHR shall ensure that any person or entity that DHHR authorizes to obtain access to Summary Results shall comply with the relevant provisions of this Contract.

2.1.2.3.4 No Re-identification. DHHR shall not re-identify any person reflected in the Medicaid Benchmark De-Identified Data, including without limitation: (a) re-identifying, or attempting to re-identify, or allowing to be re-identified any patient or individual who is the subject of Protected Health Information (as defined by HIPAA) within the Medicaid Benchmark De-Identified Data; (b) re-identifying, or attempting to re-identify, or allowing to be re-identified any relative, family or household member of any patient or individual reflected in the Medicaid Benchmark De-Identified Data; or (c) linking any of the facial or direct identifiers set forth in 45 C.F.R. 164.514 to any other information.

2.1.2.3.5 Limits on Use. DHHR shall not, and shall ensure that Authorized Users do not: (a) display, distribute, share, lease, license, sublicense or otherwise transfer the Medicaid Benchmark De-Identified Data, in whole or in part, to any person or entity, except as permitted herein; (b) modify or create derivative works of the Medicaid Benchmark De-Identified Data, in whole or in part; (c) use the Medicaid Benchmark De-Identified Data, in whole or in part, in the operation of an application or software as a service provider basis for external entities; or (d) incorporate any part of the Medicaid Benchmark De-Identified Data into any product or service.

2.1.2.4 Limited Warranty and Disclaimers

Vendor represents and warrants to DHHR that Vendor has the right to license the Medicaid Benchmark De-Identified Data to DHHR, and that the Medicaid Benchmark De-Identified Data, upon delivery to DHHR, shall consist of an accurate copy of the datasets described in the Documentation. However, to the extent that the Medicaid Benchmark De-Identified Data contains information Vendor has received from third parties, Vendor warrants only that the Medicaid Benchmark De-

		Identified Data contains an accurate copy of the information that was delivered to Vendor. Except as expressly provided in this Contract, VENDOR AND ITS LICENSORS MAKE NO WARRANTIES OR REPRESENTATIONS RELATING TO THE MEDICAID BENCHMARK DATA, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIM THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Vendor does not warrant that the Medicaid Benchmark De-Identified Data will satisfy DHHR's or any third party's requirements. 2.1.2.5 Termination Vendor shall have the right to terminate the license granted by Vendor to DHHR to use the Medicaid Benchmark De-Identified Data if DHHR breaches any term of such license and fails to cure such breach within thirty (30) days following written notice."
NOTES/COMMENTS: <FOR STATE USE ONLY>		

6.7 Exception #7 – Commercial Software License Terms

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Appendix 8, IT Terms and Conditions, §3.1, Commercial Software, Last Four Paragraphs	The RFP encourages, as does CMS, the use of COTS-based software products in order to minimize customization, lower cost and increase re-useability. The OPAHHS Solution is comprised of several COTS-based software products where the scope of the license terms from such COTS manufacturers and the SaaS based nature of providing such COTS Software Products to DHHR are not consistent with the license terms set forth in the last four paragraphs of Section 3.1 to Appendix 8. Optum would be in breach of its agreement with such COTS Software Product manufacturers if it were to grant such rights to DHHR and the State generally. Accordingly, for those components of Optum's OPAHHS Solution that fit within the definition of Commercial Software where usage or access rights are granted to DHHR, as defined as "Other Commercial Software Used by DHHR" in Section 5 of this Attachment K, Optum proposes the revisions noted to the last four paragraphs of Section 3.1, including the supplemental license terms set forth in Section 6.2, Exhibits 1-7 of this Attachment K.	Please amend Section 3.1, Commercial Software of Appendix 8 as follows: "For Commercial Software described in Section 5 of this Attachment K as being components of the OPAHHS Solution for which the State needs access and use rights during the term of the Contract (the "Other Commercial Software Used by DHHR"), the State will have the rights set forth in Section 6.2, Exhibits 2-7 for the applicable item of Other Commercial Software Used by DHHR during the term of this Contract." ~~in items (1) through (7) of this section with respect to the software. The State will not use any Commercial Software except as provided in the six items below or as expressly stated otherwise in this Contract. The Commercial Software may be:~~ ~~Used or copied for use in or with the computer or computers for which it was acquired, including use at any State installation to which such computer or computers may be transferred;~~ ~~Used or copied for use in or with a backup computer for disaster recovery and disaster recovery testing purposes or if any computer for which it was acquired is inoperative;~~ ~~Reproduced for safekeeping (archives) or backup purposes;~~ ~~Modified, adapted, or combined with other computer softwares, but the modified, combined, or adapted portions of the derivative software incorporating any of the Commercial Software will be subject to same restrictions set forth in this Contract;~~ ~~Disclosed to and reproduced for use on behalf of the State by support service contractors or their subcontractors, subject to the same restrictions set forth in~~

		this Contract; and Used or copied for use in or transferred to a replacement computer. Used or copied for any other purpose as necessary to ensure performance of the contract and all deliverables thereunder. Commercial Software delivered under this Contract is licensed to the State without disclosure restrictions unless it is clearly marked as confidential or secret. Software Licenses The Vendor must provide or arrange Enterprise perpetual software licenses for all Commercial Software necessary to meet the specifications of the Contract. For the Commercial Software, the State requires Enterprise license rights to ultimately serve its entire enterprise, which consists of hundreds of personnel workers, and hundreds of technical administrators and third party Vendors who may work with the software. Sufficient seats for all such individuals will be required, and if multiple copies of the system will be needed, the right to copy and deploy multiple copies of the software in production, test, and development environments. For all other Commercial Software, the State requires a license that provides adequate usage rights to meet the State's current need, as identified in the RFP and as disclosed in the selected Vendor's Cost Proposal. The State may also copy the software for use on computers owned and controlled by third parties, if the purpose of doing so is to facilitate disaster recovery, emergency needs, including testing and training for such purposes, and to permit a third party to host the Key Commercial Software on behalf of the State in an outsourcing arrangement. This license also gives the State the right to provide the authorized individuals described above access to the Key Commercial Software remotely through a browser or client software and an Internet or similar connection for all uses and purposes identified above. NOTE: The State will retain all licenses, software, and systems procured through the RFP.
NOTES/COMMENTS: <FOR STATE USE ONLY>		

6.8 Exception #8 – Software Warranty

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Appendix 8, IT Terms and Conditions, §3.1 Software Warranty	The software warranty provisions found in Section 3.1 of Appendix 8 do not apply to the scope of Services and Deliverables required by the RFP. Such provisions are not consistent with the use of third party COTS software products nor the SaaS-based nature of the OPAHHS Solution. For those reasons, Optum is proposing to delete Section 3.1 of Appendix 8 in its entirety. Optum is proposing an alternative warranty, as described in Exception #3 above, where elements of such warranty extend to the software components of Optum's Pre-Existing Material that are included in Deliverables.	Delete all of Section 3.1 of Appendix 8, as noted below: ~~If this Contract involves software as a Deliverable, then, on acceptance and for 12 months after the date of acceptance of any Deliverable that includes software, the Vendor warrants as to all software developed under this Contract that: (a) the software will operate on the computer(s) for which the software is intended in the manner described in the relevant software documentation, the Vendor's Proposal; (b) the software will be free of any material defects; (c) the Vendor will deliver and maintain relevant and complete software documentation, commentary, and source code; and (d) the source code language used to code the software is readily available in the commercial market, widely used and accepted for the type of programming involved, and support programming in the language is reasonably available in the open market; and (e) the software and all maintenance will be provided in a professional, timely, and efficient manner.~~ ~~For Commercial Software licensed from a third party that is incorporated into Deliverables, and for which the State has not approved a separate license agreement governing that Commercial Software's warranties as part of the RFP process, the Vendor represents and warrants that it has done one of the following things: (a) obtained the right from the third party licensor to commit to the warranties and maintenance obligations in this Section; (b) obtained a binding commitment from the licensor to make these warranties and maintenance obligations directly to the State; or (c) fully disclosed in the Vendor's Proposal any discrepancies between the requirements of this section and the commitment the third party licensor has made. Vendor agrees to hold harmless and indemnify the State and any of its agencies for any claim related to improper use of software licensed from a third party.~~ ~~In addition, for Commercial Software that is incorporated into Deliverables, the Vendor will: (a) maintain or cause the third party licensor to maintain the Commercial Software so that it operates in the manner described in the Vendor's Proposal (or any attachment referenced in the Proposal) and relevant Commercial Software documentation; (b) supply technical bulletins and updated user guides; (c) supply the State with updates, improvements, enhancements, and modifications to the~~

		~~Commercial Software and documentation and, if available, the commentary and the source code; (d) correct or replace the Commercial Software and/or remedy any material programming error that is attributable to the Vendor or the third party licensee; (e) maintain or cause the third party licensor to maintain the Commercial Software and documentation to reflect changes in the subject matter the Commercial Software deals with; (f) maintain or obtain a commitment from the third party licensor to maintain the Commercial Software so that it will properly operate in conjunction with changes in the operating environment in which it is designed to operate.~~ ~~For purposes of the warranties and the delivery requirements in this Contract, software documentation means well written, readily understood, clear, and concise instructions for the software's users as well as a system administrator. The software documentation will provide the users of the software with meaningful instructions on how to take full advantage of all of the capabilities designed for end users. It also means installation and system administration documentation for a system administrator to allow proper control, configuration, and management of the software. Source code means operating instructions for the software. In addition to any liquidated damages or other damages provisions in this contract, the State is entitled to damages for Vendor's failure to comply with any of the software warranty provisions, whether express or implied, contained in this section or elsewhere in this contract, including, but not limited to, general, special and consequential damages.~~
NOTES/COMMENTS: <FOR STATE USE ONLY>		

6.9 Exception #9 – Software Maintenance

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Appendix 8, IT Terms and Conditions, §3.2, Software Maintenance	Section 3.2, Software Maintenance of Appendix 8 are inconsistent with the scope of Services and Deliverables as well as the Service Level Agreements and Performance Standards set forth in the RFP. DHHR has protections during the DDI period with respect to the failure of Deliverables, that may include software components, to meet mutually agreed upon acceptance criteria. Following acceptance of the OPAHHS Solution, DHHR has the benefit of Maintenance and Operations services from Optum, including several related Performance Standards that address Technical Support and Operational Issue Management related to resolving problems or defects that could include Software. In so far as the Contract asks for a SaaS-based offering, maintenance and operations of the OPAHHS Solution is offered for the term of the Contract, not for a period of five (5) years after first maintenance, Maintenance and Operations pricing is fixed for the Contract term. Accordingly, Optum proposes the deletion of Section 3.2,	Delete Section 3.2 of Appendix 8, Software Maintenance, as noted below: ~~If this Contract involves software as a Deliverable, then, during the warranty period, as well as any optional maintenance periods that the State exercises, the Vendor must correct any material programming errors that are attributable to the Vendor within a reasonable period of time, beginning when vendor receives any notification of the error.~~ ~~For all programming errors, the Vendor will make its initial response within two business hours of notice. The Vendor also must begin working on a proper solution for the problem immediately after responding and, if requested, provide on site assistance and dedicate all available resources to resolving the problem. In addition to any liquidated damages or other damages provisions in this contract, the State is entitled to damages for software errors, and/or failure to remediate software errors timely under this contract, including, but not limited to, general, special and consequential damages.~~ ~~For software classified as Commercial Software in the Ownership of Work Product section and for which the State has not signed a separate license agreement, the Vendor must acquire for the State the right to maintenance for a five year period. That maintenance must be the third party licensor's standard maintenance program, but at a minimum, that maintenance program must include all updates, patches, and fixes to the software. It also must include a commitment to keep the software current with the operating environment in which it is designed to function (and, if applicable, the subject matter covered by the software) and to correct material defects in the software in a timely fashion. Additionally, the Vendor must obtain a commitment from the licensor to make maintenance available for the product for at least five years after the first year of maintenance. The Vendor also must obtain a commitment from the licensor to limit increases in the annual Fee for maintenance to no more than 7% annually. If the licensor is unable to provide maintenance during that five year period, then the licensor must be committed to doing one of the following two things: (a) give the State a pro rata refund of

	Software Maintenance from Appendix 8.	the license fee based on a five year useful life; or (b) release the source code for the software (except third party software) to the State for use by the State solely for the purpose of maintaining the copy(ies) of the software for which the State has a proper license.
NOTES/COMMENTS: <FOR STATE USE ONLY>		

6.10 Exception #10 – Termination Assistance

Document Title (Reference Specific Contractual Document and Section in Which Exception is Taken)	Vendor's Explanation (Required for Any Rejection/Exception)	Vendor's Proposed Alternative Language (If Applicable) Cross-Reference to specific section of Vendor's Terms, If Any Provided As Part of the RFP Response
Appendix 8, IT Terms and Conditions, §4, Termination Assistance	Optum acknowledges the right and need for DHHR to have assistance upon termination of the Contract. Some of the language regarding termination assistance is not well-defined and it is in both parties' best interests to have agreed upon the scope prior to the event that triggers termination. In addition, the scope of the termination assistance is not consistent with a SaaS-based offering that is permitted under the RFP. Optum has proposed changes to be consistent with a SaaS-based offering while protecting DHHR's rights and interest in intellectual	Optum proposes the following modifications to Section 4, Termination Assistance of Appendix 8, IT Terms and Conditions: "Within one hundred and twenty (120) days of the end of the final term of this Contract, or upon notice of termination of the Contract, whichever is shorter, and without respect to either the cause or time of such termination, the Vendor will take all reasonably necessary measures to facilitate a seamless transition to a successor, to the extent set forth below, or as may be reasonably required by the State. The Vendor will, at any time during the one hundred and twenty (120) days preceding termination, provide such information about the System as will be required by the State and/or the successor consistent with what is outlined below for purposes of planning the transition. In addition, the Vendor will ~~immediately~~ promptly provide historical records to the State ~~in a form acceptable to the State~~ for the preceding years during which the Vendor was under contract with the State in the format in which they were created, and any other information reasonably necessary for a seamless transition. For purposes of this Contract, a "seamless transition" shall be defined as one in which the Vendor provides the assistance set forth below. The Vendor agrees, after receipt of a notice of termination, and except as otherwise directed by the State, the Vendor will: 1) Stop work under the Contract on the date, and to the extent, specified in the notice. ~~2) Immediately deliver copies of all subcontracts and all third party contracts executed in connection with the performance of the Services.~~ ~~3)~~2) Place no further orders or subcontracts for Services, except as may be necessary for completion of such portion of the work under the Contract that is not terminated as specified in writing by the State. ~~4) Assign, to the extent applicable or as the State may require, all subcontracts and all third party contracts executed in connection with the performance of the Services to the State or a successor provider, as the State may require.~~

	property, Deliverables and Confidential Information owned by DHHR.	5)3) Perform, as the State may require, such knowledge transfer and other services as are required to allow the Services to continue in as manner that minimizes without interruption or adverse effect and to facilitate an orderly migration and transfer of the services to the successor. 6)4) Promptly supply all the following materials necessary as may be useful for continued operation of systems should DHHR elect to procure the use of systems similar to those used by Vendor during the term of the Contract, including: a. computer programs b.a. data files b. all State Intellectual Property, State Confidential Information and any Work Product or Deliverable not previously provided to DHHR, to the extent that any of the foregoing is owned by DHHR. c. A list of COTS-based products and commercial hardware used by Optum to deliver the Services under this Contract immediately prior to its termination. user and operations manuals d. system and program documentation e. training programs related to the operation and maintenance of the system [42 CFR 434.10 (b) & SMM 2082.2] 7)5) Take such action as may be necessary, or as the State may direct, for the protection and preservation of the State owned property related to this Contract which is in the possession of the Vendor and in which the State has or may acquire an ownership interest and to transfer that property to the State or a successor. Vendor acknowledges that, if it were to breach, or threaten to breach, its obligation to provide the State with the foregoing assistance, the State would be immediately and irreparably harmed and monetary compensation would not be measurable or adequate. In such circumstances, the State shall be entitled to seekobtain such injunctive, declaratory or other equitable relief as the State deems necessary to prevent such breach or threatened breach, without the requirement of posting any bond and Vendor waives any right it may have to allege or plead or prove that the State is not entitled to injunctive, declaratory or other equitable relief. If the court should find that Vendor has breached (or attempted or threatened to breach) any such obligations and that the State has suffered irreparable injury based on a finding of fact, Vendor agrees that without any additional findings of irreparable injury or other conditions to injunctive or any equitable relief, Vendor will not oppose the entry of an order compelling its performance and restraining Vendor from any further breaches (or attempted or threatened breaches).

NOTES/COMMENTS: <FOR STATE USE ONLY>

7 Supplemental Terms and Conditions

Optum further proposes that the following additional or clarifying language be included as part of the eventual Contract between Optum and DHHR. Optum's request for doing so is consistent with the language of the RFP indicating that including "additional Vendor's software license, maintenance support agreement, and SLA, if applicable, will be required for purposes of Contract negotiations for this project" but only if included in the Technical Proposal of the bidder.

For DHHR's convenience, we have included the applicable portion of the RFP's terms and conditions to which these supplemental terms and conditions relate, if there are any, and a rationale for their inclusion as well as the proposed text.

7.1 Confidential Information, Section 3, General Terms and Conditions, §31, Privacy, Security and Confidentiality

The RFP involves a scope of work that requires the successful vendor to provide DHHR with certain Vendor confidential information that is available for an exemption under the West Virginia Freedom of Information Act. By permitting the vendor to have that information protected, DHHR benefits from being able to take advantage of the use of such information to achieve its program goals and objectives. Optum proposes to add a clause to govern the use by DHHR of such Optum Confidential Information.

The added paragraph would read as follows:

> "DHHR will protect the confidential information of Vendor, excluding any information that must be disclosed to comply with the State's Freedom of Information Act found in W. Va. Code § 29B-1-1 et seq. For the purposes of this paragraph, confidential information means, to the extent previously, presently or subsequently disclosed by Vendor to DHHR, all financial, business, legal and technical information of Vendor or any of its affiliates, suppliers, customers and employees. Confidential information shall not include any information that (a) was rightfully known to DHHR without restriction before receipt from Vendor, (b) is rightfully disclosed to DHHR without restriction by a third party, (c) is or becomes generally known to the public, or (d) is independently developed by DHHR or its employees without access to or reliance on such information."

7.2 Indemnification, Section 3, General Terms and Conditions, §37, Indemnification

It is usual and customary with respect to indemnification clauses to limit the extent of a vendor's indemnity so that it does not include acts or omissions attributable to the State or third parties not under the vendor's control. In addition, it is usual and customary for the indemnitee (i.e., DHHR) to provide prompt written notice, reasonable assistance and authorization for the indemnitor (Optum) to defend or settle any claim that is covered by the indemnitor's indemnity. The added language provides such terms and has been agreed upon in other contracts signed by the State.

The following would be added to the end of §37:

"The parties agree that Vendor's indemnification obligations do not apply to the extent that the third party claims arises out of acts and omissions attributable to the State or a third party not under contract with the Vendor. The State shall promptly notify and provide reasonable assistance to the Vendor of any claim giving raise to the indemnity. Vendor shall have the right and option to undertake and control such defense of such action with counsel of its choice."

7.3 Reports, Section 3, General Terms and Conditions, §40, Reports

The RFP contains detailed requirements regarding numerous types of reports that would be applicable to the EDS Solution bid by a vendor. Section 40 of the General Terms and Conditions portion of the RFP, however, also refers to reports but in a very open ended manner. Optum proposes to clarify the scope/type of reports called for under Section 40 of the General Terms and Conditions by adding the following sentence at the end of that paragraph:

"The reporting requirements contained herein are limited to administrative reporting."

7.4 Limitation of Liability, New Section

Optum proposes to add a limitation of liability clause to the Contract resulting from this RFP in a manner that does not take exception to any of the liquidated damages in Appendix 5, Service Level Agreements and Performance Standards nor to the liability under Appendix 8, IT Terms and Conditions, Section 1.1 for Vendor being liable for consequential damages if and to the extent that Vendor breaches its obligation to keep DHHR Confidential Information confidential as a result of its acts or omissions. The existence and nature of the limitation of liability provision proposed by Optum:

(a) Permits Optum to propose the pricing in its Cost Proposal;
(b) Is generally consistent with similar provisions found in contracts that DHHR has signed with vendors as well as with general industry practices;
(c) Contains a mutual exclusion of liability for consequential damages, subject to the same exception, and thus benefits DHHR; and
(d) Provides an economic incentive for Optum to fulfill its obligations under the Contract.

The new provision would read as follows:

"Limitation of Liability: Neither party shall be liable to the party for any consequential, special or incidental damages arising out of this Contract or either party's performance hereunder, except that if either party breaches its obligation to keep confidential the other party's Confidential Information as a result of its acts or omissions, such damages shall not be considered an excluded damages. The aggregate liability of Vendor arising under this Contract, whether based in tort, contract or otherwise, for any direct damages proximately caused by Vendor's acts of omissions, including, without limitation, any liquidated damages assessed under Appendix 5, Service Level Agreements and Performance Standards, shall not exceed, in the aggregate, the following overall limitations:

1. If the direct damage arises during the Design, Development and Implementation ("DDI") phase of the Contract, the aggregate cap shall not exceed the total DDI Price payable under this Contract; and
2. If the direct damage arises during the Maintenance and Operations ("M&O") phase of the Contract, the aggregate cap shall not exceed the annual M&O Price payable during the M&O contract year in which the damage is incurred.

Notwithstanding the foregoing, any damage proximately caused by Vendor's acts or omissions for bodily injury, tangible property damage, death or fines or penalties arising from a Security Incident or Breach of unsecured PHI, as those terms are defined in the Contract, shall not be subject to the aggregate liability caps set forth above."

7.5 Appendix 5, Service Level Agreements and Performance Standards, §3 Implementation Performance Standards

Optum is in agreement with the two (2) Implementation Performance Standards set forth in §3 of Appendix 5 and would like to add the following language:

"1. For purposes of measuring SLA-001, Deliverable Service Level, a Deliverable shall be considered complete by a certain date if (a) Vendor delivers to DHHR all previously agreed upon components of the applicable Deliverable by the date set forth in the then current, mutually agreed upon project plan and (b) the Deliverable meets the acceptance criteria, including the agreed upon purpose, all of which shall be mutually agreed upon prior to the delivery of the deliverable. Optum shall not be deemed to have not met SLA-01 if DHHR or a third party who is not a subcontractor to Vendor have failed to meet a condition that is a prerequisite to Vendor being able to provide the completed Deliverable by the agreed upon delivery date.

2. For purposes of measuring SLA-002, Solution Acceptance, Optum assumes that Milestone 6 shall be the Milestone that defines the overall deployment of the Solution to production and shall be equal to 20% of the total implementation cost. In so far as Optum is proposing to deploy the Enterprise Data Warehouse portion of the OPAHHS Solution by the end of the twelfth (12th) month from the Contract Start Date, with the FADS portion of the OPAHHS Solution by the end of the sixteenth (16th) month from the Contract Start Date, the parties agree that the deployment of the FADS Solution to production shall constitute delivery of a fully functional Solution. Upon deployment of the EDW portion of the OPAHHS Solution to production, Optum shall commence Maintenance and Operations Support for that component of the OPAHHS Solution and invoice for such Maintenance and Operations Support."

7.6 Appendix 5, Service Level Agreements and Performance Standards, §4 Operations Performance Standards

The following terms are proposed to apply to the Operations Performance Standards generally and to any assessment of liquidated damages arising out of Optum's failure to meet any of the Operations Performance Standards:

"(1) Optum will use its own system to measure actual performance against the applicable Operations Performance Standard.
(2) Optum will provide a report to DHHR within ten (10) business days following the end of each calendar month during Operations that includes actual performance against the Performance Standard and a root cause analysis so as to demonstrate whether Optum or others were responsible for the failure to meet a Performance Standard or if there are any extenuating circumstances.
(3) Optum and DHHR shall meet after receipt of the report to review and seek agreement on its contents prior to DHHR assessing any liquidated damage.
(4) If DHHR elects to assess a Liquidated Damage but if Optum is only partially responsible for missing the Performance Standard, the Liquidated Damage amount shall be assessed on a proportional basis.
(5) Any Liquidated Damage assessed shall be counted towards the overall cap on Optum's aggregate liability during the applicable term of the Contract.
(6) If the same event causes Optum to miss multiple Performance Standards, Optum's liability shall be limited to the highest Liquidated Damage arising from such event."

In addition to the above, Optum proposes the following clarifications to the portion of the applicable Operations Performance Standard set forth below:

With respect to SLA-003, Solution Availability:

1. With respect to the performance standard that "the EDS shall be accessible 99% of the time during working hours, except for scheduled downtime", Optum assumes that the definition of what is included as part of the "EDS" shall be based upon those components performing a critical business function such that their unavailability would have an adverse, material business impact on DHHR, while other EDS components that do not perform a critical business function would be excluded from the performance standard. Optum proposes that during DDI, DHHR and Optum shall mutually agree upon what EDS components perform a critical business function.
2. While Optum agrees with the performance standard regarding "Authorized solution user access: Unscheduled production downtime for the solution is to be one (1) hour or less in total within any given twenty-four hour period", Optum proposes that unscheduled production downtime for the OPAHHS Solution may be longer than one (1) hour if required to fix a software or database problem that can only be fixed by taking the production system down and if DHHR agrees on a case by case basis, then this performance standard would still be met even if the unscheduled down time was longer than one (1) hour in any given twenty-four (24) hour period.
3. For purposes of the liquidated damage that may be assessed if Optum fails to meet any of the performance standards under SLA-003, the term "monthly operating fee" shall mean the monthly Maintenance and Operations Support Cost charged by Optum for that month.

With respect to SLA-004, Solution Performance:

1. During DDI, Optum and DHHR shall mutually agree upon the definition for the following metrics that form an integral part of the performance standards under SLA-004: "peak usage hours", "low usage hours", "benchmark queries" that will be subject to the performance standard and "completion times".
2. For purposes of the liquidated damage that may be assessed if Optum fails to meet any of the performance standards under SLA-004, the term "monthly administrative fee" shall mean the monthly Maintenance and Operations Fee charged by Optum for that month.

With respect to SLA-005, Operations Issue Management:

1. During DDI, Optum and DHHR shall mutually agree upon what constitutes a "problem" or "issue" as that term is used in SLA-005, as well as the corresponding definitions for problems or issues that are "catastrophic", "major" or "ordinary".
2. The hours of coverage during which the performance standards contained within SLA-005 shall be agreed upon business hours where such agreement shall also be reached between Optum and DHHR during DDI.
3. DHHR shall be considered to have been "notified" of an issue/problem by Optum acknowledging its existence in an email to a DHHR designated point of contact, where the acknowledgment shall simply state the type of issue or problem for which Optum has confirmed its existence and where the time period for measuring when such acknowledgement first arises shall be based upon when Optum has obtained sufficient facts to confirm the existence and nature of the problem, with the understanding that additional facts may come to light subsequently that clarify changes to such initial characterization.
4. A "response" shall consist of an update of any additional or different information from that which was contained in the initial acknowledgement, with an obligation to provide DHHR with updates in a time frame consistent with the then current severity level classification of the problem or issue.
5. A "resolution" may consist of a permanent fix, work around or patch that either eliminates or reduces the effect of the problem or issue, provided that if something less than a permanent fix is delivered, Optum shall be under a continuing obligation to provide updates to DHHR.

6. For purposes of the liquidated damage that may be assessed if Optum fails to meet any of the performance standards under SLA-005, the term "monthly operating fee" shall mean the monthly Maintenance and Operations Support Cost charged by Optum for that month.

With respect to SLA-006, Business Continuity:

1. The mutually agreed upon Disaster Recovery and Business Continuity Plan ("DRBCP") shall define what constitutes a "production environment failure", a "solution/system failure" and "data sets or transaction logs" for purposes of SLA-006.
2. Optum assumes that the "Recovery Time Objective" or "RTO" under SLA-006 is twenty-four (24) hours based on the answer to question 202, where RTO shall be defined as the amount of time required to restore the "solution/system", as defined in the DRBCP, to an operational status commencing upon such "solution/system failure", as defined in the DRBCP.

With respect to SLA-007, Database Solution Updates:

1. During the DDI period, Optum and DHHR shall mutually agree upon definitions for the following key phrases found in SLA-007: (a) "database errors", (b) what constitutes making "data available" for data from interfaces with external and internal data sources and (c) what constitutes a "data refresh".
2. In addition, if the data from interfaces does not meet mutually agreed upon data quality metrics that would also be defined during the DDI phase, then any failure to meet the applicable performance standards within SLA-007 would not be Optum's fault nor would Optum be subject to liquidated damages.

With respect to SLA-008, Data Quality:

1. During the DDI period, Optum and DHHR shall mutually agree upon definitions for the following key phrases found in SLA-008: (a) "transfer of the monthly automated EDS tables" and (b) "data quality defects".
2. While it is understood that a "data defect" is "a data element that does not conform to business and data validation rules as prescribed in the EDS", mutual agreement is required with respect to what are the business and data validation rules and what types of failures related to data quality are the responsibility of Optum where a data defect occurs.

With respect to SLA-009, Technical Support:

Technical support from Optum for purposes of the provider and member portals shall be limited to Tier 2 technical support under this SLA-009.

With respect to SLA-012, Security and Privacy Incident Notification:

In order to be consistent with overlapping wording between the Performance Standards contained within SLA-012 and the Business Associate Agreement, without taking exception to either, Optum proposes to define wording within SLA-012 in the following manner:

a. "suspicious activity" and a "suspected incident" are the same as what constitutes a "Security Incident" in the BAA; namely, a successful or unsuccessful attempt to improperly use, disclose, modify, access or destroy information or interfere with system operations) or a Breach of unsecured PHI.
b. The obligation to "immediately report" any "suspicious activity" or "suspected incident" shall be within twenty-four (24) hours of Optum's actual knowledge and confirmation of a Security Incident or Breach of unsecured PHI, as envisioned by Section 3(l) of the BAA.
c. A "Breach" of unsecured PHI shall have the same definition as under HIPAA.

All timeframes set forth in performance standards in SLA-012 shall commence upon Optum's actual knowledge and confirmation of a Security Incident or Breach of unsecured PHI.

The detailed incident report that is to be provided within one (1) business day of confirmation is limited to information known at the time, with an obligation to confirm, quantify and categorize the Security Incident or Breach of PHI within three (3) business days, where that obligation shall be met if by that time frame, Optum has provided DHHR with the six (6) types of information required under the BAA, Section 3(l). The time frame for any remediation and the completion of the full incident report shall be based upon the extent and nature of the Security Incident or Breach of PHI.

7.7 Vendor's Software License Terms Consistent with the OPAHHS Solution' SaaS Based Offering

Consistent with the instructions set forth in the RFP for bidders to include "the terms and conditions of a Vendor's software license ... agreement", Optum has included additional license terms and conditions (the "License Terms") that shall apply to DHHR's use of the Optum Proprietary Materials, inclusive of OPAHHS Software, OPAHHS Software Standard Reports, FADS Software and FADS Software Standard Reports and User Interfaces as well as the Other Commercial Software Used by DHHR identified in Section 5 as being Commercial Software for which Optum shall grant or distribute to DHHR a term based license of use with the Optum Proprietary Materials in the Exhibits attached to this Attachment K and incorporated by reference herein.

Description of Optum Pre-Existing Material or Other Commercial Software Used by DHHR	Exhibit Containing the Applicable License Terms
OPAHHS Software, OPAHHS Software Standard Reports, FADS Software and FADS Software Standard Reports and User Interfaces	1
Informatica Software	2
Tableau Software	3
RStudio Software	4
IBM Software	5
Oracle Software	6

Exhibit 1
Optum Pre-Existing Materials License Terms

The following license terms shall apply to the Use of the Optum Pre-Existing Materials by Optum to DHHR (the "Customer" or "Agency"), where such license terms shall be in addition to those set forth in Section 2.1 of Attachment 8 to the RFP HHR200000001 (the "RFP"):

1. License of the Optum Proprietary Materials.

1.1 Description of OPAHHS Software Products.

Optum hereby grants Customer a nonexclusive, nontransferable, perpetual (subject termination for an uncured breach) license to "Use" (a) the Optum proprietary software containing pre-configured analytics and ad-hoc analytical functionality described in Section 5.1 of this Attachment K, including the source code of Optum proprietary queries and logic (the "OPAHHS Software"), the standard reports produced by Optum using the OPAHHS Software, as defined in Section 5.2 of this Attachment K (the "OPA for HHS Standard Reports"), along with the OPA for HHS User Documentation described in this Exhibit 1 (collectively, the "OPAHHS Software Products") and (b) the Optum proprietary fraud abuse detection system ("FADS") software in object code format described in Section 5.3 of this Attachment K (the "FADS Software"), inclusive of the FADS Software Standard Reports and User Interfaces defined in Section 5.4 of this Attachment K (collectively, the "FADS Products"), where the effective date of such license grant shall be as of the beginning of the User Acceptance Test of the data warehouse portion of the OPAHHS Solution for such OPAHHS Software Products and the beginning of the User Acceptance Test of the FADS portion of the OPAHHS Solution for the FADS Products.

1.2. General License Rights and Limitations.

1. Customer's right to Use the Optum Pre-Existing Materials is limited to the following uses:
   (a) The right to Use the Optum Pre-Existing Materials shall solely be for Customer's internal business purpose and solely if used with the Other Commercial Software described in this Contract.
   (b) The Use of the OPAHHS Software Products and FADS Products shall be limited to use on the Microsoft Azure hardware provided under the Contract for such purpose (the "OPAHHS Infrastructure").
   (c) The Use rights shall be limited to Use on the servers provided under the Contract for such purpose in up to six (6) computing environments (e.g., Production, Test) on the OPAHHS Infrastructure, or as may be mutually agreed upon in writing by the parties.
   (d) The right to Use shall include the right to make one (1) backup copy of the OPAHHS Software and FADS Software to test the use of the OPAHHS Software and FADS Software, respectively, on a backup server or desktop in preparation for an actual disaster that may affect the production server or backup under normal conditions as well as the right to use such copy for productive purposes on the backup server or desktop but then, only for as long as the disaster prevents actual use of the production server or backup.
   (e) The right to Use shall also include the right to modify the OPAHHS Software Product so as to create a derivative work of the OPAHHS Software Product such that different or additional reports may be generated than the OPA for HHS Standard Reports, provided that Optum retains ownership of the OPAHHS Software Products that were used to create

the derivative work, including, without limitation, the source code of the Optum proprietary queries and logic, where Customer shall acknowledge and reproduce intellectual property notices evidencing Optum's ownership rights in such portions of any Customer developed derivative work. Customer hereby grants to Optum a fully paid up, non-exclusive right and license for Optum to use any derivative work created by Customer for Optum's own business purposes. As part of such license grant to Optum, Customer shall deliver the derivative work to Optum electronically as soon as possible following its development.

(f) Customer's Use of the OPAHHS Software Products and FADS Software Products while this Contract is in effect is further subject to Use under a Software as a Service model where Customer shall also be using the DDI Services and once the OPAHHS Software and FADS Software, respectively, is placed into production, Support Services for the OPAHHS Software and FADS Software, respectively.

2. Customer shall be subject to the following limitations on any Use of the OPAHHS Software Products and FADS Software Products:

(a) Customer shall not (i) copy, reproduce, modify, or excerpt any of the OPAHHS Software or FADS Software for any purpose other than as expressly permitted under these License Terms; (ii) distribute, rent, sublicense, share, assign, give, transfer or lease the OPAHHS Software or FADS Software or any interest in them, to any other person or entity, or use the OPAHHS Software or FADS Software to provide service bureau, rental, timesharing, subscription services, hosting, outsourcing or similar services to third parties; or (iii) attempt to reverse engineer, disassemble, decompile (including reviewing data structures or similar materials produced by the OPAHHS Software or FADS Software) or otherwise obtain copies of the source code for the OPAHHS Software or FADS Software other than as such source code is developed in the OPAHHS Software or the identity of individual patients or members, persons, payers, or providers reflected in any data products; and

(b) Customer shall make no other use of the source code portion or any other portion of the OPAHHS Software not expressly granted herein.

2. Warranties and Limitation of Warranties

2.1 Optum represents and warrants to Customer that Optum has the right to license the OPAHHS Software Products and FADS Software Products to Customer. All rights in patents, copyrights, trademarks, and trade secrets encompassed in the OPAHHS Software Products and FADS Software Products will remain in Optum or its licensors, as applicable. Customer does not obtain any rights in the OPAHHS Software Products and FADS Software Products except the limited right to use the OPAHHS Software Products and FADS Software Products as provided herein.

2.2 Optum warrants that the OPAHHS Software and FADS Software will perform substantially in accordance with the applicable OPA for HHS User Documentation and FADS Software for the licensed release for a period of ninety (90) days following installation. This warranty is void if Customer modifies the OPAHHS Software Products or FADS Software Products, Customer uses the OPAHHS Software Products or FADS Software Products in any manner that is not allowed under this Agreement, or Customer allows unauthorized persons to use the OPAHHS Software Products or FADS Software Products.

2.3 EXCEPT AS EXPRESSLY PROVIDED IN THIS EXHIBIT, OPTUM AND ITS LICENSORS MAKE NO WARRANTIES OR REPRESENTATIONS RELATING TO THE OPAHHS SOFTWARE PRODUCTS OR FADS SOFTWARE PRODUCTS, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIM THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

3. Limitation of Liability

This Section 3 limits the parties' liability to each other in actions between the parties brought under these Optum Pre-Existing Material License Terms. Optum's liability for direct damages arising out of these Optum Pre-Existing Material License Terms shall not exceed the limitations set forth in the Contract generally. Neither party shall be responsible under these Optum Pre-Existing Material License Terms for any indirect, incidental, special or consequential damages resulting from either party's performance or failure to perform under these Optum Pre-Existing Material License Terms, including, without limitation, the use of or inability to use the OPAHHS Software Products, FADS Software Products or Services, any damage to equipment and any cost of recovering lost data or of reprogramming.

4. Termination

The license granted under these Optum Pre-Existing Material License Terms is perpetual, provided that if the Customer fails to abide by any of these Optum Pre-Existing Material License Terms and does not either cure such failure or provide written assurances reasonably satisfactory to Optum, in either case within thirty (30) days following written notice requesting such cure, Optum may, upon written notice to Customer, terminate the license granted hereunder. In addition, upon termination of this Contract between Optum and the Customer, while the license shall continue, such continuation shall (a) be subject to Customer continuing to abide by these Optum Pre-Existing Material License Terms and (b) not include the provision of any services, updates or new releases for the OPAHHS Software Product or FADS Software Product.

Exhibit 2
Informatica Software License Terms

The following license terms shall apply to DHHR's use of the Informatica Software described in Section 5 of this Attachment K as part of the Other Commercial Software Used by DHHR (the "Software") for the term of the Contract resulting from this RFP:

1. LICENSE GRANT

1.1 Informatica LLC ("Informatica") grants to the West Virginia Department of Health and Human Resources ("DHHR" or "Customer") a non-exclusive, non-transferable, non-sublicensable and license to use, in object code format, Informatica's Software, as defined above, subject to the terms, conditions and restrictions set forth herein and therein.

1.2 Use of the Software shall be limited to the internal data processing and computing needs of Customer, and to the terms and conditions set forth in the Software's *Informatica Product Description Schedule* current at the time of licensing, a copy of which shall be made available to Customer upon request. Use shall only be for the term of the prime contract (the "EDS Contract') between Customer and Optum Government Solutions, Inc., an authorized distributor of Informatica ("Optum") arising out of RFP# HHR200000001 for the Enterprise Data Solution ("EDS") (the "RFP"). Customer shall not make the Software available to unauthorized third parties. The Software may not be used for service bureau purposes or to provide a service directly or indirectly to third parties, including, without limitation, for the creation or manipulation of data to be sent to a third party or for the processing of data provided by a third party. Customer may not relicense, rent or lease the Software for third-party training or commercial time-sharing. Customer shall not distribute, sell, sublicense or otherwise transfer copies of the Software or any portion thereof, and shall not use the Software except as expressly permitted hereunder. No third-party software that is provided with the Software may be used independently from the Informatica Software. Unless otherwise mutually agreed in writing and except to the extent required to obtain interoperability with other independently created software or as specified by law, Customer further agrees not to adapt, translate, reverse engineer, decompile or otherwise derive the source code for the Software or any of the related features of the Software or to allow third parties to do so.

1.3 For each copy of the Software licensed, Customer's access shall be limited to use on the equipment comprised within the Azure Infrastructure. Except for a reasonable number of copies of the Software for back-up purposes, Customer shall have no right to copy the Software. All titles, trademarks and copyright and restricted notices shall be reproduced in such copies.

1.4 Customer shall have the right to print copies of the softbound version of the documentation provided with the Software ("Documentation") in the form generally available and post the PDF format of the Documentation on Customer's own intranet solely for Customer's internal use. Customer shall not have the right to make copies of the hardbound version of the Documentation.

1.5 Customer acknowledges that Informatica owns all proprietary rights, including patent, copyright, trade secret, trademark and other proprietary rights, in and to the Software and any corrections, bug fixes, enhancements, updates or other modifications, including custom modifications, to the Software. Any references to "sale" or "purchase" of the Software shall be deemed to mean "license" in accordance with these License Terms. Customer agrees not to remove from view any copyright legend, trademark or confidentiality notice appearing on the Software or Software output. Informatica reserves all rights not expressly granted to Customer in these License Terms.

2. Confidentiality

2.1 For purposes of these License Terms, (a) the term "Receiving Party" shall mean Informatica with respect to Confidential Information (as defined below) supplied to Informatica by Customer, and Customer with respect to Confidential Information supplied to Customer by Informatica; and (b) the term

"Disclosing Party" shall mean Informatica with respect to Confidential Information supplied to Customer by Informatica, and Customer with respect to Confidential Information supplied to Informatica by Customer. "Confidential Information" means the Software (both object and source code), the accompanying Documentation and all related technical and financial information (including these License Terms) and any information, technical data or know-how, including, without limitation, that which relates to computer software programs or documentation, specifications, source code, object code, research, inventions, processes, designs, drawings, engineering, products, services, customers, markets or finances of the Disclosing Party which (i) has been marked as confidential or proprietary; (ii) is identified as confidential at the time of disclosure either orally or in writing; or (iii) due to its character and nature, a reasonable person under like circumstances would understand to be confidential.

2.2 Confidential Information shall not include information which (a) Receiving Party can demonstrate was rightfully in its possession, without confidentiality obligations, before receipt; (b) is or subsequently becomes publicly available without Receiving Party's breach of any obligation owed the Disclosing Party; (c) is disclosed to Receiving Party, without confidentiality obligations, by a third party who has the right to disclose such information; or (d) Receiving Party can demonstrate was independently developed without reliance on any Confidential Information of the Disclosing Party.

2.3 The parties hereby agree that: (a) Receiving Party may use Confidential Information solely for the purposes of these License Terms; (b) Receiving Party shall instruct and require all of its employees, agents, and contractors who have access to the Confidential Information of the Disclosing Party to maintain the confidentiality of the Confidential Information; (c) Receiving Party shall exercise at least the same degree of care, but not less than reasonable care, to safeguard the confidentiality of the Confidential Information as Receiving Party would exercise to safeguard the confidentiality of Receiving Party's own confidential property; (d) Receiving Party shall not disclose the Confidential Information, or any part or parts thereof, except on a "need to know" basis to those of its employees, agents, and contractors who are bound to confidentiality obligations at least as protective of the Confidential Information as those set forth herein; and (e) Receiving Party may disclose the Disclosing Party's Confidential Information to the extent required by a valid order by a court or other governmental body or by applicable law, provided, however, that Receiving Party will use all reasonable efforts to notify Disclosing Party of the obligation to make such disclosure in advance of the disclosure so that Disclosing Party will have a reasonable opportunity to object to such disclosure. Receiving Party agrees to undertake whatever action is reasonably necessary to remedy any breach of Receiving Party confidentiality obligations set forth herein or any other unauthorized disclosure or use of the Confidential Information by Receiving Party, its employees, its agents, or contractors.

3. WARRANTY

3.1 Informatica warrants that the Software will operate in conformity with the then current standard Documentation (except for minor defects or errors which are not material to Customer) for a period of ninety (90) days from the date of initial delivery of the Software ("Warranty Period").

3.2 If the Software does not perform in accordance with the warranty set forth in Section 3.1 during the Warranty Period, upon written notice by Customer during the Warranty Period, Informatica will use reasonable efforts to correct any deficiencies in the Software so that it will perform in accordance with such warranty. Customer's sole and exclusive remedy, and Informatica's sole obligation, in the event of nonconformity of the Software with the foregoing warranty will be the correction of the condition making it nonconforming. Customer shall provide all information reasonably requested to enable Informatica to cure the non-conformity.

3.3 THESE WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, NON-INFRINGEMENT, TITLE, OR FITNESS FOR A PARTICULAR PURPOSE.

4. INTELLECTUAL PROPERTY INDEMNIFICATION

4.1 Informatica agrees to indemnify, defend and hold Customer harmless from any claim of United States patent, trade secret or copyright infringement asserted against Customer by virtue of Customer's licensed use of the Software, provided that: (a) Informatica is given prompt written notice of any such claim; (b) Informatica has the right to control and direct the defense of such claim; and (c) Customer shall reasonably cooperate with Informatica in such defense.

4.2 Informatica shall have no liability for any claim of infringement that results from: (a) any modification of the Software by Customer; (b) any failure by Customer to implement Updates to the Software as supplied by Informatica; or (c) the combination, operation, or use of the Software with non-Informatica programs, data or documentation, if such infringement would have been avoided by the use of the Software without such combination, operation or use.

4.3 In the event the Software, in Informatica's opinion, is likely to or does become the subject of a claim of infringement, Informatica shall have the right at its sole option and expense to: (a) modify the Software to be noninfringing while preserving substantially equivalent functionality; (b) obtain for Customer a license to continue using the Software; or (c) terminate the license granted hereunder, accept return of the Software and refund to Optum a pro rata portion of the License Fee paid to Informatica hereunder for that portion of the Software which is the subject of such infringement, such refund based on a straight line amortization over a five (5) year term, whereupon Optum shall provide a corresponding pro rata portion of the License Fee paid by Customer for such Software.

4.4 THE FOREGOING STATES THE ENTIRE LIABILITY AND OBLIGATION OF INFORMATICA, AND CUSTOMER'S SOLE AND EXCLUSIVE REMEDY, WITH RESPECT TO ANY INFRINGEMENT OR CLAIMS OF INFRINGEMENT BY THE SOFTWARE, OR ANY PART THEREOF, OF ANY PATENT, COPYRIGHT, TRADE SECRET OR OTHER PROPRIETARY RIGHT.

5. TERMINATION; EFFECTS OF TERMINATION

5.1. Either party has the right to terminate the license granted hereunder upon written notice to the other party if the other party: (a) is in default of any obligation hereunder which default is incapable of being cured, or which, being capable of being cured, has not been cured within thirty (30) days after receipt of written notice of such default; or (b) becomes insolvent, makes a general assignment for the benefit of creditors, suffers or permits the appointment of a receiver for its business or assets, becomes subject to any proceeding under any bankruptcy or insolvency law whether domestic or foreign, or has been liquidated, voluntarily or otherwise.

5.2 The license granted hereunder shall terminate automatically upon expiration, termination or non-renewal of the prime contract awarded in connection with the RFP between Optum and Customer (the "Prime Contract").

5.3 Immediately upon termination, the licenses granted hereunder shall terminate, and Customer shall cease all use of the Software. Within five (5) days after termination, Optum will have the right to de-install the Software and all copies thereof and (a) Customer acknowledges that Optum shall have the right to return to Informatica the Software in the form provided by Informatica and all copies in whole or in part made by Customer; or (b) upon request by Informatica, Customer acknowledges that Optum shall have the right to destroy the Software and all copies, and certify in writing that they have been destroyed.

5.4 Termination shall not limit either party from pursuing any other available remedies.

5.5 Sections 3 through 7 shall survive termination of this Agreement.

6. LIMITATION OF LIABILITY

6.1 THE LIABILITY OF INFORMATICA AND ITS LICENSORS OR RESELLERS TO CUSTOMER OR ANY THIRD PARTY ARISING FROM THE LICENSE OR USE OF THE SOFTWARE, OR THE PROVISION OF SUPPORT SERVICES, INSTALLATION, TRAINING OR OTHER SERVICES IN CONNECTION THEREWITH, HOWEVER CAUSED, AND ON ANY THEORY OF LIABILITY, INCLUDING CONTRACT, STRICT LIABILITY, NEGLIGENCE OR OTHER TORT, SHALL NOT EXCEED THE AMOUNT PAID FOR THE RELATED LICENSE, SUPPORT OR SERVICE FEE, AS THE CASE MAY BE.

6.2 IN NO EVENT WILL INFORMATICA OR ITS LICENSORS OR RESELLERS BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING DAMAGES FOR LOSS OF PROFITS, REVENUE, DATA OR DATA USE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

6.3 THESE LIMITATIONS WILL APPLY NOTWITHSTANDING THE FAILURE OF THE ESSENTIAL PURPOSE OF ANY REMEDY. THE PARTIES ACKNOWLEDGE AND AGREE THAT THE FEES REFLECT THE ALLOCATION OF RISK SET FORTH IN THIS AGREEMENT AND THAT INFORMATICA WOULD NOT ENTER INTO THIS AGREEMENT WITHOUT THE LIMITATIONS OF LIABILITY SET FORTH HEREIN.

7. GENERAL

7.1 These License Terms may not be amended except by a writing signed by an authorized representative of Informatica and Customer.

7.2 Customer may not assign or otherwise transfer, by operation of law or otherwise, any of its rights under these License Terms without Informatica's prior written consent, which shall not be unreasonably withheld. A change in control of a party shall be considered an assignment by such party for purposes of these License Terms. All terms and conditions of these License Terms shall be binding upon and inure to the benefit of the parties hereto and their successors and assigns. Informatica shall have the right to assign its rights and obligations under these License Terms to an affiliate or incorporate an affiliate as a party to these License Terms.

7.3 The waiver or failure of a party to exercise in any respect any rights provided for in these License Terms shall not be deemed a waiver of any further right under these License Terms. If any provision of these License Terms is declared by a court of competent jurisdiction to be invalid, illegal or unenforceable, such provision shall be severed from these License Term and the other provisions shall remain in full force and effect.

7.4 Except as expressly agreed in writing by Informatica, Customer may not export the Software, the Documentation or any copies thereof. In addition, Customer agrees to comply with all laws and regulations of the United States and other countries ("Export Laws") to assure that neither the Software, nor any direct products thereof are exported, directly or indirectly, in violation of Export Laws, including the Bureau of Export Administration's restrictions on the export of certain encryption security technology, or are used for any purpose prohibited by Export Laws, including, without limitation, nuclear, chemical or biological weapons proliferation. Each party acknowledges its obligation to comply with all applicable anti-corruption legislation and represents that, to the best of it knowledge, no money or other consideration of any kind paid or payable under these License Terms or by separate agreement is, has been or will be used for unlawful purposes, including purposes violating anti-corruption laws, including making or causing to be made payments to any employee of either party or anyone acting on their behalf to assist in obtaining or retaining business with, or directing business to, any person, or securing any improper advantage.

7.5 Informatica disclaims all responsibility and liability with respect to any content or data that the Customer processes with the Software. Customer acknowledges and agrees that (i) the Software functions only as a tool or vehicle for data processing, which data is not visible to Informatica; (ii) Informatica cannot control the jurisdiction where the data originates; and (iii) neither Informatica nor its Software is a "data controller" or similar under applicable law with respect to any Customer content or data. Customer acknowledges and agrees that, as between the parties, it is the sole "data controller" and must ensure that it is in full compliance with applicable data protection and privacy laws, especially with laws that apply to the use or transmission of sensitive information, personal information or personally identifiable information.

7.6 These License Terms constitute the entire agreement between the parties with respect to the license and use of the Software and supersedes any prior or contemporaneous understandings, oral or written, and all other communications between the parties. Customer acknowledges that it has not relied on the availability of any future version of the Software or any future product in accepting these License Terms.

Exhibit 3
Tableau Software License Terms

The following license terms shall apply to DHHR's use of the Tableau Software described in Section 5 of this Attachment K as part of the Other Commercial Software Used by DHHR (the "Software") for the term of the Contract resulting from this RFP:

1. Optum hereby grants to DHHR a right to access the Software as Authorized Users on servers within the Azure Infrastructure but only so Customer may: (a) interact with visualizations generated by Optum through Optum's use of the Software and based on Customer Data, or (b) themselves create visualizations using Customer Data, provided that in each case such Customer Data is in connection with Optum's Services to Customer and solely during the term of the prime contract resulting from the RFP (the "Prime Contract") ("**Visualization Access**").

2. Tableau shall have no warranty, support or other obligation or liability to Customer.

Exhibit 4
RStudio Software License Terms

The following license terms shall apply to DHHR's use of the RStudio Software described in Section 5 of this Attachment K as part of the Other Commercial Software Used by DHHR (the "Software") for the term of the Contract resulting from this RFP, where any and all of DHHR's use is contingent on such use only being made in conjunction with the OPAHHS Software and Other Commercial Software supplied by Optum and solely for the term of the Prime Contract. References in the EULA to "You" or "Your" or "Company" shall mean DHHR, references to "Reseller" shall mean Optum and references to RStudio, Inc. ("RStudio") providing Software or Support Services shall be deemed to be delivered through Optum.

1. Definitions

1.1 "Affiliate" means any entity which directly or indirectly controls, is controlled by, or is under common control with the subject entity. "Control," for purposes hereof, means direct or indirect ownership or control of more than 50% of the voting interests of the subject entity.

1.2 "Customer Application" means software programs created and/or deployed by You or Your Users using the Software.

1.3 "Documentation" means the published and generally available on-line user and administrator materials RStudio delivers or makes available with the Software, including on-line help, as updated from time to time.

1.4 "Software" means the RStudio ServerPro Software and all Updates and Documentation provided to You by RStudio.

1.5 "Support Services" mean those services provided to You by RStudio pursuant to Section 3 hereof.

1.6 "Update" means any subsequent release of the Software that RStudio generally provides to its customers at no additional charge pursuant to Support Services. Updates do not include any Software that is marketed and priced separately by RStudio.

1.7 "User" means an individual who is authorized by You to use the Software in accordance with this Agreement and the applicable license type set forth herein, and who has been supplied credentials by You. A User may include but is not limited to Your employees and those of Your and Your consultants and contractors who use the Software on Your behalf and who are bound by enforceable terms at least as protective of the Software and the RStudio Confidential Information in these License Terms.

2. License Grant

2.1 **License Grant.**

Subject to all terms and conditions set forth in these License Terms, RStudio grants You a limited, worldwide, royalty-free, non-assignable (except upon a permitted assignment of these License Terms in accordance with Section 12.2), non-transferable (except upon a permitted assignment of these License Terms in accordance with Section 12.2), non-sublicensable and non-exclusive, perpetual license pursuant to these License Terms to install and use the Software in accordance with the Documentation and in accordance with the License Type applicable to the Software. Certain Software may be used to deploy software applications developed by You or Your Users (each a "Customer Application") for use with "R", the open source programming language and software environment for statistical computing and

graphics (referred to as "R") and You acknowledge and agree You must separately license "R" and any components of "R" from the licensor of such products, which is not RStudio. Notwithstanding anything to the contrary herein, You may make a reasonable number of copies of the Software for the sole purpose of backing-up and archiving the Software, but not for use in production or for a live back up site. Each copy of the Software is subject to all terms and conditions of these License Terms and must contain the same titles, trademarks, and copyrights as the original. You are responsible for the compliance of Your Users with the terms and conditions of these License Terms, including their compliance with the License Type applicable to the Software licensed, and shall be liable for any breach of these License Terms by Your Users.

2.2 **License Types**

The Software is subject to a Server License type in which the Software is licensed for use on a single physical or virtual computer server.

2.3 **Delivery**

Delivery of the Software shall be made by electronic means and such delivery shall be deemed to have been made upon RStudio or its Reseller, as the case may be, making the Software or services available to You for download or by providing You with a license key for such usage. RStudio's Software may transmit license-related data at the time of license activation to a RStudio license server in order to activate Your license, provide You with update notifications, and to protect You and RStudio against unlicensed or illegal use of the Software; provided, however, that You may elect to use the off-line activation mechanism as provided in the Software, in which case license-related data will not be transmitted. You acknowledge that the Software may include licensing technology, anticopying subroutines and other security measures designed to limit usage of the Software to that which is licensed hereunder. Such measures are not intended to interfere with Your normal and permitted operation of the Software as licensed hereunder.

2.4 **Virtualization Technology; Non-Human Devices.**

The Software may be installed within a virtual (or otherwise emulated) hardware system so long as the use of the Software meets the terms of the license type and these virtual machines are run on hardware owned or leased by You, including, provided that You maintain compliance with these License Terms, remote cloud based hosting services, such as Amazon Web Services. Virtualization technology may not be used to circumvent other licensing terms or restrictions. Non-human devices that use the Software without interaction are counted as Users. Each device that runs the Software must be properly licensed to use the Software with one of the license types described herein. Examples of non-human devices include, but are not limited to, virtual PCs, build servers, unattended PCs for batch jobs, or similar.

2.5 **Usage Verification.**

At RStudio's written request, and no more than once every twelve (12) months (or more frequently if a previous violation has taken place), You will certify to RStudio that You are in compliance with these License Terms.

2.6 Restrictions.

Your use of the Software is limited by the usage restrictions as are set forth herein. RStudio and its suppliers reserve any and all rights, implied or otherwise, which are not expressly granted to You hereunder, and retain all rights, title and interest in and to the Software. Except as otherwise expressly permitted herein, You shall not and shall not permit any third party to: (a) copy (except for a reasonable number of backup and archival copies as permitted herein), modify, adapt, transfer, distribute, resell, rent, lease, sublicense or loan the Software or create or prepare derivative works based upon the Software or any part thereof, (b) use the Software in a service bureau, or application service provider environment, or in any commercial time share arrangement or otherwise use or make available the Software or any party of the Software for the benefit of any third party, or make the Software or any part of the Software publicly available for download or use via an internet website, (c) combine all or any part of the Software with other software or use all or part the Software to create a new product or application; provided, that, for the purposes of clarity, Your Authorized Users may use the Software to create Customer Applications, (d) distribute any software or device incorporating all or part of the Software, (e) use the Software except on Your own internal computer networks, (f) otherwise use the Software on any computer that You do not own or control, (g) use the Software in contravention to any applicable laws or government regulations, or (h) decompile, disassemble or otherwise reverse engineer the Software. If 2.7(h) is prohibited by applicable law, You shall provide RStudio with a detailed prior written notice of any such intention to reverse engineer the Software and shall provide RStudio with a right of first refusal to perform such work at rates equal to those proposed by a recognized third-party software services provider for such work. You shall take all reasonable precautions to prevent unauthorized or improper use or disclosure of the Software. RStudio and other trademarks contained in the Software are trademarks or registered trademarks of RStudio Software Inc. in the United States and/or other countries. You may not remove or alter any trademark, trade names, product names, logo, copyright, or other proprietary notices, legends, symbols or labels in the Software. You may not export the Software into any country prohibited by the United States Export Administration Act and the regulations thereunder. You acknowledge that the export of any Software is subject to export or import control and You agree that any Software or the direct or indirect product thereof will not be imported or exported (or re-exported from a country of installation) directly or indirectly, unless You obtain all necessary licenses from the U.S. Department of Commerce or other applicable agency or governmental body as required under applicable law. You shall comply with the export laws and regulations of the United States and other applicable jurisdictions in using the Software. Without limiting the foregoing, (i) You represent that You are not named on any U.S. government list of persons or entities prohibited from receiving exports, and (ii) You shall not permit Users to access or use the Software in violation of any U.S. export embargo, prohibition, or restriction. You acknowledge and agree that the Software is prohibited for export or re-export to Cuba, North Korea, Iran, Libya, Syria and Sudan or to any person or entity on the U.S. Department of Commerce Denied Persons List or on the U.S. Department of Treasury's lists of Specially Designated Nationals, Specially Designated Narcotics Traffickers or Specially Designated Terrorists, as such is changed from time to time.

2.7 Third Party Applications for the RStudio Software.

The Software is intended for use with "R", the open source programming language and software environment, and, as such, interoperates with certain open source components as part of its basic functionality. If You use the Software with applications developed by a third party or to access data, content or resources provided by a third party, You agree that RStudio is not responsible for those applications, data, content, or resources. You understand that all data, content or resources which You may access through such third party applications are the sole responsibility of the person from which they

originated and that RStudio is not liable for any loss or damage that You may experience as a result of the use or access of any of those third party applications, data, content, or resources. You further acknowledge that the data, content, and resources presented to You and Your Users through such a third party application may be protected by intellectual property rights which are owned by the providers (or by other persons or companies on their behalf) and not RStudio. Your use of those resources may require rights beyond those granted by these License Terms and You acknowledge that any use of third party applications, data, content, or resources may be subject to separate terms between You and the relevant third party.

2.8 **Open Source Software.**

You acknowledge that certain third party software incorporated in the Software requires that RStudio provide copyright notices and/or additional terms and conditions to You, which copyright notices and additional terms and conditions may be accessed by You at https://www.rstudio.com/about/opensourcelicenses/ are made a part of, and are incorporated by reference into these License Terms. Use, reproduction, and distribution of those components of the Software that are licensed under an open source software license are governed solely by the terms of that open source software license and not these License Terms.

3. Support Services

During a Support Services Period, RStudio will provide You with Support Services, including Updates, all in accordance with RStudio's standardized Product Support Program as it exists from time to time as set forth at http://www.rstudio.com/about/supportagreement/. Support Services are provided to Your designated representatives. RStudio may use technical information provided by You relating to the Software as part of the Support Services, including for product support and development. If RStudio provides support for earlier versions of the Software, such support will be treated, billed, and paid for, as professional services. RStudio makes no representation or warranty that all bugs will be fixed or all Software will be updated. In addition, as part of the Support Services, RStudio may make available bug lists, planned feature lists, and other supplemental materials. RStudio makes no representations or warranties of any kind for these materials.

4. **Fees and Payments**

You shall pay RStudio, or its Reseller, as the case may be, the fees, charges and other amounts specified by RStudio or its Reseller.

5. **Confidentiality**

5.1 **Confidential Information.** During the term of the Prime Contract, each party will regard any information provided to it by the other party and designated in writing as proprietary or confidential to be confidential ("Confidential Information"). Confidential Information shall also include information which, to a reasonable person familiar with the disclosing party's business and the industry in which it operates, is of a confidential or proprietary nature. A party will not disclose the other party's Confidential Information to any third party without the prior written consent of the other party, nor make use of any of the other party's Confidential Information except in its performance under these License Terms. Each party accepts responsibility for the actions of its agents or employees and shall protect the other party's Confidential Information in the same manner as it protects its own valuable confidential information, but in no event shall less than reasonable care be used. The parties expressly agree that the Software and the terms and

pricing of these License Terms are the Confidential Information of RStudio. A receiving party shall promptly notify the disclosing party upon becoming aware of a breach or threatened breach hereunder, and shall cooperate with any reasonable request of the disclosing party in enforcing its rights.

5.2 **Exclusions.** Information will not be deemed Confidential Information hereunder if such information: (i) is known prior to receipt from the disclosing party, without any obligation of confidentiality; (ii) becomes known to the receiving party from a source other than one having an obligation of confidentiality, directly or indirectly, to the disclosing party; (iii) becomes publicly known or otherwise publicly available, except through a breach of these License Terms; or (iv) is independently developed by the receiving party without use of or reference to the disclosing party's Confidential Information. The receiving party may disclose Confidential Information pursuant to the requirements of applicable law (including without limitation applicable state or federal regulations which may require You to make disclosure pursuant to and as limited by such regulations, such as freedom of information regulations), legal process or government regulation, provided that it gives the disclosing party reasonable prior written notice to permit the disclosing party to contest such disclosure, and such disclosure is otherwise limited to the required disclosure.

5.3 **Specific Performance**. If the receiving party discloses or uses (or threatens to disclose or use) any Confidential Information in breach of this Section 5, the disclosing party shall have the right, in addition to any other remedies available to it, to seek injunctive relief to enjoin such acts, without the posting of a bond or other security, it being specifically acknowledged by the parties that any other available remedies are inadequate.

6. **Ownership; Feedback**

6.1 Except as expressly provided in these License Terms, RStudio and its suppliers retain all right, title and interest, including all copyright and intellectual property rights, in and to, the Software, including without limitation all enhancements, improvements, bug fixes, updates, upgrades, modifications and derivative works thereof, as an independent work and as an underlying work serving as a basis for any improvements, modifications, derivative works, and applications You may develop, and all copies thereof. All rights not specifically granted in these License Terms, including Federal and international copyrights, are reserved by RStudio and its suppliers. RStudio agrees that it obtains no right, title or interest from You and Your users (or Your licensors) under these License Terms in or to any Customer Applications You use with the Professional Server Products. If the Software was acquired outside the United States, then You agree and assent to the adherence to all applicable international treaties regarding copyright and intellectual property rights which shall also apply. In addition, You agree that any local laws to the benefit and protection of RStudio's ownership of, and interest in, its intellectual property and rights of recovery for damages thereto will also apply.

6.2 You and You Users may, from time to time, make known to RStudio suggestions, enhancement requests, techniques, know-how, comments, feedback or other input to RStudio with respect to the Software (collectively, "Suggestions"). Unless otherwise agreed to in writing by the parties with respect to any Suggestion, RStudio shall have a royalty-free, worldwide, irrevocable, perpetual license to use, disclose, reproduce, license, distribute and exploit any Suggestion without restriction or obligation of any kind, on account of confidential information, intellectual property rights or otherwise, and may, in its sole discretion, incorporate into its services any service, product, technology, enhancement, documentation or other development ("Improvement") incorporating or derived from any Suggestion.

7. **Limited Warranty**

7.1 RStudio warrants that (a) during the term of Your License, the Software will perform in conformity with its Documentation; and (b) any Support Services will be provided with reasonable skill and care conforming to generally accepted software industry standards. Your exclusive remedy for RStudio's breach of the foregoing warranties is that RStudio will, at its option and at no additional charge to You, (a) provide remedial services necessary to enable the Software or Support Services to conform to the warranty, or (b) replace any defective Software or media. RStudio's warranty obligations will only extend (i) to material errors that can be demonstrated to exist in an unmodified version of the Software except where the modifications were carried out by RStudio or in accordance with its written specifications and subject to its written approval and (ii) in respect of alleged breaches for which RStudio has received written notice within the Warranty Period, if applicable. You will provide RStudio with a reasonable opportunity to remedy any breach and reasonable assistance in remedying any defects.

7.2 RStudio represents and warrants, as of the date of delivery of the Software to You, that RStudio has used commercially available virus scanning software to scan the Software for known viruses and RStudio has removed from the Software any known viruses identified by such scans.

7.3 EXCEPT AS SET FORTH IN THIS SECTION 7, THE SOFTWARE IS PROVIDED "AS IS" AND RSTUDIO AND ITS SUPPLIERS DISCLAIM ALL OTHER WARRANTIES AND REPRESENTATIONS, WHETHER EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING WITHOUT LIMTATION EXPRESSLY DISCLAIMING THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT AND TITLE. RSTUDIO DOES NOT REPRESENT OR WARRANT THAT THE SOFTWARE IS ERROR FREE OR THAT ALL ERRORS CAN BE CORRECTED. THE SOFTWARE IS NOT DESIGNED, INTENDED OR LICENSED FOR USE IN HAZARDOUS ENVIRONMENTS REQUIRING FAIL-SAFE CONTROLS, INCLUDING WITHOUT LIMITATION, THE DESIGN, CONSTRUCTION, MAINTENANCE, OR OPERATION OF NUCLEAR FACILITIES, AIRCRAFT NAVIGATION OR COMMUNICATION SYSTEMS, AIR TRAFFIC CONTROL, AND LIFE SUPPORT OR WEAPONS SYSTEMS. RSTUDIO SPECIFICALLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR SUCH PURPOSES. No oral or written information or advice given by RStudio, its Resellers, dealers, distributors, agents, representatives, or employees shall create any warranty or in any way increase any warranty provided herein.

7.4 If applicable law requires any warranties other than the foregoing, all such warranties are limited in duration to ninety (90) days from the date of delivery. Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to You. The warranty provided herein gives You specific legal rights and You may also have other legal rights that vary from jurisdiction to jurisdiction. The limitations or exclusions of warranties, remedies, or liability contained in these License Terms shall apply to You only to the extent such limitations or exclusions are permitted under the laws of the jurisdiction where You are located.

8. **Indemnity**

8.1 RStudio agrees to defend (at RStudio's expense) You and Your respective officers, directors and employees from and against any and all third party claims asserted against You by a third party ("Third Party Claims") alleging infringement by the Software of the third party's intellectual property rights arising under United States law or the laws of a country party to the Berne Convention and RStudio shall indemnify and hold You harmless from all damages finally awarded by a court of competent jurisdiction or pursuant to binding arbitration or agreed to by RStudio in settlement with respect to such Third Party

Claims. Notwithstanding the foregoing, RStudio shall have no obligation with respect to Third Party Claims or demands arising from (i) an allegation that does not state with specificity that the Software is the basis of the Third Party Claims; (ii) the use or combination of the Software or any part thereof with software, hardware, or other materials not developed by RStudio if the Software or use thereof would not infringe without such combination, (iii) modification of the Software by a party other than RStudio or its authorized contractors, if the use of unmodified Software would not constitute infringement, (iv) Your products or applications, including without limitation Your Customer Applications, other than Third Party Claims related to the Software for which RStudio is obligated to indemnify You under this Section 8.1, (v) Your use of the Software not in accordance with these License Terms or the Documentation, (vi) an allegation of infringement or misappropriation deriving from "R", packages developed for "R", or other open source software, or (vii) an allegation made against You prior to the execution of these License Terms. This Section 8.1 states RStudio's sole liability and Your exclusive remedy for claims of infringement or misappropriation of third party intellectual property rights.

8.2 Intentionally Omitted.

8.3 RStudio's obligations under this Section 8 are conditioned on You (i) providing RStudio with written notice promptly upon learning of any claim for which it seeks indemnification (provided, that any failure to provide prompt notice shall not relieve RStudio of its obligations except to the extent RStudio was prejudiced by such failure); (ii) providing RStudio sole control over the defense and settlement of the claim, provided RStudio may not settle the claim in a manner adverse to You or which would impose liability on You without Your prior written consent (which will not be unreasonably withheld or delayed); and (iii) providing RStudio with assistance in the defense and settlement of the claim at RStudio's expense. You may (at Your own cost) engage Your own counsel to participate in the defense and settlement of the claim.

9. **LIMITATION OF LIABILITY**

TO THE MAXIMUM EXTENT PERMITTED BY LAW, NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY OR ANY THIRD PARTY FOR ANY INDIRECT, SPECIAL, INCIDENTAL, EXEMPLARY, PUNITIVE, COVER OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR THE INABILITY TO USE EQUIPMENT, SOFTWARE OR ACCESS DATA, LOSS OF BUSINESS, LOSS OF PROFITS, LOSS OF USE, LOSS OR CORRUPTION OF DATA, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, BUSINESS INTERRUPTION OR THE LIKE), ARISING OUT OF THESE LICENSE TERMS OR THE USE OF, OR INABILITY TO USE, THE SOFTWARE AND BASED ON ANY THEORY OF LIABILITY INCLUDING BREACH OF CONTRACT, BREACH OF WARRANTY, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY OR OTHERWISE, EVEN IF SUCH PARTY OR ITS REPRESENTATIVES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND EVEN IF A REMEDY SET FORTH HEREIN IS FOUND TO HAVE FAILED OF ITS ESSENTIAL PURPOSE. TO THE MAXIMUM EXTENT PERMITTED BY LAW, EACH PARTY'S TOTAL LIABILITY TO THE OTHER PARTY FOR ACTUAL DAMAGES FOR ANY CAUSE WHATSOEVER WILL BE LIMITED TO THE AMOUNT PAID BY YOU OR RESELLER, IF ORDERED THROUGH A RESELLER, FOR THE SOFTWARE THAT CAUSED SUCH DAMAGE IN THE TWELVE MONTHS IMMEDIATELY PRIOR TO THE DATE THE CAUSE OF ACTION AROSE. The foregoing limitations shall not apply, and a party's liability shall be unlimited for, damages arising from (i) such party's gross negligence, willful misconduct, and fraud, (ii) breach of the obligations of confidentiality set forth in Section 5, or (iii) breach of the license granted pursuant to Section 2.1 or the restrictions set forth in Section 2.6. Further, the foregoing limitations shall not apply to a party's indemnification obligations in Section 8 for which a party's total aggregate liability shall be limited to (x) three times (3x) the fees You

paid by You (whether directly or through a Reseller) to RStudio under such Orders in the twelve months immediately preceding the date the claim arose or (y) $100,000, whichever is greater. The Disclaimer set forth in Section 8.2 and Limitation of Liability set forth above are fundamental elements of the basis of the agreement between RStudio and You. RStudio and its suppliers would not be able to provide the Software on an economic basis without such limitations.

10. **Term and Termination**

10.1 The term of these License Terms shall be for the term of the Prime Contract, subject to earlier termination as provided herein.

10.2 These License Terms or an individual license granted hereunder may be terminated by either party if the other party becomes insolvent, resolves to file bankruptcy, or if a petition in bankruptcy is filed against the other party and such petition is not discharged within sixty (60) days of such filing, (b) by mutual written agreement of the parties, or (c) by either party if the other party materially breaches these License Terms and fails to cure such breach to such party's reasonable satisfaction within thirty (30) days following receipt of written notice thereof.

10.3 Upon any termination of these License Terms or a license granted hereunder, all applicable licenses are revoked and You shall immediately cease use of the applicable Software and certify in writing to RStudio within thirty (30) days after termination that such Software and all copies thereof have been destroyed, purged, or returned to RStudio. Termination of these License Terms or a license granted hereunder shall not limit either party from pursuing any remedies available to it, including injunctive relief, or relieve You of Your obligation to pay all fees that have accrued, have been paid, or have become payable hereunder. All provisions of these License Terms which by their nature are intended to survive the termination of these License Terms (including, without limitation, the provisions of Sections 1, 5, 6, 7.2, 8, 9, 10.3 and 11) shall survive such termination.

11. **General**

11.1 These License Terms shall be governed by the internal laws of the State of West Virginia, U.S.A., without giving effect to principles of conflict of laws. You hereby consent to the exclusive jurisdiction and venue of the state courts sitting in the State of West Virginia or the federal courts in the State of West Virginia to resolve any disputes arising under these License Terms. In each case these License Terms shall be construed and enforced without regard to the United Nations Convention on the International Sale of Goods.

11.2 Neither party may assign or allow the assumption of any of its rights or obligations hereunder, whether by operation of law or otherwise, without the prior written consent of the other party (not to be unreasonably withheld). Notwithstanding the foregoing, either party may assign these License Terms in its entirety without consent of the other party, to its Affiliate or in connection with a merger, acquisition, corporate reorganization, or sale of all or substantially all of its assets, stock or business to which these License Terms relates to the third party purchasing such stock or assets who agrees in writing to be bound hereby. Subject to the foregoing, these License Terms shall bind and inure to the benefit of the parties, their respective successors and permitted assigns.

11.3 These License Terms, all documents referenced herein contains the complete agreement between the parties with respect to the subject matter hereof, and supersedes all prior or contemporaneous agreements or understandings, whether oral or written. These License Terms may not be amended except in a writing executed by both parties. You agree that any varying or additional terms contained in

any purchase order or other written notification or document issued by You in relation to the Software licensed hereunder shall be of no effect and all such terms or conditions shall be null and void. You acknowledge and agree that Your agreement hereunder is not contingent upon the delivery of any future functionality or features not specified herein or dependent upon any oral or written, public or private comments made by RStudio or any Reseller, dealer or agent with respect to future functionality or features for the Software. The failure or delay of RStudio to exercise any of its rights under these License Terms or upon any breach of these License Terms shall not be deemed a waiver of those rights or of the breach. No Reseller or RStudio dealer or agent is authorized to make any amendment to these License Terms. The parties may amend these License Terms by mutual written agreement executed by duly authorized representatives of the parties. The parties agree that there are no third party beneficiaries to these License Terms. Neither party shall be deemed to be an employee, agent or other legal representative of the other party for any purpose whatsoever, or have the right or authority to assume or otherwise create any obligation or responsibility, express or implied on behalf of the other party or to bind the other party in any manner whatsoever.

11.4 If any provision of these License Terms shall be held by a court of competent jurisdiction to be contrary to law that provision will be enforced to the maximum extent permissible and the remaining provisions of these License Terms will remain in full force and effect. A waiver by either party of any term or condition of these License Terms or any breach thereof, in any one instance, shall not waive such term or condition or any subsequent breach thereof.

Exhibit 5
IBM Software License Terms

The following license terms shall apply to DHHR's use of the IBM Software described in Section 5 of this Attachment K as part of the Other Commercial Software Used by DHHR (the "Software") for the term of the Contract resulting from this RFP:

1. The Software is owned by IBM Corporation ("IBM"), is copyrighted and licensed, not sold, where IBM retains title to its copyrights, patents and any other intellectual property rights in the Software.

2. Optum hereby grants DHHR a nontransferable, nonexclusive right to use, solely for the term of the Prime Contract and solely in conjunction with DHHR's use of Optum's Services and the use of Other Commercial Software supplied by Optum, for DHHR's internal business purposes, provided that DHHR may not modify the Software or any proprietary notices or trademarks contained in the Software without IBM's prior written consent.

3. DHHR further agrees to abide by the then current terms of the International Program License Agreement from IBM ("IPLA") in connection with DHHR's use of the Software, where such IPLA may be found at **https://www-03.ibm.com/software/sla/sladb.nsf/pdf/ipla/$file/ipla_en.pdf**.

Exhibit 6
Oracle Software License Terms

The following license terms shall apply to DHHR's use of the Oracle Software described in Section 5 of this Attachment K as part of the Other Commercial Software Used by DHHR (the "Software") for the term of the Contract resulting from this RFP:

1. License Grant: Optum hereby grants DHHR a non-exclusive, non-transferable right and license to use and access the Software solely during the term of the Prime Contract and solely in conjunction with DHHR's use of Other Commercial Software supplied by Optum as part of the Services under the Prime Contract. Such use is limited to use where the Software is hosted and operates on the Azure Infrastructure provisioned and operated by Optum and solely for DHHR's internal business purposes. DHHR may not use the Software at DHHR's own site.

2. Term and Termination: DHHR's license to use the Software shall terminate upon the expiration or termination of the Prime Contract, whichever occurs earlier.

Instructions for completion of Appendix 1 - Detailed Specifications

1. The Vendor should self-score each requirement listed in the ***Capability Assessment*** column of *Tab 3 - Specification & Responses*, using only the values that appear in the drop-down list.
2. ***Capability Assessment*** values are outlined below:
    1. "Will Meet": Vendor agrees to specification.
    2. Will Not Meet": Vendor declines to meet the specification.
3. All specifications should contain one of the values identified above. Any specification without a ***Capability Assessment*** response value will be considered to be "Will Not Meet."
4. In addition, the Vendor should provide the ***Attachment***, ***Section***, and ***Page Number(s)*** where their detailed narrative response for each specification resides, providing the DHHR with a crosswalk, ensuring that each specification is addressed. Be advised that the column has been pre-populated with the location that the DHHR anticipates the requirement response to reside, however it is up to the Vendor to update that column accordingly should the Vendor respond to a requirement in a different location.
5. ***Hierarchy Level***: The hierarchy level column defines relationships between parent and child specifications. DHHR refers to parent specifications as specifications that rely on the content of a subset of related specifications (children) to fully define the scope of the requirement. DHHR refers to child specifications as specifications that rely on additional context provided by a higher level specification (parent) to fully define the scope of the specification. A hierarchy value of 1 denotes the highest level specification. Any greater hierarchy value denotes a child specification. For example a hierarchy level 2 is a child to the nearest prior hierarchy level 1. As another example, a hierarchy level 3 is a child to the nearest prior hierarchy level 2 specification, which is in turn a child to the nearest prior hierarchy level 1 specification. See the diagram below for an illustration of a hierarchy relationship:

    -Hierarchy Level 1 Specification

        -Hierarchy Level 2 Specification

WEST VIRGINIA Department of Health & Human Resources

Vendor Responses to Detailed Specifications

Tabs in this spreadsheet	
1. Worksheet Instructions	Instructions for completion of the RFP.
2. Worksheet Information	This tab including the information about the contents of this workbook.
3. Specification & Responses	Contains the specifications and all related data.
4. Code Values	Contains coded values for use in the specifications tab, and explanations as appropriate.

Columns on the specification Responses Tab			
Section	**Column**	**Description**	**Corresponding Code Values**
Specifications	*Req ID #*	The unique ID of the specification.	N/A
	Specification Text	The text of the specification.	N/A
Subject Matter Area	*N/A*	How the specification is categorized in the RFP	N/A
Vendor Response Area	*Capability Assessment*	Vendor is expected to indicate their compliance with the specification using one of the supplied values.	Vendor Response - Capability Assessment
	Attachment	Vendor is expected to provide a reference to the appropriate where more detailed information about the specification can be found. The expected template is identified for Vendor convenience.	Attachments
	Section and Page Reference	Vendor is expected to provide a reference to the appropriate Section and Page Number within the specified Attachment where more detailed information about the specification can be found.	N/A

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
CM001	1	The solution should have the ability to collect and maintain data necessary to support budget neutrality reporting requirements as specified by the Centers for Medicare & Medicaid Services (CMS) and the Department.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	131
CM002	1	The solution should have the ability to generate fee-for-service (FFS) claims reporting for services furnished outside of a capitation agreement including, but not limited to: services carved out of the managed care program.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1. Care Management	131
CM003	1	The solution should have the ability to capture and support analytics of data on member service utilization including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	131
CM004	2	Behavioral health services	Care Management	Will Meet	Attachment G - Business Specifications Approach	1. Care Management	131
CM005	2	Medical services	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	132
CM006	2	Dental services	Care Management	Will Meet	Attachment G - Business Specifications Approach	1. Care Management	132
CM007	2	Pharmacy services	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	132
CM008	2	Others as defined by the Department	Care Management	Will Meet	Attachment G - Business Specifications Approach	1. Care Management	132
CM009	1	The solution should have the ability to track the number of members assigned to providers.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	132
CM010	1	The solution should have the ability to capture provider data including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1. Care Management	132
CM011	2	Provider identification (ID) number	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	132
CM012	2	Provider type	Care Management	Will Meet	Attachment G - Business Specifications Approach	1. Care Management	132
CM013	2	Provider specialty	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	132
CM014	2	Provider affiliation	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	132
CM015	2	Provider physical address	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	132
CM016	2	Provider mailing address	Care Management	Will Meet	Attachment G - Business Specifications Approach	1. Care Management	132
CM017	2	Others as defined by the Department	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	132

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
CM018	1	The solution should have the ability to track a provider's capacity to accept additional members.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM019	1	The solution should have the ability to identify providers based on provider type and/or specialty.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM020	1	The solution should have the ability to capture and support analytics of data for cost reporting and financial monitoring of waiver programs.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM021	1	The solution should have the ability to capture current and historic utilization trends including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM022	2	Inpatient specialty care	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM023	2	Inpatient substance use disorder (SUD) services	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM024	2	Others as defined by the Department	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM025	1	The solution should have the ability to develop metrics to support the evaluation and monitoring of substance use disorder (SUD) including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM026	2	Using claims and/or encounter data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM027	2	Using prescription data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM028	2	Using Prescription Drug Monitoring Program data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	133
CM029	2	Using public health registries	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	134
CM030	2	Using public health syndromic surveillance data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	134
CM031	2	Using vital statistics data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	134
CM032	2	Using enrollment data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	134
CM033	2	Using data from West Virginia Health Information Network (WVHIN)	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	134
CM034	2	Using Emergency Department Information Exchange (EDIE), and/or event notification data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	134

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
CM035	2	Using other data as defined by the Department	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	134
CM036	1	The solution should have the ability to generate reports on capitation payment by eligibility group and rate code.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	134
CM037	1	The solution should have the ability to capture information on contracted Managed Care Organizations (MCOs) including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	134
CM038	2	Geographic areas served	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM039	2	Capitation rates	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM040	1	The solution should have the ability to produce managed care program reports including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM041	2	Category of service	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM042	2	Category of eligibility	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM043	2	Provider type and/or specialty	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM044	2	Other parameters as defined by the Department	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM045	1	The solution should have the ability to process encounter data to detect overutilization and underutilization of services by managed care members.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM046	1	The solution should have the ability to collect and sort encounter data for use in setting capitation rates	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM047	1	The solution should have the ability to identify fee-for-service (FFS) claims submitted for members covered by managed care.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	135
CM048	1	The solution should have the ability to use claims and encounter data to identify persons with special health care needs, as specified by the Department.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136
CM049	1	The solution should have the ability to access and report on encounter data including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136
CM050	2	Monitor appropriateness of care	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136
CM051	2	Determine shared member financial responsibility that includes true out-of-pocket costs	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
CM052	2	Profile Managed Care Organizations (MCOs) and compare utilization statistics	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136
CM053	2	Other purposes as defined by the Department	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136
CM054	1	The solution should have the ability to support analytics of fee-for-service (FFS) claims statistics and encounter data including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136
CM055	2	Timeliness of care	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136
CM056	2	Quality of care	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136
CM057	2	Patient outcomes	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	136
CM058	1	The solution should have the ability to receive population health data from various external entities including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM059	2	Public health surveillance data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM060	2	Census data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM061	2	Vital statistics data	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM062	2	Others as defined by the Department	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM063	1	The solution should have the ability to interface with data sources necessary to support analytics and report on social determinants of health.	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM064	1	The solution should have the ability to support analytics of population health data to develop health improvement communication materials including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM065	2	Campaigns to enroll new members in existing programs	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM066	2	New programs and services	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM067	2	Updated benefits/reference information	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	137
CM068	2	Others as defined by the Department during Design, Development and Implementation (DDI)	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	138

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
CM069	1	The solution should have the ability to capture each Managed Care Organizations' (MCOs') provider data including, but not limited to:	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	138
CM070	2	Provider identification (ID) number	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	138
CM071	2	Provider type	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	138
CM072	2	Provider specialty	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	138
CM073	2	Provider affiliation	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	138
CM074	2	Provider physical address	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	138
CM075	2	Provider mailing address	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	138
CM076	2	Others as defined by the Department	Care Management	Will Meet	Attachment G - Business Specifications Approach	1: Care Management	138
DD001	1	The solution should have the analytic ability to report benchmark dimensions and commonalities.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	235
DD002	1	The solution should provide documentation of all data objects and codes, abbreviations, and descriptions in logical and physical data models in a searchable, approved, current online data dictionary.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	235
DD003	1	The solution should provide documentation of all data objects and codes, abbreviations, and descriptions in logical and physical data models in a searchable, approved, current online entity relationship (ER) diagram.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	235
DD004	1	The solution's data modeling tool should have current and historical versions available upon request.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	236
DD005	1	The solution should have the ability to detect, maintain, and analyze both predetermined and authorized solution user - created relationships among claims, persons, providers, and other entities.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	236
DD006	1	The Vendor should maintain synchronization of claims and encounter record dates with provider and member record dates (a claim or encounter is always linked to the provider status and member status segments associated with the date of service).	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	236
DD007	1	The solution should have the ability to produce multi-dimensional data objects including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD008	2	Data cubes	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
DD009	2	Customized tables	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD010	2	Data marts	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD011	2	Materialized views	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD012	2	And to develop, implement, and maintain both derived and aggregated data including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD013	3	Total claim costs	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD014	3	Unique member counts	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD015	3	Units of service	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD016	3	Benchmarks	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD017	1	The solution should maintain current and historical data.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD018	1	The solution should maintain current and historical claim data including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD019	2	Date of payment	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD020	2	Date of adjudication	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD021	2	Prescription date	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	237
DD022	2	Date of service	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	238
DD023	1	The solution should develop and maintain standard table joins that allow linkages among member records, provider records, claim/encounter records, and all other solution data to enhance querying, reporting, and analytics.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	238
DD024	1	The solution should have the ability to receive and accept interfaces and exchange data with government agencies, data vendors, industry groups, providers, insurers, and health information exchanges as designated by the Department.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	238
DD025	1	The solution should have the ability to assign a single unique identifier to all members, providers, and claims received from all data sources.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	238

Specifications				Vendor Response			
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DD026	1	The solution should have the ability to automatically identify duplicative members, providers, and/or claims- related information received from a single or multiple source(s), and merge that information into a single record.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	238
DD027	1	The solution should have the ability to schedule interfaces and data exchanges.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	238
DD028	1	The solution's interface processing should not adversely affect other activities, such as regular operations, other jobs, reporting, queries, analytics, research, and extract, transform, load (ETL).	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	239
DD029	1	The solution should have the ability to validate that all files meet the extract, transform, load (ETL) edit standards prior to entering the production database, such that any files or content failing to meet standards are returned to the originator and flagged for review.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	239
DD030	1	The solution interface design and Interface Control Document should be extensible, scalable, and adjustable to work with business and technology changes.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	239
DD031	1	The solution should have the ability to incorporate new data sources and changes to existing data sources as part of routine maintenance.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	239
DD032	1	The solution should have the ability to ensure the data conversion and extract, transform, load (ETL) processes adhere to the standards and guidelines of the Health Insurance Portability and Accountability Act (HIPAA), Centers for Medicare & Medicaid Services (CMS), Medicaid Information Technology Architecture (MITA), National Institute of Standards and Technology (NIST), and other government and industry standards guiding secure, consistent, accurate, and efficient data exchange.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	240
DD033	1	The Vendor should coordinate with the Department and maintain a schedule that documents when data is expected, when it is received, when it is processed by extract, transform, load (ETL), and when it is loaded to the data warehouse tables and database objects.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	240
DD034	1	The Vendor should ensure the solution components that are web based have cross-browser compatibility over the life of the contract and support software utilization in the current version and two (2) prior versions at a minimum for the following browsers including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	240
DD035	2	Microsoft	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	240

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DD036	2	Apple products	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	240
DD037	2	Google Chrome	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	240
DD038	2	Firefox	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	240
DD039	2	Internet Explorer (IE 7 or greater)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	240
~~DD040~~		~~Deleted~~					
DD041	1	The solution should support non-linear "undo" ability to ensure any action performed at any time in a single work session within a given component can be reverted to a former state.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	241
DD042	1	The solution should have the ability to support Windows-based or similar shortcuts including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	241
DD043	2	Ctrl+c for copy	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	241
DD044	2	Ctrl+v for paste	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	241
DD045	2	Ctrl+z for undo	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	241
DD046	1	The solution should provide electronic audit trails for every interface file input when received, when processed by extract, transform, load (ETL), and when loaded to table(s)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	241
DD047	1	The solution should have the ability to revert to a previous version when an implemented change causes an undesirable solution impact, within a timeframe determined by the Department.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	241
DD048	1	The solution should have the ability to associate clinical data with the claim record	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	241
DD049	1	The solution should have the ability to view activities during integration such as job schedules, job times and load processing.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	241
DD050	1	The solution should have the ability to store and analyze semi-structured and unstructured data, such as case notes.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	242
DD051	1	The solution should have the ability to analyze and report on data integration audit logs.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	242
DD052	1	The solution should define a hierarchy to resolve conflicts between the same data elements from different sources.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	242
DD053	1	The solution should have the ability to accept data in a variety of formats from different sources and standardize.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	243
DD054	1	The solution should have the ability to identify, correct, and report data quality/defect issues	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	243

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DD055	1	The solution's development environment should have the capacity to support all components of the solution.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	243
DD056	1	The solution's environments should have the ability to handle scheduled or on-demand requests to refresh data with a referentially intact subset of data.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	244
DD057	1	The solution should have a production environment that is used to deploy the solution.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	244
DD058	1	The solution's production environment should have the ability to support all components of the solution.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	244
DD059	1	The solution should contain a data access component that serves as a central access point for authorized solution users.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	244
DD060	1	The solution's data model component should be maintained in an open systems modeling tool that can generate reports.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	244
DD061	1	The solution's data model component should be maintained in an open systems modeling tool that can enforce object-naming standards.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	245
DD062	1	The solution's data model component should be maintained in an open systems modeling tool that can import and export metadata.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	245
DD063	1	The solution's data model component should be maintained in an open systems modeling tool that can provide version control of logical and physical data models.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	245
DD064	1	The solution's data model component should be maintained in an open systems modeling tool that can provide forward-engineering abilities	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	245
DD065	1	The solution's data model component should be maintained in an open systems modeling tool that can provide reverse-engineering abilities.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	246
DD066	1	The solution's data model component should be maintained in an open systems modeling tool that can support volumetric calculation abilities.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1. Data Sources, Delivery, & Display	246
DD067	1	The solution's data model component should be maintained in an open systems modeling tool that can support comparison abilities for different logical and physical data model versions.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	246
DD068	1	The solution's data delivery component should maintain the following information related to the authorized solution user: acknowledgement of data extraction.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	246
DD069	1	The solution's data delivery component should maintain the following information related to the authorized solution user:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD070	2	Receipt of data	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247

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DD071	2	Data elements requested	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD072	2	Selection criteria for extraction	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD073	2	Method of export	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD074	2	Others as defined by the Department	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD075	1	The solution's data delivery component should have the ability to extract the data in all industry-accepted formats including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD076	2	Excel	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD077	2	Joint Photographic Experts Group (JPEG)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD078	2	Others as requested by the Department	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD079	2	Word	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD080	2	Hyper Text Markup Language (HTML)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1. Data Sources, Delivery, & Display	247
DD081	2	Software and Services (SAS)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD082	2	Graphical User Interface (GUI)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	247
DD083	2	Extensible Markup Language (XML)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD084	2	Application Programming Interface (API)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD085	2	Text	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD086	2	Comma-Separated Value (CSV)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD087	2	Delimited text	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD088	2	Portable Document Format (PDF)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD089	1	The solution's data delivery component should maintain details of requests, including time stamp, duration, and volume of data extracted.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD090	1	The solution should have the ability to schedule data extraction based on time or occurrence of events.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248

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DD091	1	The solution should have the ability to delete/clean up extracted data sets.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD092	1	The solution should have the ability to extract proportionally large volumes of data based on specified selection criteria.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD093	1	The solution should have the ability to monitor and control data extraction requests.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	248
DD094	1	The solution should have the ability to send automatic alerts to authorized solution users when errors occur during the data delivery process and other user interaction processes.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	249
DD095	1	The solution should have the ability to notify the authorized solution user as to the details of the extract, including estimated duration and size.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	249
DD096	1	The solution should have the ability to generate reports with summary and detail information on data delivery requests, executions, and other authorized solution user interaction processes.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	249
DD097	1	The solution should have the ability for authorized solution users to request, develop, and/or schedule dataset creation and monitor the status.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	250
DD098	1	The solution should have the ability to perform structural transformations against source data including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	250
DD099	2	Summarization	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	250
DD100	2	Partitioning	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	250
DD101	2	Normalization	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	250
DD102	2	Consolidation	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	250
DD103	2	Filtering	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	250
DD104	2	Derivation	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	250
DD105	2	Others as defined by the Department	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	250
DD106	1	The solution should have the ability to provide a development environment in which the logic for slowly-changing entity relationships can be quickly and accurately written.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	251
DD107	1	The solution should have the ability for authorized solution users to quickly and accurately write query logic for complex entity relationships.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	251

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DD108	1	The solution should have the ability to create interactive reports and maps.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	251
DD109	1	The solution should have the ability to produce maps with both cartographic representation and global satellite imagery.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	251
DD110	1	The solution should have the ability to allow authorized solution users to create and/or select the type of map image they prefer to view, print or edit.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	251
DD111	1	The solution should have the ability to permit an authorized solution user to select and navigate information to be displayed on maps in a pop-up to highlight information about a location, including charts and graphs, photos, and other information as requested by the Department.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	251
DD112	1	The solution should have the ability to resize and print all reports and maps within the solution.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	252
DD113	1	The solution should have the ability to create and display legends, documentation, and data on reports and maps.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	252
DD114	1	The solution should support a query editor that provides editing, execution, and debugging functionality.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	252
DD115	1	The solution should have the ability to access external plan data via the Application Programming Interface (API).	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	252
DD116	1	The solution should provide a rules engine that utilizes technical	Data Sources, Delivery, &	Will Meet	Attachment H - Technical	1: Data Sources,	252
DD117	1	The solution should have the ability to add, test, and implement new source-to-target mappings at the Department's request.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	252
DD118	1	The solution should have an extract, transform, load (ETL) data acquisition component with a development environment that has the ability to build and deploy new source/target combinations within the solution.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	253
DD119	1	The solution should have an extract, transform, load (ETL) data acquisition component that supports automated impact analyses against the ETL code base.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	253
DD120	1	The solution should have an extract, transform, load (ETL) data acquisition component that supports the versioning of ETL modules.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	253
DD121	1	The solution should have an extract, transform, load (ETL) data acquisition component that has the ability to create ETL functions using pre-packaged transformation objects.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	253
DD122	1	The solution should have an extract, transform, load (ETL) data acquisition component that has the ability to design, develop, and implement reusable ETL processes for transformation, exception/error handling, audit and control, and balancing	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	253

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DD123	1	The solution should have an extract, transform, load (ETL) data acquisition component that has the ability to enter documentation from system level down to individual code line and includes a run-time debugger.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	253
DD124	1	The solution should have an extract, transform, load (ETL) data acquisition component that has the ability to provide automatic and manual caching control to balance quick response with scalability.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	254
DD125	1	The solution's extract, transform, load (ETL) data acquisition component should populate summarized, aggregated structures based on detail data changes in the timeframe of the detail refresh window using both set-based and procedural constructs.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	254
DD126	1	The solution's extract, transform, load (ETL) data acquisition component should have the ability to acquire, transform, and load proportionally large data volumes to obtain the current volume of source data.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	254
DD127	1	The solution's extract, transform, load (ETL) tool should have a data acquisition component that performs a timely data refresh from sources outlined in the Enterprise Data Solution (EDS) Request for Proposal (RFP) for each development phase indicated.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	254
DD128	1	The solution's extract, transform, load (ETL) data acquisition component should populate internal analytic applications that are specifically required or proposed as part of the solution.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	254
DD129	1	The solution's extract, transform, load (ETL) data acquisition component should have the ability for multiple authorized solution users to work on single or multiple tasks, reports, and/or projects concurrently.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	254
DD130	1	The solution's extract, transform, load (ETL) data acquisition component should support ease in promotion of code from one environment to another.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	254
DD131	1	The solution's extract, transform, load (ETL) data acquisition component should have the ability for high-speed movement of data between source and target systems located on the network.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	254
DD132	1	The solution's extract, transform, load (ETL) tool should have extraction functionalities that can unload, select, or filter data from source systems including the application of remote filters against the source.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	255

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DD133	1	The solution's extract, transform, load (ETL) tool should have extraction functionalities that can deliver transparent, cross-platform access to remote data sources.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	255
DD134	1	The solution's extract, transform, load (ETL) tool should have extraction functionalities that can efficiently process varying arrays and repeating groups.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	255
DD135	1	The solution's extract, transform, load (ETL) tool should have extraction functionalities that can receive data from a variety of source systems and formats of source data.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	255
DD136	1	The solution's extract, transform, load (ETL) tool should have data checks and edit procedures in response to data quality issues identified in source systems and internal analytic applications.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	255
DD137	1	The solution's extract, transform, load (ETL) tool should have the ability to perform both set-based and procedural checks and edit procedures based on the Department's data quality objectives.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	255
DD138	1	The solution's extract, transform, load (ETL) tool should have the ability to perform all demographic field check and edit procedures.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	255
DD139	1	The solution's extract, transform, load (ETL) tool should have the ability to apply complex data mapping and domain value conversions against source data.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	255
DD140	1	The solution's extract, transform, load (ETL) tool should have the ability to perform an initial one-time data load from sources outlined in the Enterprise Data Solution (EDS) Request for Proposal (RFP) for each indicated development environment.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	256
DD141	1	The solution's extract, transform, load (ETL) tool should have the ability to geocode subject area addresses.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	256
DD142	1	The solution's extract, transform, load (ETL) tool should have the ability for high-speed movement of data between source and target systems on the network.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	256
DD143	1	The solution's extract, transform, load (ETL) tool should have the ability to efficiently load proportionally large data volumes.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	256
DD144	1	The solution's extract, transform, load (ETL) tool should have the ability to schedule and monitor transformation jobs/sessions to populate internal analytic applications.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	256
DD145	1	The solution's extract, transform, load (ETL) tool should have the ability to create complex job streams with interdependencies.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	257

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DD146	1	The solution's extract, transform, load (ETL) tool should have the ability to re-route error or exception records to a separate target for future interrogation.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	257
DD147	1	The solution's extract, transform, load (ETL) tool should have the ability to correct data and subsequently re-submit corrected data to the ETL process.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	257
DD148	1	The solution's extract, transform, load (ETL) tool should have the ability to reports results of an ETL session, including automatic notification of normal processing and failures, descriptions, and counts of exceptions.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	257
DD149	1	The solution's extract, transform, load (ETL) tool should have the ability to generate and manage notifications and alerts, including how the alerts are registered, logged, and to whom they were posted.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	257
DD150	1	The solution's extract, transform, load (ETL) tool should have the ability to tune ETL process steps.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	257
DD151	1	The solution's extract, transform, load (ETL) tool should have the ability to load-balance ETL jobs or process steps.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	258
DD152	1	The solution's extract, transform, load (ETL) tool should have the ability to recover from the abnormal ending of a job and restart or rollback.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	258
DD153	1	The solution's extract, transform, load (ETL) tool should have the ability to create complex job schedules with both serial and parallel streams.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	258
DD154	1	The solution's extract, transform, load (ETL) tool should have the ability to initiate jobs based on time or occurrence of events.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	258
DD155	1	The solution's extract, transform, load (ETL) tool should have the ability to create log files that are detailed enough to debug issues.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	258
DD156	1	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including source definitions.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	259
DD157	1	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including target definitions.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	259
DD158	1	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including database mapping(s).	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	259

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DD159	1	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including data lineage.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	259
DD160	1	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including transformations.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	259
DD161	1	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including data dependency analysis.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	259
DD162	1	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including process flows.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	259
DD163	1	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, including operational statistics.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	259
DD164	1	The solution's extract, transform, load (ETL) tool should have the ability to generate, store, search, report, import, export, and document ETL-generated metadata, and store metadata in an open format.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	259
DD165	1	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that versions the stored metadata content.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	260
DD166	1	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that includes the technical infrastructure to capture, store, and report the various forms of metadata.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	260
DD167	1	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that accommodates a sufficient, as defined by the Department, volume of metadata content for the proposed solution.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	260
DD168	1	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that accommodates, at a minimum:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	260
DD169	2	75 active users	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	260
DD170	2	40 concurrent users	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	260

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DD171	2	Allows for 10% growth per year spread across all user levels	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	260
DD172	1	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that has the ability to capture and synchronize metadata	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	260
DD173	1	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that provides wild card (SQL-LIKE), keyword- and attribute-based search abilities to locate the required metadata.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	260
DD174	1	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that provides a central interface to manage and maintain the MME.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	261
DD175	1	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that has an extraction capability to allow metadata to be exported and distributed in open and non-proprietary formats by authorized solution users.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	261
DD176	1	The solution should have an extract, transform, load (ETL) mobility management entity (MME) data content component that provides a relational database repository for persistent storage of metadata content (if centralized) or for registry (if decentralized approach).	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	261
DD177	1	The solution should provide a Database Management System and support physical database administration.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	261
DD178	1	The solution should provide a Database Management System that maintains all databases used in the proposed solution including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	261
DD179	2	Installation	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	261
DD180	2	Configuration	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	261
DD181	2	Updates	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	261
DD182	2	Patch fixes	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	261
DD183	1	The solution should provide a Database Management System that provides day-to-day database operational support.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	262
DD184	1	The solution should provide a Database Management System that identifies and resolves problems/issues	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	262
DD185	1	The solution should provide a Database Management System that can define and activate new environments.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	262

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DD186	1	The solution should provide a Database Management System that monitors and synchronizes such that all environments operate efficiently, and data quality and validation is ensured with additional indexing as needed.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	262
DD187	1	The solution should provide a Database Management System that runs on open systems platforms.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD188	1	The solution should provide a Database Management System that has all related cache entries on a single cache partition.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD189	1	The solution should provide a Database Management System that supports at a minimum Extensible Markup Language (XML).	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD190	1	The Vendor should assess the Department's reporting needs to inform development of reporting and dashboarding abilities in support of the Department	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD191	1	The solution should have the ability to export data and query results directly from the solution into the user-specified format including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD192	2	Excel	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD193	2	Word	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD194	2	Hyper Text Markup Language (HTML)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD195	2	Access	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD196	2	Software and Services (SAS)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD197	2	Graphical User Interface (GUI)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD198	2	Extensible Markup Language (XML)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD199	2	Application Programming Interface (API)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD200	2	Text	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD201	2	Comma-Separated Value (CSV)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD202	2	Delimited text	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD203	2	Portable Document Format (PDF)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD204	2	Joint Photographic Experts Group (JPEG)	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263

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DD205	2	Others as requested by the Department	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	263
DD206	1	The solution should have the ability to provide dashboards specific to Service Level Agreements (SLA) and Key Performance Indicators (KPI).	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	264
DD207	1	The solution should provide an interactive, summary-level dashboard without the need for authorized solution user programming or extensive training.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	264
DD208	1	The solution's data access component should support the needs of authorized solution users to execute basic canned queries and canned reports via a dashboard.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	264
DD209	1	The solution should provide a suite of high-level and/or general-level reports designed to provide indicators and general trends within and across the member population.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	264
DD210	1	The solution should provide a mature, intuitive, easy-to-use, web-based Commercial-Off-The-Shelf (COTS) tool that addresses the data access requirements in this Request for Proposal (RFP) with an integrated comprehensive tool suite.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	265
DD211	1	The solution's data access component should have the ability to perform impact analyses due to proposed changes of the solution.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	265
DD212	1	The solution's data access component should have the ability for authorized solution users to create their own static or dynamic joins between tables.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	266
DD213	1	The solution's data access component should have the ability for query editing to support authorized solution users with query development and modification.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	266
DD214	1	The solution's data access component should have the ability to sort, filter, and find data in query results.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	266
DD215	1	The solution's data access component should have the ability to show table structure, relationships, and built-in expression-builders, or a natural-language interface in which the authorized solution user can enter a query and the system converts it into Structured Query Language (SQL) or other code.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	267
DD216	1	The solution's data access component should have the ability to support, at a minimum, complex "and/or/not" logic.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	267
DD217	1	The solution's data access component should have the ability to calculate unduplicated counts of, at a minimum, members, providers, claims, claim lines, and services.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268

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DD218	2	Members	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD219	2	Providers	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD220	2	Claim lines	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD221	2	Services	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD222	2	Others as defined by the Department	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD223	1	The solution's data access component should have the ability to support parameter-based queries.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD224	1	The solution's data access component should have the ability to support including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD225	2	Inner joins	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD226	2	Outer joins	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1. Data Sources, Delivery, & Display	268
DD227	2	Unions	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD228	2	Claims	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD229	2	Intersections	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD230	2	Minus operations of multiple datasets	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD231	2	Others as defined by the Department	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD232	1	The solution's data access component should have the ability to support correlated sub-queries	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD233	1	The solution's data access component should have the ability to support current American National Standards Institute's (ANSI) Structured Query Language (SQL) standards.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	268
DD234	1	The solution's data access component should have the ability to apply, at a minimum, weighting and ranking in analyses.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1. Data Sources, Delivery, & Display	268
DD235	1	The solution's data access component should have the ability for linear programming.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	269
DD236	1	The solution's data access component should provide predictive modeling capabilities.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	269
DD237	1	The solution's data access component should support random number assignment of members and providers.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	269

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DD238	1	The solution's data access component should provide multi-dimensional reporting abilities that would include slice and dice, drill down, drill up, drill across, and pivot result.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	269
DD239	1	The solution's data access component should have the ability to provide pre-defined logical drill paths such that the authorized solution user can move up or down in levels without defining a new query.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	269
DD240	1	The solution's data access component should have the ability to summarize grouping functions.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	269
DD241	1	The solution's data access component should support stratified random sampling with appropriate statistics and generate random sampling with associated statistics.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	269
DD242	1	The solution's data access component should have the ability to build custom formulas and derivations.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	270
DD243	1	The solution's data access component should support what-if and reverse analyses.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	270
DD244	1	The solution's data access component should have the ability to aggregate or summarize rules based on pre-defined, static reports and data filters.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	270
DD245	1	The solution's data access component should support descriptive text and have the ability to search for elements, derivations, tags, and reports.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	270
DD246	1	The solution's data access component should have the ability to index authorized solution user-created tables in user libraries to drive queries.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	270
DD247	1	The solution's data access component should have the ability to generate alerts when business thresholds have been exceeded.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	270
DD248	1	The solution's data access component should have the ability to terminate runaway queries.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	270
DD249	1	The solution's data access component should support the needs of authorized solution users to perform simple queries based on point-and-click technology.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	271
DD250	1	The solution's data access component should have the ability to version reports and queries.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	271
DD251	1	The solution's data access component should provide flexible filtering or "sub-setting" to specify the selection criteria for reports.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	271
DD252	1	The solution's data access component should provide modifiable ready-to-use subsets.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	271
DD253	1	The solution's data access component should have the ability to create, save, modify, publish, and share queries.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	271

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DD254	1	The solution's data access component should provide pre-defined templates upon request.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	271
DD255	1	The solution's data access component should have the ability to provide eligibility indicators at a summary level.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	271
DD256	1	The solution's data access component should have the ability to provide financial indicators at a summary level.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	271
DD257	1	The solution's data access component should have the ability to provide utilization indicators at a summary level.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	271
DD258	1	The solution's data access component should have the ability to provide other indicators, as defined by the Department, at a summary level.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	272
DD259	1	The solution's data access component should have the ability to provide access-to-care indicators at a summary level.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	272
DD260	1	The solution's data access component should have the ability to notify the authorized solution user when user-defined criteria have been met.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	273
DD261	1	The solution's data access component should have the ability to provide an alert system to notify authorized solution users of emerging trends, detection of excessive costs, and achievement of goals.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	273
DD262	1	The solution's data access component should have the ability to apply selections as flexible objects that can be inserted, moved, or removed through drag-and-drop technology to make cross-tabular and multi-tabular reports.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	273
DD263	1	The solution's data access component should have the ability to allow flexible pivoting of rows to columns and columns to rows.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	273
DD264	1	The solution's data access component should have the ability to import metadata from the database catalog and other external sources.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	273
DD265	1	The solution's data access component should have the ability to export metadata to other external sources.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	273
DD266	1	The solution's data access component should have the ability to provide ease of maintenance of metadata updates.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	273
DD267	1	The solution's data access component should provide authorized solution users with the ability to create and/or import user-defined values or other driver data to inform querying and reporting.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	274
DD268	1	The solution's data access component should have the ability to import and save user-defined data.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	274
DD269	1	The solution's data access component should have the ability to access data from external sources in native form.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	274

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DD270	1	The solution's data access component should have the ability to use data that has been stored in user-defined tables with a parameter that is used to join to the data warehouse to drive queries.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	274
DD271	1	The solution's data access component should have the ability to import a list of user-defined values into the user library.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	274
DD272	1	The solution's data access component should have the ability to import external data into tables.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	274
DD273	1	The solution's data access component should have an online/contextual help function.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	275
DD274	1	The solution's data access component should have the ability to add, delete, or develop measures from any report available without needing knowledge of Structured Query Language (SQL) or other complex query language.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	275
DD275	1	The solution's data access component should provide a menu of view-ready and print-ready summary-level reports, charts, maps, and graphs.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	275
DD276	1	The solution's data access component should have an application menu that utilizes point-and-click functionality.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	275
DD277	1	The solution's data access component should have the ability to graph reports and make the reports presentation-ready without the need to export the data to third-party software.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD278	1	The solution's data access component should have the ability for online maintenance of reports including adding, deleting, editing, copying, and pasting actions.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD279	1	The solution's data access component should support data visualization techniques.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD280	1	The solution's data access component should have the ability to schedule Department-specified reports for execution and route the reports automatically through email.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD281	1	The solution should have the ability to build, name, and save multiple user-defined searches and sort parameters to allow authorized solution users to repeat the same search/sort queries.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD282	1	The solution should have the ability to capture and incorporate into queries and reports any date-sensitive occurrences that may impact analytics and reporting, including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD283	2	Rate changes	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD284	2	Policy changes	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276

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DD285	2	Health plan changes	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD286	2	Legislation	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD287	2	Others as determined by the Department	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	276
DD288	1	The solution should have the ability to capture and incorporate into queries and reports any data field in the Medicaid Management Information System (MMIS).	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	277
DD289	1	The solution should have the ability to link external data to any structured data field in the solution to serve as a search/sort query parameter.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	277
DD290	1	The solution should maintain a library of reports organized in a manner that facilitates the use of and secure access to these reports.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	277
DD291	1	The Vendor solution should provide the functionality to view the results of wild card searches including, but not limited to, both single character and string wild card search for all searchable fields.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	277
DD292	1	The solution should have the ability to utilize all data, queries, analyses, and reporting in the solution to produce geospatial analytics and maps.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	277
DD293	1	The solution should have the ability to perform statistical analyses on geospatial data.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	277
DD294	1	The solution should have the ability to identify, query, analyze, and report on episodes of care or bundled services.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	277
DD295	1	The solution should have the ability to develop and calculate fee-for-service (FFS) rates, actuarially-sound managed care rates, bundled fee-for-service and managed care rates, and others as determined by the Department.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	277
DD296	1	The solution should have the ability to calculate travel distance including, but not limited to, member's home and relevant provider locations.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	278
DD297	1	The solution should have the ability for authorized solution users to create and view all reports and maps on mobile devices in accordance with Department, State, and federal security and privacy policies and procedures.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	278
DD298	1	The solution should have the ability to display to authorized solution users the number of pages to be printed before the authorized solution user proceeds with printing a report.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	278
DD299	1	The solution should allow authorized solution users the ability to add comments to reports.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	278

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DD300	1	The solution should have the ability to capture and report on solution response time.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	278
DD301	1	The solution should have the ability for authorized solution users to view, print, export, and analyze audit data through an integrated component of the solution.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	278
DD302	1	The solution should provide the ability for all solution forms, documents, data files, data, and manuals to be accessible online, indexed, and content-searchable with version control.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	279
DD303	1	The Vendor should employ a Relational Database Management System (RDBMS) or Object Oriented Database Management System (OODMS) that is easily configurable and role-based.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	279
DD304	1	The solution should have the ability to support analytic techniques including, but not limited to:	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	279
DD305	2	Predictive modeling	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	279
DD306	2	Machine learning	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	279
DD307	2	Data mining	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	279
DD308	2	Others as defined by the Department	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	279
DD309	1	The solution should have a single point of entry for all authorized solution users.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	279
DD310	1	The Vendor should provide a data access component that works efficiently in the enterprise data solution (EDS) environment.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	279
DD311	1	The solution should have the ability to distribute reports and/or information from the enterprise data solution (EDS) portal chosen by the Department.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	280
DD312	1	The solution should provide the ability to allow authorized solution users to view, manipulate, download, and save reports locally.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	280
DD313	1	The solution should have the ability to maintain report inventories for authorized solution users.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	280
DD314	1	The solution should track Medicare deductibles and coinsurance paid by Medicaid for all crossover claims, by Member and program type, and by other data elements as defined by the Department.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	280
DD315	1	The solution should provide a tool for managing data sharing requests from both internal State agencies and external entities.	Data Sources, Delivery, & Display	Will Meet	Attachment H - Technical Specifications Approach	1: Data Sources, Delivery, & Display	280

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DQ001	1	The Vendor should provide Data Quality Management for all data coming into the solution.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ002	1	The solution should have the ability to provide data conversion as needed to feed the solution.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ003	1	The Vendor should develop a process to rectify source data quality issues via data checks and edit procedures as data is extracted from the solution data sources with limited impact on the data source vendors	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ004	1	The Vendor should ensure data integrity is checked throughout the term of the contract as an integral part of operations to ensure quality data.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ005	1	The Vendor should develop processes to maintain data integrity, consistency, accuracy, and timeliness of the solution data.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ006	1	The solution should have the ability to provide an audit trail on all changes to tables including, but not limited to:	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ007	2	Business and system dates	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ008	2	Begin date	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ009	2	Effective date	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ010	2	End date	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ011	2	User-ID and assignment/enforcement in all tables that can be modified	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	288
DQ012	1	The solution should provide a tool that supplies data profiling abilities that obtain comprehensive and accurate information on the content, quality, and structure of data in the source systems as an ongoing process.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ013	1	The solution should provide a tool that continually monitors the data quality within the solution and internal analytic applications.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ014	1	The solution should support audit and control processes that identify, report, and summarize errors in the data.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ015	1	The solution should provide a tool that includes error/exception handling processes that identify/isolate the errant data.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ016	1	The Vendor should maintain a process to identify and track all errors and discrepancies found in the solution pursuant to Service Level Agreements (SLAs).	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289

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DQ017	1	The Vendor should maintain a process to notify the Department of errors and discrepancies found in the solution pursuant to Service Level Agreements (SLAs).	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ018	1	The Vendor should provide recommendations for proposed resolution/fixes for identified issues within a timeline approved by the Department and pursuant to Service Level Agreements (SLAs).	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ019	1	The solution should support data integrity through system controls for software program changes and promotion to production.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ020	1	The solution should include an integrated automated logging and tracking component for all inquiries between authorized solution users and Vendor staff that includes, but is not limited to:	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ021	2	The date and time of inquiry	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ022	2	The form of inquiry (phone, email, and instant messaging)	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ023	2	The ability to create a summary level nature of the inquiry	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2. Data Quality	289
DQ024	2	The ability to document details of the nature of the inquiry	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ025	2	The authorized solution user	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ026	2	The Vendor staff member	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	289
DQ027	2	The response details	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ028	2	The date and time of the response	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ029	2	The applicable notes on the resolution of the inquiry	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ030	2	Other details as determined by the Department	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ031	2	Reporting on all inquiries as requested by the Department	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ032	1	The solution should provide the ability to automate meta-tagging including, but not limited to:	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ033	2	Reports	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ034	2	Queries	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290

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DQ035	2	Maps based on their contents	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ036	2	Other elements as requested by the Department	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ037	1	The solution should have the ability to de-identify and re-identify data within the solution as needed	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	290
DQ038	1	The solution should provide the ability to review and report on data quality metrics including, but not limited to:	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	291
DQ039	2	Data completeness	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	291
DQ040	2	Data consistency	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	291
DQ041	2	Data validity	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	291
DQ042	2	Data conformity	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	291
DQ043	2	Data accuracy	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	291
DQ044	2	Data integrity	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	292
DQ045	2	Others as defined by the Department	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	292
DQ046	1	The solution should support production of X12N 270 transactions to query other payer eligibility files and ability to process responses.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	292
DQ047	1	The solution should comply with relevant standards including, but not limited to National Information Exchange Model (NIEM), CAQH-CORE, Health Level Seven International (HL7), X12, EDI, and HIPAA for data interchange.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	292
DQ048	1	The Vendor should support each phase of Council for Affordable Quality Healthcare - Committee on Operating Rules for Information Exchange (CAQH-CORE) rules.	Data Quality	Will Meet	Attachment H - Technical Specifications Approach	2: Data Quality	292
DR001	1	The Vendor should deliver a Disaster Recovery and Business Continuity Plan to the Department for review and approval 30 business days prior to the start of solution operations.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	519
DR002	1	The Vendor should develop, maintain, and submit to the Department within the Disaster Recovery and Business Continuity Plan all proposed offsite procedures, locations, and protocols.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	519

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DR003	1	The Vendor should perform a review of the Disaster Recovery and Business Continuity Plan annually and submit to the Department for review and approval within 30 calendar days of the review.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	520
DR004	1	The Vendor should submit substantive change(s) to the Disaster Recovery and Business Continuity Plan to the Department for review and approval within 30 calendar days of the proposed change(s).	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	520
DR005	1	The Vendor should provide the Department with up-to-date copies of the Disaster Recovery and Business Continuity Plan in electronic and printed versions annually and within 30 calendar days of when substantive changes are made.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	520
DR006	1	The Vendor should ensure a copy of the most recent Disaster Recovery and Business Continuity Plan is available in hard copy and electronic form at an offsite location approved by the Department.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	520
DR007	1	The Vendor should ensure that each aspect of the Disaster Recovery and Business Continuity Plan is detailed as to both Vendor and Department responsibilities.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	520
DR008	1	The Vendor's Disaster Recovery and Business Continuity Plan should account for all input, processing, and output procedure functions.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	520
DR009	1	The Vendor should ensure that each aspect of the Disaster Recovery and Business Continuity Plan satisfies all requirements for federal and State certification.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	520
DR010	1	The Disaster Recovery and Business Continuity Plan should include a hierarchy that is approved by the Department of critical services, resources, and infrastructure to determine the order that services are restored.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	520
DR011	1	The Vendor should create and maintain a Disaster Recovery and Business Continuity Plan that details procedures to address events including, but not limited to:	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	521
DR012	2	Terrorist acts	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	521

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DR013	2	Power disruptions or power failures	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	521
DR014	2	Solution failures	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	521
DR015	2	Significant compromise/degradation of data warehouse performance	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	521
DR016	2	Processing shutdowns	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	521
DR017	2	Labor strife or strike	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	521
DR018	2	Natural disasters	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	522
DR019	2	Production site becoming unsafe or inoperable	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	522
DR020	2	Hacking attempts or viruses	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	522
DR021	2	Others as defined by the Department	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	522
DR022	1	The Vendor should ensure the Disaster Recovery Platform contains the same security safeguards to protect solution data during emergency operations as during normal business operations.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	522

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DR023	1	The Vendor should ensure access to all solution components, systems, and data, 24 hours a day, 7 days a week, 365 days a year, except for Department-approved scheduled and emergency outages.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	522
DR024	1	Pursuant to the Service Level Agreements (SLAs), the Vendor should define, maintain, and adhere to a problem identification, notification, and resolution process that includes but is not limited to the identification of the problem, its impact, root cause analysis, and resolution.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	522
DR025	1	The Vendor should recover the solution and make it fully operational in the event of a disaster to the primary physical hosting site within 24 hours of the time of the solution failure.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	524
DR026	1	The Vendor should include in its system design the capability to switch operations from the production environment to the failover environment in the event technical problems incapacitate the production server.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	524
DR027	1	The Vendor should maintain an operational backup power supply at both primary and alternate sites capable of supporting vital functions indefinitely or until primary power is fully restored.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2. Solution Back-up, Disaster Recovery, and Failover	524
DR028	1	The Vendor should provide backup network connectivity at both the primary and alternate sites with the capacity to support the system and its components.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	524
DR029	1	The Vendor should identify and maintain a computer site at a separate location to be designated as the disaster recovery site to be approved by the Department.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2. Solution Back-up, Disaster Recovery, and Failover	524
DR030	1	The Vendor should have a remote backup facility at least 50 miles away from the primary data center.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	524
DR031	1	The Vendor should perform an annual review of the disaster recovery backup site, procedures for all offsite storage, and validation of security procedures and submit a report of the backup site review within 30 calendar days of the review.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	525
DR032	1	The Department reserves the right to inspect the disaster recovery backup site and procedures at any time with 24-hours' notification.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	525

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DR033	1	The Vendor should execute a test of the Disaster Recovery and Business Continuity Plan as part of user acceptance testing (UAT).	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	525
DR034	1	The Vendor should exercise/test the Disaster Recovery and Business Continuity Plan annually and provide the disaster recovery testing reports to the Department within 30 calendar days of the exercise/test.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	525
DR035	1	The Vendor should have the ability to restore all tables utilizing the onsite backup copies to their state prior to the erroneous load within timeframes pursuant to Service Level Agreements (SLAs). This includes, but is not limited to, source system- or application-dependent errors that result in invalid data being loaded into the data warehouse.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	525
DR036	1	The Vendor should develop and maintain an automated scheduling system for running the backup processes for all environments.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	525
DR037	1	The Vendor should backup all data files that reside in multiple environments ensuring that any data set can be restored from the backup medium within ten (10) hours of notification that a restoration is needed.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	525
DR038	1	The Vendor should backup all databases and other data on a weekly basis and store the backups at a secure offsite location.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	526
DR039	1	The solution should have the ability to backup all data sets, files, transaction logs, documentation, program code, authorized solution user libraries of reports and queries, operating system (OS) software, databases and other items as determined by the Department.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	526
DR040	1	The Vendor should ensure that backups performed by authorized solution users of reports and queries are stored on a single shared drive in the solution.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	526
DR041	1	The Vendor should store all backup copies in a Department-approved backup storage location for a minimum of five (5) years.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	526
DR042	1	The Vendor should develop and maintain a process to verify that backup and restoration processes were run appropriately, and all scheduled backup procedures have run successfully.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	526

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
DR043	1	The Vendor should maintain an onsite copy of backups at the onsite facility for a period of seven (7) calendar days.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	526
DR044	1	The Vendor should store weekly backups at the remote backup facility.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	526
DR045	1	The Vendor should be responsible for the cost associated with the backup storage process and location.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2. Solution Back-up, Disaster Recovery, and Failover	527
DR046	1	The Vendor should provide to the Department, within 30 calendar days of request, a Turnover and Closeout Management Plan detailing the approach to transitioning systems and operational responsibilities to a successor.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	527
DR047	1	The Vendor should transfer all backups to the successor vendor within the agreed-upon timeframe defined in the Department-approved Turnover and Closeout Management Plan.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2. Solution Back-up, Disaster Recovery, and Failover	527
DR048	1	The solution should create and retain an audit trail of all interface activity in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	527
DR049	1	The Vendor should ensure that data is retained, archived, protected from destruction, and accessible in accordance with Department, State and federal security and privacy laws, policies, and/or procedures.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	527
DR050	1	The Vendor should ensure that hard copy documents are retained, stored, imaged, archived, and destroyed in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Solution Back-up, Disaster Recovery, and Failover	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	2: Solution Back-up, Disaster Recovery, and Failover	527
FM001	1	The solution should have the ability to obtain various listings of the procedure, diagnosis, and preferred drug list (PDL) files.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2. Financial Management	144
FM002	1	The solution should have the ability to support analytics and reporting on claims processing errors including, but not limited to:	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	144
FM003	2	Frequency	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	144
FM004	2	Extent and type of provider	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	144

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FM005	2	Others as defined by the Department	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	144
FM006	1	The solution should have the ability to report based on line and subline categories to all claim line details that correspond to the CMS-21 report.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	145
FM007	1	The solution should have the ability to report based on line and subline categories to all claim line details that correspond to the CMS-64 report.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	145
FM008	1	The solution should have the ability to provide data for budgeting, forecasting, and rate analysis for all benefits, benefit types, and eligibility groups.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	145
FM009	1	The solution should have the ability to support data modeling and to import to and export from other software solutions.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	145
FM010	1	The solution should be populated with data as defined by the Department during Design, Development, and Implementation (DDI).	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	146
FM011	1	The solution should have ability to provide data for rate-setting analysis applicable to all provider types and member benefits.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	146
FM012	1	The solution should have the ability to add attachments at the detail level of the budget using software applications defined by the Department including, but not limited to:	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	146
FM013	2	Microsoft Word	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	146
FM014	2	Microsoft Excel	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	146
FM015	2	Portable Document Format (PDF)	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	146
FM016	2	Others as defined by the Department	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	147
FM017	1	The solution should have the ability to provide ad hoc reporting that allows authorized solution user flexibility definitions, and it should have the ability to encompass the Department's reporting needs.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	147
FM018	1	The solution should have the ability to report across all Medicaid and Social Service payments regardless of service delivery method and financing mechanism including, but not limited to, the use of a master data management system or function.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	147
FM019	1	The solution should provide the ability to organize reports based on member enrollment and eligibility criteria.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	147
FM020	1	The solution should have the ability to capture data necessary to perform actuarial services and analyses.	Financial Management	Will Meet	Attachment G - Business Specifications Approach	2: Financial Management	147

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IN001	1	The solution should have the ability to retain a historical record of all reports created within the solution including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	299
IN002	2	Report parameters	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	299
IN003	2	Date created	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	299
IN004	2	The authorized solution user who created the report	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	299
IN005	2	All fields included in the report	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	299
IN006	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	299
IN007	1	The solution should ensure an authorized solution user experience that meets the response time goal for system latency of no more that 20 milliseconds for each workload interaction.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	299
IN008	1	The solution should provide tools for maintaining and managing changes and modifications made by authorized solution users to queries and reports.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	299
IN009	1	The solution should have the ability for hardware, operating system, database management software, and other infrastructure software to meet capacity needs including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	299
IN010	2	Bandwidth	Hardware and Infrastructure	Will Meet	Attachment H - Technical	3: Hardware and	300
IN011	2	Central processing unit processors and speed	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	300
IN012	2	Cache size	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	300
IN013	2	Data storage capacity	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	300
IN014	2	Retrieval speed	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	300
IN015	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	300
IN016	1	The solution should have workflow processes that prevent shifting architecture inefficiencies to manual processes performed by authorized solution users.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	300
IN017	1	The Vendor should specify to the Department the hardware, software, main operating system (OS), and configurations necessary to run the solution on client devices.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	300

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
IN018	1	The solution should have business intelligence that adheres to the Department's business policies and procedures.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	301
IN019	1	The solution should be a service-oriented architecture (SOA) with reusable and interoperable components and services.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	301
IN020	1	The Vendor should document a holistic, multi-dimensional data view that includes pictures, diagrams, and flow charts of the architecture requirements at the summary and detail levels for suppliers, the Department, and authorized solution users to visualize the solution components and interactions.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	301
IN021	1	The Vendor should ensure the architecture and application design used for the solution allow for the volume, frequency, and variety of data to be scalable, added and updated as needed by the Department.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	302
IN022	1	The Vendor should provide independent application environments to support unit testing (software), system integration testing (SIT), user acceptance testing (UAT), and production deployment.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	302
IN023	1	The Vendor should provide independent application environments (sandboxes) to support authorized solution user testing and training.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	303
IN024	1	The Vendor should provide a solution that minimizes the cost of changes to business rules and business processes.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	303
IN025	1	The Vendor should provide a solution that integrates new technology in a way that minimizes any negative impact to the solution and authorized solution users	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	303
IN026	1	The Vendor should provide modular components and processes that lengthen the solution's life span when components are updated and/or replaced.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	303
IN027	1	The Vendor should provide a solution that is adaptable and extensible to accommodate business and technology changes.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	303
IN028	1	The Vendor should provide the ability for authorized solution users to run multiple sessions concurrently and have multiple views in the same environments, application, and solution components.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	303
IN029	1	The solution should have the ability to provide a toolbar with common toolbar utilities including but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	304
IN030	2	Highlight	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	304
IN031	2	Copy	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	304

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IN032	2	Paste	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	304
IN033	2	Zoom	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3. Hardware and Infrastructure	304
IN034	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	304
IN035	1	The solution should have the ability for screens to be maximized, minimized, scrolled, and zoomed without the use of external, non-solution-based hot keys, and without hindering standard Windows capabilities.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	304
IN036	1	The solution should provide the ability for efficient sharing, management, and stewardship of data and data queries.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	304
IN037	1	The Vendor should work collaboratively with the Department to minimize existing barriers internally and externally, as defined by the Department.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	304
IN038	1	The solution should provide components that deliver asynchronous communication, timely alerts and notifications, and support social and collaborative environments.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	304
IN039	1	The Vendor should document the solution's architecture and clearly define service end points where system abilities can be added and/or modified without requiring changes to the end points of the solution.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3. Hardware and Infrastructure	305
IN040	1	The Vendor should develop a solution where all components return the same results when the same parameters are used.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	305
IN041	1	The solution should provide the ability for concurrent use of the solution by other applications, components, and/or software.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3. Hardware and Infrastructure	305
IN042	1	The Vendor should provide a solution that is compliant with the Medicaid Information Technology Architecture (MITA) Standards and Conditions.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	305
IN043	1	The Vendor should provide a solution that maintains a holistic view of emerging technologies, and aligns with Department, State, and federal health information technology (HIT) standards.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	308
IN044	1	The Vendor should maintain data governance to enable efficient, effective, correct, and relevant decision-making regarding all aspects of data related to the solution.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	308
IN045	1	The Vendor should monitor the solution and anticipate maintenance needs and scheduling.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	308
IN046	1	The Vendor should develop a process to coordinate with the Department on batch control, balancing of input with data source vendors, scheduling extract, transform, load (ETL) processes, and data load cycles.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	309

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IN047	1	The Vendor should provide the ability for authorized solution users to reset passwords through a self-service password reset option.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	309
IN048	1	The Vendor should provide the ability for authorized solution users to self-report issues with solution components as an alternative to calling for support.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	309
IN049	1	The Vendor should define and document a process by which the Department and Vendor define new/ desired solution features and/or functionality.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	309
IN050	1	The Vendor should provide the ability to participate in an online discussion forum to share information related to the solution including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	309
IN051	2	Post inquiries	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	309
IN052	2	Respond to other participants	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	309
IN053	2	Create topical threads on problems	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	309
IN054	2	Moderate the posts and threads	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	309
IN055	2	Search posts and threads by date or relevance	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	310
IN056	2	Others as defined by the department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	310
IN057	1	The Vendor should provide a schedule for updating solution hardware and software.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	310
IN058	1	The Vendor should develop, implement, and maintain standards for software installation in coordination with the Department to streamline the installation and maintenance of software.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	310
IN059	1	The Vendor should handle scheduled or on-demand requests to refresh the data from production with a full or referentially intact subset of data within two (2) business days.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	310
IN060	1	The Vendor should monitor network availability, throughput, bandwidth, response time, and network congestion between authorized solution users and the solution.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	310
IN061	1	The Vendor should supply the Department with recommendations to develop the solution to support new industry standards, features, and/or functionality as needed.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	310
IN062	1	The Vendor should test and troubleshoot interfaces with other contractors or vendors for information exchange.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	311

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IN063	1	The Vendor should provide a data access component that works efficiently in the enterprise data solution (EDS) environment.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	311
IN064	1	The Vendor should provide a data access component that allows for integration with tools in current or future use by the Department including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	311
IN065	2	Microsoft Project	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	311
IN066	2	Microsoft Word	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	312
IN067	2	Microsoft Excel	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	312
IN068	2	Portable Document Format (PDF)	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	312
IN069	2	Microsoft Access	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	312
IN070	2	Cognos	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	312
IN071	2	Tableau	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	312
IN072	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	313
IN073	1	The Vendor should describe and document in the Security, Privacy, and Confidentiality Plan the proposed approach to hosting and operating the solution including, but not limited to, production and back-up systems in a secure environment.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	313
IN074	1	The Vendor should describe and document the operating platform including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	313
IN075	2	Hardware	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	313
IN076	2	Databases	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	313
IN077	2	System software	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	313
IN078	2	Application software	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	314
IN079	2	Telecommunications	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	314
IN080	2	Others as defined by the Department.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	314

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IN081	1	The Vendor should describe and document how the platform is shared and how the Department's data is partitioned from other customers' data.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	314
IN082	1	The Vendor should document and describe the operational support of the solution including, not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	314
IN083	2	Disaster recovery	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	314
IN084	2	Data/system back-up	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	314
IN085	2	Staffing and management of data center	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	315
IN086	2	Data loading	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	315
IN087	2	Data validation	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	315
IN088	2	Data cleansing for the proposed solution	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	315
IN089	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	315
IN090	1	The Vendor should describe its approach for installing the technical infrastructure, making any facility alterations (including upgrades), and establishing necessary telecommunications links in the Security, Privacy, and Confidentiality Plan.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	316
IN091	1	The Vendor should provide a site that fully supports all physical needs of the solution including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	316
IN092	2	Hardware	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	316
IN093	2	Electrical	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	316
IN094	2	Cabling	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	316
IN095	2	All other physical needs of the system	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	316
IN096	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	316
IN097	1	The Vendor should ensure all component hardware supporting the solution database structures contain an adequate number of parallel threads for authorized solution user needs.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	317

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IN098	1	The Vendor should ensure bandwidth between data acquisition and the solution database servers supports refreshes of the solution database with minimal disruption.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	317
IN099	1	The Vendor should ensure solution hardware and software is compatible with internet browsers including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3. Hardware and Infrastructure	317
IN100	2	Microsoft and Apple products	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	317
IN101	2	Google Chrome	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3 Hardware and Infrastructure	317
IN102	2	Firefox	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	317
IN103	2	Internet Explorer (IE 7 or greater)	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	317
IN104	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	317
IN105	1	The Vendor should ensure hardware and operating systems are certified with recent major versions (1.0, 2.0, etc.) of the solution software.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3 Hardware and Infrastructure	317
IN106	1	The Vendor should maintain compatibility with hardware and software for the term of the contract.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	317
IN107	1	The Vendor should provide the Department with an inventory of all solution hardware and software.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	317
IN108	1	The Vendor should coordinate and communicate in writing with the Department regarding the delivery, installation, repair, and maintenance of hardware updates, upgrades, and patches.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	318
IN109	1	The Vendor should coordinate and communicate in writing with the Department regarding the delivery, installation, repair, and maintenance of software updates, upgrades, and patches.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3 Hardware and Infrastructure	318
IN110	1	The Vendor should provide server and storage hardware with the proven ability to support the processor, memory, input/output subsystem bandwidth, and storage for the solution.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	318
IN111	1	The Vendor should provide server and storage hardware with the capacity to handle the average and peak demands of the authorized solution user community with no performance degradation.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	318
IN112	1	The Vendor should provide component hardware supporting the solution that has a proven record that is comparable to the Department's needs.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	319

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IN113	1	The Vendor should install, configure, enhance, and maintain all hardware and software and should provide services for the Vendor's local area network (LAN) up to the point of connection with the Department's wireless area network (WAN) and LAN network.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	319
IN114	1	The Vendor should establish agreements with telecommunications network vendors to install secure data lines to its data center.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	319
IN115	1	The Vendor should provide and maintain servers.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	319
IN116	1	The Vendor should provide and maintain applications, web pages, and secure sockets layer (SSL) devices to support hypertext transfer protocol security (HTTPS).	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	319
IN117	1	The Vendor should submit the proposed plans for all connections to the network to the Department for its review and approval prior to implementation	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	320
IN118	1	The Vendor should ensure authorized solution users are able to access the network and any necessary equipment located in the Vendor's data center from the Department's facilities.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	320
IN119	1	The Vendor should ensure that authorized solution users have the ability to access the solution environments remotely.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	320
IN120	1	The Vendor should have the ability to provide a firewall solution and proxies between its private network and the connection to the Department's network.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	320
IN121	1	The Vendor should have a firewall solution and proxies in accordance with Department, State, and federal requirements.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	320
IN122	1	The Vendor should allow Department authorized solution users access into the Vendor facilities.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	320
IN123	1	The Vendor should provide network support for the solution that handles a minimum of 75 authorized solution users.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	320
IN124	1	The Vendor should provide network support for the solution that handles 40 authorized solution users accessing the system concurrently.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	320
IN125	1	The Vendor should provide network support for the solution that handles ten percent (10%) growth per year in the total number of authorized solution users and concurrent authorized solution users.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3. Hardware and Infrastructure	321
IN126	1	The Vendor should assist in the resolution of solution-related issues.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	321

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
IN127	1	The Vendor should manage versions, acquire associated software patches and fixes, apply fixes, and test all applied fixes.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	321
IN128	1	The Vendor should assist with analysis of Department requests for new software and hardware for appropriateness to the overall solution and architecture.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	321
IN129	1	The Vendor should develop and maintain an inventory of software including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	321
IN130	2	Active versions	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	321
IN131	2	Licensing requirements	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	322
IN132	2	Interdependencies to assist with overall management of software upgrades	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	322
IN133	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	322
IN134	1	The Vendor should develop and implement standards for software installation including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	322
IN135	2	Data set names	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	322
IN136	2	Architecture names	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	322
IN137	2	Volume names to streamline installation and maintenance of software	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	322
IN138	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	322
IN139	1	The Vendor should manage scheduling of operating system upgrades to accommodate processing schedules and system availability needs of the Department.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	322
IN140	1	The Vendor should provide a plan for the physical security of the solution facilities including, but not limited to these topics:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	323
IN141	2	Designated responsible person(s)	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	324
IN142	2	Defined perimeter and protocols for secure access	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	324
IN143	2	Security of the communication network and solution components	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	324
IN144	2	Administrative controls	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	324
IN145	1	The Vendor should provide and maintain encrypted network connections that align with State, federal, and Department requirements.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	324

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
IN146	1	The solution should prioritize business intelligence data retrieval over batch extract, transform, load (ETL) processes.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	324
IN147	1	The Vendor should describe and maintain the solution's interface design in interface control documents that are readily available to authorized solution users.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	324
IN148	1	The solution should have a web-based browser interface that provides seamless integration to the full solution for authorized solution users.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	325
IN149	1	The solution network architecture, network hardware, and software should be compliant with:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	325
IN150	2	All policies and procedures issued by the West Virginia Office of Technology (WVOT)	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	325
IN151	2	National Institute of Standards and Technology (NIST) Special Publication 800-53, or the most recent NIST publication	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	326
IN152	2	Applicable requirements under the Office of the National Coordinator for Health Information Technology (ONC) certification criteria for electronic health record technology	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	326
IN153	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	326
IN154	1	The solution should have open application programming interfaces (APIs).	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	326
IN155	1	The Vendor should ensure that backups of reports and queries performed by authorized solution users are stored on a single shared drive in the solution.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	326
IN156	1	The solution should leverage existing Department systems to achieve the desired to-be environment detailed within this Request for Proposal (RFP).	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	326
IN157	1	The solution should leverage existing Department services to achieve the desired to-be environment detailed within this Request for Proposal (RFP).	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	326
IN158	1	The solution should allow for intra- and inter-state leverage and reuse.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	327
IN159	1	The solution's technical architecture should enable flexibility and adaptability to respond quickly to changing business needs or regulatory requirements.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	327

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
IN160	1	The solution's underlying technical hardware and software architecture should promote shared use across the enterprise, including, but not limited to:	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	327
IN161	2	N-Tier service-oriented architecture (SOA), or multi-tier architecture, with multiple architecture layers enabling complete separation of the data, application, and presentation tiers	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	327
IN162	2	Standards-based Interoperability technologies that include Web Service Definition Language (WSDL), Simple Object Access Protocol (SOAP), Extensible Markup Language (XMS), and Java	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	328
IN163	2	Others as defined by the Department	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	328
IN164	1	The Vendor should maintain and support data management governance, data security, and data quality to ensure all data received from the Enterprise Data Solution (EDS) Interfaces and Exchanges maintains the data's integrity throughout the Extract, Transform, Load (ETL) process.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	329
IN165	1	The Vendor should ensure the data received from the Enterprise Data Solution (EDS) Interfaces and Exchanges is consistent with the Physical Data Model and Data Dictionary	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	331
IN166	1	The Vendor should be prepared to assist the Department with discussions as they pertain to data management, data governance, and/or data sharing.	Hardware and Infrastructure	Will Meet	Attachment H - Technical Specifications Approach	3: Hardware and Infrastructure	333
OP001	1	The Vendor should ensure that its staff, as defined by the Department, are located onsite at the Vendor's local facility and readily available to the Department throughout each implementation stage.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	504
OP002	1	The Vendor should supply key staff resumes to the Department for review and approval prior to key staff beginning work under the contract.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	505
OP003	1	The Vendor should supply resumes for key staff substitutions to the Department for review and approval prior to key staff substitutions performing any work under the contract.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	505
OP004	1	The Vendor should collaborate with the Department to develop and maintain a process for authorized solution user support.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	505

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OP005	1	The Vendor should provide a help desk Monday through Friday, 8:00 a.m. to 5:00 p.m. ET.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	505
OP006	1	The Vendor should maintain and ensure contract personnel staffing levels and competencies to support software applications, data integrity, analytics, user training, and contract administration pursuant to Service Level Agreements (SLAs)	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	505
OP007	1	The Vendor should maintain adequate staff to perform analytic functions including, but not limited to:	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	506
OP008	2	Collaborate with the Department to develop and implement provider performance metrics for specific populations and Department programs	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	506
OP009	2	Evaluate credibility and efficacy of measures and baseline comparisons and recommend improvements where appropriate	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	506
OP010	2	Collaborate with the Department to develop analytics for payment reform activities including, but not limited to:	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	506
OP011	3	Provider incentive payment programs	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	506
OP012	3	Provider shared savings models	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	506
OP013	3	Others as defined by the Department	Operations	Will Meet	Attachment J - Maintenance and Operations	1: Operations	506
OP014	2	Participate in stakeholder meetings to interpret results of analyses	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	506
OP015	2	Provide industry best practice analytics on behalf of the Department including, but not limited to:	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	506

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OP016	3	Predictive modeling	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507
OP017	3	Member risk scores	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507
OP018	3	Performance monitoring and benchmarking	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507
OP019	3	Evaluating utilization variances among providers	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507
OP020	3	Creating provider profiles	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507
OP021	3	Others as defined by the Department	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507
OP022	2	Advanced reporting abilities that include both ad hoc and a standard library of reports	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507
OP023	2	Support analyses that require advanced-level statistics	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1 Operations	507
OP024	2	Others as defined by the Department and pursuant to Service Level Agreements (SLAs)	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507
OP025	1	The Vendor should maintain adequate staff to perform operational functions including, but not limited to:	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
OP026	2	Identify a primary and back-up point of contact for day-to-day operations	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	507
OP027	2	Maintain effective communications of project updates and problem resolutions	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP028	2	Maintain current documentation of operational processes and notify designated Department staff of operational issues and remediation plans within the designated timeframes pursuant to Department-defined Service Level Agreements (SLAs)	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP029	2	Ensure quality control procedures are in place and utilized and that issues are resolved when identified through quality checks	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP030	2	Adhere to project and report delivery timeframes	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP031	2	Conduct business use analyses to prepare operational reports	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP032	2	Work with the Department to automate operational reports	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP033	2	Others as defined by the Department and pursuant to Service Level Agreements (SLAs)	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP034	1	The Vendor should maintain adequate staff to perform technical functions including, but not limited to:	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP035	2	Maintain systems by researching and resolving problems	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508

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OP036	2	Maintain system and network integrity and security	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP037	2	Develop and maintain configuration and customization of the solution, solution tools, and rules engine	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP038	2	Establish, manage, and maintain the solution data exchanges	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	508
OP039	2	Maintain file specifications for solution data exchanges	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP040	2	Establish, manage, and maintain solution interfaces	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP041	2	Assure that new processes/new technology installations minimize negative impact on the system and authorized solution users	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP042	2	Schedule and execute file transfers with external solution data exchange sources	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP043	2	Provide regular status updates to the Department on system issues and system updates	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP044	2	Maintain a system of checks and balances such that the underlying data are consistent, complete, and accurate	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP045	2	Develop and gather requirements	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
OP046	2	Design, implement, and maintain solution architecture	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP047	2	Monitor solution performance and resolve issues	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP048	2	Analyze test plans, technical specifications, and test results	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP049	2	Provide system documentation	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP050	2	Others as defined by the Department and pursuant to Service Level Agreements (SLAs)	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP051	1	The Vendor should participate in project meetings as directed by the Department.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	509
OP052	1	The Vendor should work collaboratively with the Department to explain and support electronic data solution Vendor-based operations and reporting to stakeholders, auditors, and other parties when necessary.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510
OP053	1	The Vendor should participate in audit activities including, but not limited to:	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510
OP054	2	Attending meetings	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510
OP055	2	Running reports	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510

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OP056	2	Providing documentation	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510
OP057	2	Providing access to all system components and modules as requested by the Department	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510
OP058	1	The Vendor should support the State with data integration needs prior to and subsequent to the solution's implementation.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510
OP059	1	The Vendor should provide the Department with a Data Management Plan as defined in Appendix 2 - Deliverables and Milestones Dictionary.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510
OP060	1	The Vendor should agree to perform according to approved Service Level Agreements (SLA) and identified Key Performance Indicators (KPI) with associated metrics in the areas of system availability, performance, data quality, and problem management, and should consent to the Department retaining a percentage of payment if agreed-upon metrics are not achieved.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510
OP061	1	The Vendor should develop, maintain, and implement a Department-approved System Operations Plan as defined in Appendix 2 - Deliverables and Milestones Dictionary	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	510
OP062	1	The Vendor should pay and arrange for an annual Statement on Standards for Attestation Engagements, System, and Organization Controls (SOC) 1, Type II audit, using the most current version of the audit, which should cover work performed by the Vendor at the Vendor's facility and data center sites.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	511
OP063	1	The Vendor should submit the annual Statement on Standards for Attestation Engagements, System and Organization Controls (SOC) 1, Type II audit report, using the most current version of the audit, to the Department for approval with an action plan to remediate findings within a timeframe agreed upon by the Vendor and the Department.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	511
OP064	1	The solution should provide an authorized solution user test environment (sandbox) to test new queries and reports prior to execution in production.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	511

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OP065	1	The solution should have test environments (sandboxes) that include metadata necessary to test new queries and reports prior to execution in production.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	511
OP066	1	The solution should have a test environment (sandbox) that can be refreshed as requested by the Department.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	512
OP067	1	The solution should utilize the same hardware, operating system, and relational database management in the test environments (sandboxes) that are used in production.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	512
OP068	1	The solution should have test environments (sandboxes) that mirror the production environment.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	512
OP069	1	The Vendor should develop, implement, and maintain a configuration management solution to migrate tested hardware and software to the production environment.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	512
OP070	1	The solution should supply access to the user acceptance testing (UAT) environment on the enterprise data solution (EDS) portal for authorized solution users.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	512
OP071	1	The solution should provide access to the enterprise data solution (EDS) portal test environments (sandboxes) for authorized solution users.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	512
OP072	1	The Vendor should provide access for authorized solution users to all solution test environments as requested by the Department.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	512
OP073	1	The solution should have a development environment to develop and unit-test all software contained within the solution.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	512
OP074	1	The solution's user acceptance testing (UAT) environment should have the ability to support all components of the solution.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	513

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OP075	1	The solution's unit test environment should have the ability to perform full-scale system integration testing (SIT) for the solution.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	513
OP076	1	The solution should have a unit test environment that mirrors production in hardware, software stack, and data volumes.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	513
OP077	1	The solution should have a unit test environment that exists for all relevant components.	Operations	Will Meet	Attachment J - Maintenance and Operations Specifications Approach	1: Operations	513
PG001	1	The solution should support a range of analysis actions including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	152
PG002	2	Benefit modeling	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	152
PG003	2	Clinical review	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	152
PG004	2	Utilization management	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	152
PG005	2	Provider-member-Managed Care Organization (MCO) profiling	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	153
PG006	2	Program planning	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	153
PG007	2	Forecasting	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	153
PG008	2	Program assessment	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	153
PG009	2	Provider or contractor performance	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	153
PG010	2	Quality assurance	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	154
PG011	2	Fraud, waste, and abuse detection	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG012	2	Comparison of fee-for-service (FFS) and managed care	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG013	2	Other functions as described in the Advanced Planning Document (APD) and/or the Request for Proposal (RFP)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG014	1	The Vendor should comply fully with all applicable Department, State, and federal requirements and regulations including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG015	2	State Medicaid Manual	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155

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PG016	2	Centers for Medicare & Medicaid Services (CMS)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG017	2	West Virginia State Medicaid Plan	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG018	2	Section 1902 and 2103 of the Social Security Act	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG019	2	Title 42, Code of Federal Regulations	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG020	2	Applicable West Virginia Code	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG021	2	Chapter 9, Human Services	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG022	2	Section 504 and 508 of the Rehabilitation Act of 1973 as amended	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG023	2	West Virginia Children's Health Insurance Program (CHIP) State Plan	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	155
PG024	1	The Vendor should address how data fields to be included in the data warehouse are defined and agreed upon during Design, Development and Implementation (DDI) as well as how new fields will be added.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG025	1	The solution should mirror all fields and field naming conventions (both current and future) within the Medicaid Management Information System (MMIS).	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG026	1	The Vendor should propose, develop, produce, and maintain a searchable and indexed library embedded within all solution applications including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG027	2	Solution policy manuals	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG028	2	Training materials	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG029	2	User guides	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG030	2	Implementation memos	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG031	2	Data dictionary	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG032	2	Frequently Asked Questions (FAQs)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG033	1	The Vendor should provide full documentation of developed reports in a searchable, electronic, legible format that is available within the solution.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156

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PG034	1	The solution should maintain updated industry standard and third-party reference data as it changes including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	156
PG035	2	Inpatient hospital Diagnosis Related Groups (DRGs)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG036	2	Current Procedural Terminology (CPT)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG037	2	Healthcare Common Procedure Coding System (HCPCS)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG038	2	Therapeutic classes	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG039	1	The solution should have the ability to review utilization by Department-defined member categories to determine the extent of participation and related cost.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG040	1	The solution should have the ability to review utilization by Department-defined provider categories to determine the extent of participation and related cost.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG041	1	The solution should have the ability to review utilization by Department-defined Managed Care Organization (MCO) categories to determine the extent of participation and related cost.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG042	1	The solution should have the ability to archive and retain data in accordance with Department, State, and federal regulations, laws, policies, and/or procedures.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG043	1	The solution should have the ability to receive data from the Medicaid Management Information System (MMIS) including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG044	2	Claims history	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	157
PG045	2	Member enrollment	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	158
PG046	2	Provider enrollment	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	158
PG047	2	Primary reference data such as:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	158
PG048	3	Diagnosis	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	158
PG049	3	Procedure	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	158
PG050	3	National Drug Code (NDC)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	158

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PG051	3	Pricing	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	158
PG052	1	The solution should have the ability to refresh or replace all historical claims data, member enrollment, provider enrollment, and other primary reference data on a scheduled basis as approved by the Department.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3. Program Management	158
PG053	1	The solution should have the ability to refresh or replace all historical claims data, member enrollment, provider enrollment, and other primary reference data as defined by the Department.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG054	1	The solution should provide the ability to manage offline storage and retrieval of archived data.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG055	1	The solution should have the ability to look up information such as subsets, norms, benchmarks, query creation, and all other objects.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG056	1	The solution should have the ability to receive data in different formats and from different sources including but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG057	2	Vital statistics data	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG058	2	Encounter data	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG059	2	Managed Care Organization (MCO) encounter data	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG060	2	Pharmacy data	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG061	2	Rebate data	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG062	2	Dental data	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG063	2	Behavioral health data	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG064	2	Waiver program data such as enrollment	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG065	2	Others identified by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG066	1	The solution should provide the ability to report any issues impacting integration and interoperability between the proposed solution and related data sources within one (1) business day of discovery.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159

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PG067	1	The solution should have the ability to integrate data from sources including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG068	2	Eligibility	Program Management	Will Meet	Attachment G - Business Specifications Approach	3. Program Management	159
PG069	2	Capitation	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG070	2	Claims system	Program Management	Will Meet	Attachment G - Business Specifications Approach	3. Program Management	159
PG071	2	Managed care encounter data	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG072	1	The solution should have the ability to integrate data from contractors including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG073	2	Pharmacy benefit manager (PBM)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	159
PG074	2	Behavioral health plans	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG075	2	Managed Care Organization (MCO) health plans	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG076	2	Children's Health Insurance Program (CHIP) contractors	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG077	2	Others as defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG078	2	All data sources as defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3. Program Management	160
PG079	2	Providers	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG080	2	Reference files	Program Management	Will Meet	Attachment G - Business Specifications Approach	3. Program Management	160
PG081	1	The solution should have the ability to securely load, save, and report on confidential and/or proprietary data/information, and limit access to authorized solution users.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG082	1	The solution should have the ability to incorporate current standards and benchmarks as defined by the Department relevant to Medicaid and other health care programs including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3. Program Management	160
PG083	2	Utilization	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG084	2	Cost	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG085	2	Quality of Care	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160

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PG086	2	Outcomes	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG087	2	Prevention	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG088	2	Access to Care	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG089	2	Eligibility	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG090	2	Administrative Performance	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	160
PG091	1	The solution should have the ability to track claims processing activities and report on current status of payments.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG092	1	The solution should have the ability to access and report on third-party avoidance and collections per West Virginia Medicaid State Plan for the Department's review.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG093	1	The solution should have the ability to track claims at any status or location including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG094	2	Claims backlog	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG095	2	Key entry backlog	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG096	2	File status	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG097	2	Other indicators as identified by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG098	1	The solution should have the ability to analyze and report on timely claims filing by providers.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG099	1	The solution should have the ability to report on and accurately reflect payments on dual eligibles.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG100	1	The solution should have the ability to aggregate and report on services including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	161
PG101	2	Specified time periods	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	162
PG102	2	Service categories	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	162
PG103	2	Unduplicated claims	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	162
PG104	2	Members	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	162
PG105	2	Providers	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	162

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PG106	1	The solution should have the ability to identify payments by type, as defined by the Department.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	162
PG107	1	The solution should have the ability to track and report on claims by all attributes of the claim including but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG108	2	Claim and line identifier	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG109	2	Payment status	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG110	2	Member	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG111	2	Provider and entity identifiers	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG112	2	Diagnosis	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG113	2	Diagnosis code	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG114	2	Procedure	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG115	2	Procedure code	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG116	2	Treatment	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	163
PG117	2	Dates	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG118	2	Reviewing entity	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG119	2	Others identified by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG120	1	The solution should have the ability to assist auditors in reviewing provider cost reports and establishing a basis for cost settlements	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG121	1	The solution should have the ability to analyze and report on individual provider payments.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG122	1	The solution should have the ability to retrieve data, on an ad hoc basis, relevant to specific operational units including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG123	2	Claims resolution	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG124	2	Prior authorization	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164

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PG125	2	Medical necessity review	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG126	2	Others identified by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG127	1	The solution should have the ability to maintain online access to selected management reports and annual reports for the time period specified by the Department, with flexibility for the Department to alter the length of the retention period.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	164
PG128	1	The solution should have the ability to produce the current volume of Department standard and operational reports.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG129	1	The solution should have the ability to populate new data fields with historical data.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG130	1	The solution should have the ability to allow authorized solution users to promote rules to permanent tables upon approval through the Change Management Process.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG131	1	The solution should have the ability to create and modify automated authorized solution user-configurable business rules that link, classify, and relate rules and rule groups by patterns, mathematical sets, dependencies, and other factors.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG132	1	The solution should have the ability to allow authorized solution users to use online screens and services inside the solution to promote rules to user-specific tables	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG133	1	The solution should have the ability to configure rules to be date-specific including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG134	2	Date added	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG135	2	Date modified	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG136	2	Start and end dates	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG137	2	Effective date	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165

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PG138	1	The solution should have the ability to allow authorized solution users to create and modify user-specific or shared business rules that link, classify, and relate rules and rule groups by patterns, mathematical sets, dependencies, and other factors.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG139	1	The solution should have the ability to allow authorized solution users to apply identifying codes to any record based on rules engine criteria.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	165
PG140	1	The solution should have the ability for authorized solution users to receive push notifications based on user-configurable parameters.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG141	1	The solution should have the ability for authorized solution users to review and validate rules without the need to learn a specialized coding language.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG142	1	The solution should have the ability to process multi-level rule review and approval that validates logic errors, conflicts, redundancy, and incompleteness across business rules as they are being developed, tested, and implemented.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG143	1	The solution should have the ability for authorized solution users to test rules against replicated data prior to implementation, including full user acceptance testing (UAT) of the rules.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG144	1	The solution should have the ability to track and report rule usage, exception usage, and when rules fail to work as designed, and provide recommendations to resolve rule failure.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG145	1	The solution should have the ability to capture care management data including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG146	2	Treatment plan	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG147	2	Outcomes	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG148	2	Prior authorization information	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG149	2	Others as defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	166
PG150	1	The solution should have the ability to capture compliance incident data including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG151	2	Anomalies and adverse actions, such as:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG152	3	Termination	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167

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PG153	3	Suspension	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG154	3	Nonrenewals	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG155	3	Denial of contracts	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG156	3	Others as defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG157	1	The solution should have the ability to capture claims data including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG158	2	Payment	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG159	2	In-house claim number	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG160	2	Member number	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG161	2	Patient account number	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG162	2	Encounters	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG163	2	Adjudication	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG164	2	Historical payment information	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG165	2	Others as defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG166	1	The solution should have the ability to capture encounter data including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG167	2	Adjudication and encounter payment history information	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG168	2	Others as defined by the Department.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	167
PG169	1	The solution should have the ability to capture reference data including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG170	2	Filing deadlines	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG171	2	Code sets	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG172	2	Drug status (preferred, non-preferred, non-managed)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG173	2	Procedure code	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168

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PG174	2	Diagnosis-related group (DRG)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG175	2	Ambulatory payment classification	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG176	2	National Correct Coding Initiative (NCCI) Information	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG177	2	Others as defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG178	1	The solution should have the ability to capture plan data, as defined by the Department.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG179	1	The solution should have the ability to capture carrier data including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG180	2	Third-party policy type	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG181	2	Coverage	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG182	2	Policy number	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG183	2	Effective date	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG184	2	Benefits	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	168
PG185	2	Others defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	169
PG186	1	The solution should have the ability to capture data source contracting information including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	169
PG187	2	Provider network	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	169
PG188	2	Contract	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	169
PG189	2	Grievance and appeals information	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	169
PG190	2	Others defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	169
PG191	1	The solution should have the ability to capture member data including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	169
PG192	2	Demographics	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	169
PG193	2	Eligibility	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	169
PG194	2	Enrollment	Program Management	Will Meet	Attachment G - Business Specifications Approach	3. Program Management	169

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PG195	2	Grievance and appeals information	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	170
PG196	2	Others defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	170
PG197	1	The solution should have the ability to provide authorized solution users with analytical tools including statistical, comparative, and financial trend analyses, as well as case-mix adjustments.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	170
PG198	1	The solution should have the ability to compare current expenditures by service type and/or member/eligibility category with previous period expenditures to establish a frame of reference for analyzing trends.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	170
PG199	1	The solution should have the ability to compare actual expenditures against budget to determine control of current and projected financial positions.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	171
PG200	1	The solution should have the ability to analyze expenditures to identify areas of greatest cost.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	171
PG201	1	The solution should have the ability to report on utilization and cost of services against benefit limitations.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	172
PG202	1	The solution should have the ability to provide member enrollment and participation analyses and overall summary, showing utilization rates, payments, and numbers of members by eligibility category.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	172
PG203	1	The solution should have the ability to provide expenditure data by service codes including, but not limited to, current versions of:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	172
PG204	2	Healthcare Common Procedure Coding System (HCPCS)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG205	2	International Classification of Diseases (ICD)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG206	2	Clinical modifiers	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG207	2	National Drug Code (NDC)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG208	2	Revenue codes	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG209	1	The solution should have the ability to support determining reimbursement methodologies by providing expenditure data by service codes including, but not limited to, current versions of:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG210	2	Healthcare Common Procedure Coding System (HCPCS)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173

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PG211	2	International Classification of Diseases (ICD)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG212	2	Clinical modifiers	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG213	2	National Drug Code (NDC)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG214	2	Revenue codes	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG215	1	The solution should have the ability to analyze provider participation data by criteria including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	173
PG216	2	Payments	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	174
PG217	2	Services	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	174
PG218	2	Types of services	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	174
PG219	2	Member eligibility categories	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	175
PG220	2	Others defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	175
PG221	1	The solution should have the ability to summarize expenditures based on type of federal expenditure and the member's eligibility and program.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	175
PG222	1	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on claims edit checking and adjudication rules, claims parameters and payment rules, provider payment rules or amounts, or claims sequencing.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	175
PG223	1	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on changes in provider profiles.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	175
PG224	1	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on changes in member profiles.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	175
PG225	1	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on changes in benefit plans.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	175
PG226	1	The solution should have the ability for authorized solution users to perform prospective and retrospective policy modeling (what-if analyses) on patterns in relationships between disparate data.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	176

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PG227	1	The solution should have the ability for authorized solution users to perform policy modeling (what-if analyses) on other criteria as defined by the Department.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	176
PG228	1	The solution should have the ability for authorized solution users to perform retrospective reviews on claims that appear to have been inappropriately paid, such as:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	176
PG229	2	Excessive units	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	177
PG230	2	Duplicate services	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	177
PG231	2	Coding errors, or other errors	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	177
PG232	1	The solution should have the ability for authorized solution users to perform retrospective reviews to determine whether services and billings were a medically-necessary exception to usual practice.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	177
PG233	1	The solution should have the ability to compare encounter data and claims with capitation versus fee-for-service (FFS) payment data to determine optimal utilization and payment scenarios.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	177
PG234	1	The solution should have the ability to report health care quality measures in accordance with the Centers for Medicare & Medicaid Services (CMS) Technical Specifications including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG235	2	Adult Core Set	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG236	2	Child Core Set	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG237	2	Health Home Core Set	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG238	2	Substance Use Disorder (SUD) Waiver Measures	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG239	2	Others identified by the CMS and/or the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG240	1	The solution should have the ability to provide on an annual basis pre-built queries for the Centers for Medicare & Medicaid Services (CMS) Adult Core Set, Child Core Set, Health Home Core Set, Substance Use Disorder (SUD) Waiver Measures, and others identified by CMS and/or the Department, and the Vendor should review the queries with Department staff once they are complete within a timeline agreed upon with the Department.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PG241	1	The solution should maintain all historical queries for the Centers for Medicare & Medicaid Services (CMS) Adult Core Set, Child Core Set, Health Home Core Set, Substance Use Disorder (SUD) Waiver Measures, and others identified by the Department and/or CMS for a minimum of ten (10) years.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG242	1	The solution should have the ability to report state-defined healthcare quality measures in accordance with specification criteria from various measure stewards such as:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG243	2	Pharmacy Quality Alliance (PQA)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG244	2	National Quality Forum (NQF)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG245	2	National Committee for Quality Assurance (NCQA)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG246	2	Healthcare Effectiveness Data and Information Set (HEDIS) Measures	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	178
PG247	2	The Joint Commission (TJC) National Quality Measures	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	179
PG248	2	Centers for Medicare & Medicaid Services (CMS) Measures	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	179
PG249	2	U.S. Office of Population Affairs (OPA)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	179
PG250	2	Agency for Healthcare Research and Quality (AHRQ)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	179
PG251	2	Centers for Disease Control (CDC)	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	179
PG252	2	Others as identified by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	179
PG253	1	The solution should provide the ability to produce multidimensional, flexible, ad hoc reports across business functions which meet reporting needs including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	179
PG254	2	Financial reporting	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	183
PG255	2	Budget forecasting	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	184
PG256	2	Fiscal planning and control	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	184
PG257	2	Claims payment accuracy	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	184
PG258	2	Expenditures	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	184

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PG259	2	Timely reimbursement analysis	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	184
PG260	2	Cost/benefit analysis	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	185
PG261	2	Eligibility and benefit design	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	185
PG262	2	Geographical analysis	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	185
PG263	2	Program planning	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	185
PG264	2	Policy Analysis	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	185
PG265	2	Federal waiver program evaluation	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	185
PG266	2	Adequacy of and access to care	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	186
PG267	2	Quality of care	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	186
PG268	2	Outcomes assessment	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	186
PG269	2	Disease management.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	186
PG270	2	Managed care plan planning and analyses	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	187
PG271	2	Others as defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	187
PG272	1	The solution should have the ability to calculate Department-specified calculations in temporary arrays allowing for multi-step array-based queries	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	187
PG273	1	The solution's data access component should allow the authorized solution user to have the ability to type or select from any menu options available in the solution that include measures, dimensions, subsets, and time periods.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	187
PG274	1	The solution's data access component should provide the authorized solution user with search capability for all unique values for macros whose size exceeds system limitations	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	187
PG275	1	The solution should have the ability to capture data collected by each contracted Managed Care Organization (MCO) including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	187
PG276	2	Social determinants of health	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	187
PG277	2	Others as defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	188

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PG278	1	The solution should have the ability to produce a hospice report comparing hospice days to inpatient days for each enrolled hospice member and for all hospice providers.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	188
PG279	1	The solution should track the impact of the Medicare drug program.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	188
PG280	1	The solution should provide information required for the review and development of medical assistance policy and regulations.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	188
PG281	1	The solution should support the projection of the cost of program services for future periods.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	188
PG282	1	The solution should meet Transformed Medicaid Statistical Information System (T-MSIS) reporting timelines, providing T-MSIS tapes for submission in accordance with the tape delivery schedules.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	188
PG283	1	The solution should comply with the information reporting requirements of section 6041 of the Internal Revenue Code (26 U.S.C. 6041). Section 6041 requires the filing of annual information returns showing amounts paid to providers, who are identified by name, address, and social security number or employer identification number.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	188
PG284	1	The solution should provide the ability to create a quarterly report on expenditures under the Money Follows the Person program based on the Department's rules.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	189
PG285	1	The solution development efforts should be tied to and supportive of agency goals and objectives including, but not limited to:	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	189
PG286	2	Managing long term care costs	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	189
PG287	2	Acute care	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	189
PG288	2	Others as defined by the Department	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	189
PG289	1	The solution should have the ability to meet Department-defined time frames and prioritization for processing authorized solution user requests.	Program Management	Will Meet	Attachment G - Business Specifications Approach	3: Program Management	189
PI001	1	The solution should have the ability to search, sort, filter, and group by any field to support investigative case management	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	193
PI002	1	The solution should have the ability to associate providers with their members and members with their providers to view those relationships and to access all associated data including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	194
PI003	2	Member records	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	195

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PI004	2	Provider records	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	195
PI005	2	Prior authorizations	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	196
PI006	2	Member case management data	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	196
PI007	2	Claim/encounter records when accessing any one of them in the solution	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	197
PI008	1	The solution should have the ability to associate providers to providers and providers to members to view those relationships and to access all associated data including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	197
PI009	2	Member records	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	197
PI010	2	Provider records	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	198
PI011	2	Prior authorizations	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	199
PI012	2	Member case management data	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	199
PI013	2	Claim/encounter records when accessing any one of them in the solution	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	199
PI014	1	The solution should include an Investigative Case Management component with the ability to capture, store, track, and report on all actions, determinations, and resolutions through to final resolution including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	199
PI015	2	Suspensions	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	200
PI016	2	Terminations	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	200
PI017	2	Criminal/civil convictions	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	200
PI018	2	Recovered amounts from referrals of potential fraud, waste, and abuse	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	200
PI019	2	Recovered amounts from improper payment	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	201
PI020	2	Recovered amounts from various third-party recoveries including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	201
PI021	3	Tort and casualty	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	201
PI022	3	Restitution	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	201

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PI023	3	Trust and trust recoveries	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	201
PI024	1	The solution should include an Investigative Case Management component that manages recoveries including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	202
PI025	2	Tracking payments received	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	203
PI026	2	Payment plans	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	203
PI027	2	Offsets	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	203
PI028	2	Claim/encounter adjustments	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	203
PI029	2	Settlements	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	203
PI030	2	Restitutions	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	203
PI031	2	Multiple payments and checks	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	203
PI032	2	Amounts remaining due	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	204
PI033	2	Due dates	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	204
PI034	2	Court case numbers and jurisdictions	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	204
PI035	2	Defendant names	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	205
PI036	2	Recovery supplier payments	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	205
PI037	2	Federal share calculations	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	205
PI038	2	Bankruptcies	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	205
PI039	2	Business status including out of business	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	205
PI040	1	The solution should include an Investigative Case Management component that manages recoveries with the ability to link all claims associated with an investigation.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	206
PI041	1	The solution should include an Investigative Case Management component that manages recoveries including the stage of review with respect to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	206
PI042	2	Investigations	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	206

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PI043	2	Appeals	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	206
PI044	2	Final dispositions	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	207
PI045	2	Referrals	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	207
PI046	2	Active status	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	207
PI047	2	Managed Care Organizations (MCOs)	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	207
PI048	2	Responsible parties	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	207
PI049	2	Linked investigation claims	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	207
PI050	2	Others as defined by the Department	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	207
PI051	1	The solution should include an Investigative Case Management component that has an audit trail on each record including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	207
PI052	2	Notes	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	208
PI053	2	Capturing changes by authorized solution user identification	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	208
PI054	2	Date and time of change	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	208
PI055	1	The solution should have an Investigative Case Management component that supports multiple ongoing Department-specific reviews within a single case	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	208
PI056	1	The solution should have an Investigative Case Management component that supports reporting on all case information including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	208
PI057	2	Overall case status	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	208
PI058	2	Department-specific audit status	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	209
PI059	1	The solution should include an Investigative Case Management component that includes automatic and scheduled notification of case status changes, and other criteria as defined by the Department.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	209
PI060	1	The solution should include an Investigative Case Management component that allows claims and encounter data to be flagged to indicate the current audit process stage including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	210

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PI061	2	Open	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	210
PI062	2	Under review	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	210
PI063	2	Finalized	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	210
PI064	2	Needs follow-up	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	210
PI065	2	Other statuses identified by the Department	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	210
PI066	1	The solution should have the ability to produce comprehensive statistical profiles of providers by peer groups for all categories of service authorized under the Medicaid program.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	210
PI067	1	The solution should have the ability to perform analyses and produce reports responsive to requests from the Department by means of computerized exception processing techniques.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	211
PI068	1	The solution should have the ability to suppress processing on a member within specified categories on a run-to-run basis.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	211
PI069	1	The solution should provide access to all data elements outlined in the State Medicaid Manual (SMM) Part 11, section 11335, and all additional data required for appropriate analysis of the program.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	211
PI070	1	The solution should have the ability to export claims-based class groupings such that data can be used within a spreadsheet or database software.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	211
PI071	1	The solution should include a process to weight and rank exception report items to facilitate identification of the highest deviators.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	211
PI072	1	The solution should have the ability to capture provider and member use of covered services and items including, but not limited to, prescribed drugs.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212
PI073	1	The solution should have the ability to classify members into peer groups to develop peer group statistical profiles using criteria including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212
PI074	2	Age	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212
PI075	2	Gender	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212
PI076	2	Race	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212

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PI077	2	Geographic region	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212
PI078	2	Eligibility Category	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212
PI079	2	Special programs code	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212
PI080	2	Claims data elements	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212
PI081	2	Other criteria defined by the Department	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	212
PI082	1	The solution should have the ability to classify providers into peer groups to develop peer group statistical profiles for comparative analyses using criteria including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI083	2	Category of service	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI084	2	Provider type	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI085	2	Provider specialty	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI086	2	Type of practice	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI087	2	Enrollment status	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI088	2	Facility type	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI089	2	Geographic region	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI090	2	Place of service	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI091	2	Billing versus rendering provider	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI092	2	Number of beds	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI093	2	Claim data elements	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI094	2	Provider ownership	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI095	2	Referring provider	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI096	2	Ordering provider	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213

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PI097	2	Prescribing provider	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI098	2	Individual providers within group practices	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI099	2	Other criteria defined by the Department	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	213
PI100	1	The solution should have the ability to develop provider and member profiles sufficient to provide specific information as to the use of covered types of services and items including, but not limited to prescribed drugs.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	214
PI101	1	The solution should have the ability to classify treatment to develop statistical profiles by diagnosis codes and/or diagnosis code ranges.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	215
PI102	1	The solution should have the ability to classify treatment to develop statistical profiles by procedure codes and/or procedure code ranges.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	215
PI103	1	The solution should have the ability to track readmissions for members readmitted to the same or different inpatient facility(ies).	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	215
PI104	1	The solution should have the ability to analyze rendering, ordering, referring, prescribing, and billing provider practices to report atypical utilization and/or billing patterns.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	215
PI105	1	The solution should have the ability to provide statistically valid random samples as defined by the Department and extract data for provider audits, member utilization analysis, and recoupment of funds.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	215
PI106	1	The solution should have the ability to support analytics of service and billing practices to detect utilization and billing problems including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	215
PI107	2	Incidental procedures	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	216
PI108	2	Mutually exclusive procedures and/or procedure codes	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	216
PI109	2	Mutually required procedures and/or procedure codes	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217
PI110	2	Unbundling of procedure codes	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217
PI111	2	Bill splitting	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217
PI112	2	Other fields identified by the Department	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217

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PI113	1	The solution should have the ability to create random sample reports that include appropriate universe and sample totals to support analyses at varying levels of confidence.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217
PI114	1	The solution should maintain a date-driven parameter control file with online, real-time edit and update capability that allows the Department to specify criteria including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217
PI115	2	Data extraction criteria	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217
PI116	2	Report content	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217
PI117	2	Date parameters	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217
PI118	2	Exception parameters	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	217
PI119	2	Others as defined by the Department	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	218
PI120	1	The solution should have the ability to generate frequency distributions and rankings for authorized solution user-selected report and statistical items.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	218
PI121	1	The solution should include all claims data elements.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	218
PI122	1	The solution should have the ability to flag a claim's most recent iteration.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	218
PI123	1	The solution should have the ability to review all iterations of claims in order to ensure claims are processed within Department policy guidelines, contractual requirements, and all applicable State and federal laws and requirements.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	218
PI124	1	The solution should have the ability to review paid claims in order to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	218
PI125	2	Ensure claims are paid within Department policy guidelines, contractual requirements, and all applicable State and federal laws and requirements	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	218
PI126	2	Ensure accuracy	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	218
PI127	2	Identify excessive quantities and/or duplicate billing for the same procedure and/or procedure code ranges	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	219
PI128	2	Identify excessive use of Healthcare Common Procedure Coding System (HCPCS) codes, surgical codes and/or procedure code ranges and other codes identified by the Department	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	219
PI129	2	Identify claims paid above the quantity of claims, monetary, or other Department-specified limits.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PI130	2	Other criteria defined by the Department	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220
PI131	1	The Vendor should assist the Department staff in responding to any audit requests from federal and State agencies and external entities.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220
PI132	1	The solution should have the ability to use historical data to support types of investigations including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220
PI133	2	Provider utilization review	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220
PI134	2	Provider compliance review	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220
PI135	2	Member compliance review	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220
PI136	2	Member utilization review	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220
PI137	2	Drug utilization review	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220
PI138	2	Other as defined by the Department	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	220
PI139	1	The solution should have the ability to interface with all Department-specified claims processing systems.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	221
PI140	1	The solution should have the ability to conduct surveillance and utilization review (SUR) across all Medicaid services and Social Services payments regardless of the service delivery method or financing mechanism.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	221
PI141	1	The solution should have the ability to link all services to a single member regardless of the number of historical changes in the member identification (ID) number.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	221
PI142	1	The solution should have the ability to maintain appropriate controls and audit trails to ensure that the most current surveillance and utilization review (SUR) data are used in all processes relying on the SUR data repository.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	221
PI143	1	The solution should have surveillance and utilization review (SUR) functions to produce management summary reports and to edit control files for inactive service codes including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	221
PI144	2	Procedure codes	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	221
PI145	2	Revenue codes	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	221
PI146	1	The solution should have the ability to track federally-assisted program participants separately from other categories of assistance.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	221

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PI147	1	The solution should have the ability to identify members who exceed program norms, ranked by severity.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	221
PI148	1	The solution should have the ability to identify services received by members who are enrolled in selected programs.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI149	1	The solution should have the ability to identify services received by members who have specified diagnoses.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI150	1	The solution should have the ability to profile all services provided to a member during a single episode of care.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI151	1	The solution should have the ability to generate reports of individual members by peer group.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI152	1	The solution should have the ability to select claims and encounter data dating back to whatever time period is appropriate for the specific research.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI153	1	The solution should have the ability to produce claim and encounter detail and special reports by provider type and member classification including, but not limited to:	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI154	2	Category of service	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI155	2	Group practice	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI156	2	Case	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI157	1	The solution should have the ability to provide and store all utilization reports in the medium designated by the Department.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	222
PI158	1	The solution should have the ability to provide standard Department and Centers for Medicare & Medicaid Services (CMS) program integrity reports in accordance with Department reporting standards.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	223
PI159	1	The solution should have the ability to provide the flexibility to vary time periods for reporting purposes and produce reports on a daily, monthly, quarterly, or other frequency as specified by the Department.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	223
PI160	1	The solution should have the ability to display all relevant data by National Provider Identifier (NPI) or by a subset of the provider's practice.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	223
PI161	1	The solution should have the ability to develop and implement technical and authorized solution user training programs.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	223
PI162	1	The solution should have the ability to automatically identify exceptions to norms of utilization or quality of care standards established by the Department for any type of member covered by the Department plan.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	223

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PI163	1	The solution should have the ability to automatically identify deficiencies and generate reports on levels of care and quality of care by provider type.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	224
PI164	1	The solution should have the ability to support pattern recognition and provide an automated fraud and abuse profiling system, that includes pre-built algorithms for the ongoing monitoring of provider and member claims to detect patterns of potential fraud, waste, and abuse, including excessive billing.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	224
PI165	1	The solution should have the ability to automatically report on details of the practice of providers identified as exceptions or outliers.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	225
PI166	1	The solution should have the ability to identify misutilization of services by individual members and promote corrective actions.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	226
PI167	1	The solution should have the ability to automatically identify exceptions to norms of practice established by the Department for any type of provider covered by the Department plan.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	226
PI168	1	The solution should have the ability to apply clinically-approved guidelines against episodes of care to identify instances of treatment inconsistent with guidelines.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	226
PI169	1	The solution should have the ability to generate early warning reports of high-cost services and service misutilization based on current payment data to quickly identify high-volume practices.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	226
PI170	1	The solution should have the ability to support provider performance reviews to determine the adequacy and extent of participation and service delivery.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	226
PI171	1	The solution should have the ability to review provider participation and analyze provider service capacity in terms of member access to health care.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	226
PI172	1	The solution should have the ability to support report balancing and verification procedures.	Program Integrity	Will Meet	Attachment G - Business Specifications Approach	4. Program Integrity	227
PM001	1	The solution should align with the Department's vision for the to-be Enterprise Data Solution (EDS) environment.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	356
PM002	1	The solution's initial data load should consist of all data contained within the existing data warehouse decision support system (DW/DSS) at the time of the implementation of the Enterprise Data Solution (EDS).	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	357

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PM003	1	The solution's initial data load should be inclusive of all data sources identified by the Department.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	357
PM004	1	The solution should support daily, weekly, monthly, and as needed data loads from all data sources identified by the Department.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	357
PM005	1	The Vendor should assist the Department in obtaining, integrating, and maintaining data that includes but is not limited to:	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	357
PM006	2	Medicaid data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	357
PM007	2	Medicare data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	357
PM008	2	Commercial payer data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM009	2	West Virginia Children's Health Insurance Program (WVCHIP) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM010	2	Managed Care Organization (MCO) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM011	2	Higher education facilities and universities data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM012	2	Administrative Services Organization (ASO) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM013	2	Health Statistics Center (HSC) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM014	2	Public Employees Insurance Agency (PEIA) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM015	2	West Virginia Health Information Network (WVHIN) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM016	2	Hospital Data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358

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PM017	2	Others as defined by the Department	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM018	1	The solution should support the integration, management, and use of data from the following data sources including, but not limited to:	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM019	2	Medicaid data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	358
PM020	2	Medicare data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM021	2	Commercial payer data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM022	2	West Virginia Children's Health Insurance Program (WVCHIP) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM023	2	Managed Care Organization (MCO) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM024	2	Higher education facilities and universities data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM025	2	Administrative Services Organization (ASO) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM026	2	Health Statistics Center (HSC) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM027	2	Public Employees Insurance Agency (PEIA) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM028	2	West Virginia Health Information Network (WVHIN) data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM029	2	Hospital data	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM030	2	Others as defined by the Department	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PM031	1	The solution should have the ability to support data quality assurance and control activities.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	359
PM032	1	The solution should be implemented and fully functional prior to the contract close of the existing data warehouse decision support system (DW/DSS).	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	360
PM033	1	The Vendor's quality management approach should be consistent with the Department's policies and procedures.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	360
PM034	1	The Vendor should submit each deliverable to the Department in final form and be ready for signature approval.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	360
PM035	1	The Vendor should submit each project deliverable to the Department in accordance with each date in the project schedule.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	360
PM036	1	The Vendor should work with the Department to develop acceptance criteria for each project deliverable.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	360
PM037	1	The Vendor should work with the Department's project management vendor regarding all project related activities.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	361
PM038	1	The Vendor should conduct deliverable walk-throughs for all project deliverables prior to their submission, unless otherwise approved in writing by the Department.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	361
PM039	1	The Vendor should submit all meeting materials to the Department 24 hours prior to each meeting.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	361
PM040	1	The Vendor should capture meeting minutes at each meeting.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	361
PM041	1	The Vendor should distribute meeting minutes within 48 hours after a meeting occurs.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	361
PM042	1	The Vendor should store and maintain all project documentation in an agreed upon document repository such as a SharePoint location.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	361
PM043	1	The Vendor should make all project documentation accessible to all stakeholders identified by the Department.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	361
PM044	1	The Vendor should utilize a change management methodology that is based on industry standards and best practices and is approved by the Department.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	362

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PM045	1	The Vendor should propose a change management methodology including, but not limited to:	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	362
PM046	2	Approach across all project phases	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	362
PM047	2	Roles and responsibilities	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	362
PM048	2	Tools necessary to support change management	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	363
PM049	2	Reporting	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	364
PM050	2	Others as defined by the Department	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	364
PM051	1	The Vendor should propose an organizational change management methodology in support of the Enterprise Data Solution (EDS) implementation.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	364
PM052	1	The Vendor should conduct requirements analysis sessions with the Department during which the Vendor will review, refine, and seek approval for all requirements included in this Request for Proposal (RFP)	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	365
PM053	1	The Vendor should work with the Department to design the system in accordance with the following design phases:	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	365
PM054	2	Preliminary System Design	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	365
PM055	2	Detailed System Design	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	365
PM056	2	Final System Design	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	365
PM057	1	The Vendor should be responsible for all costs associated with requirements analysis and solution design.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	366
PM058	1	The solution should be developed and implemented in accordance with the project work plan.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	366

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Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PM059	1	The Vendor should detail their approach to both requirements validation and joint application design in support of requirements analysis and solution design activities.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	366
PM060	1	The Vendor should maintain a requirements traceability matrix (RTM) throughout the lifecycle of the project.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM061	1	The Vendor should provide all stakeholders identified by the Department access to the requirements traceability matrix (RTM).	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM062	1	The Vendor should document in the requirements traceability matrix (RTM) where each requirement is accounted for within the following areas:	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM063	2	Design documentation	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM064	2	Code modules	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM065	2	Test conditions	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM066	2	Test scenarios	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM067	2	Test cases	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM068	2	Certification criteria	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM069	2	Medicaid Information Technology Architecture (MITA) business areas and processes	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM070	2	Medicaid Information Technology Architecture (MITA) Standards and Conditions	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	367
PM071	2	Others as defined by the Department	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	368

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PM072	1	The Vendor should demonstrate through the requirements traceability matrix (RTM) that all documented and approved specifications have been traced throughout the development lifecycle.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	368
PM073	1	The Vendor should work with the Department to fully understand the scope, purpose, and implications of each Request for Proposal (RFP) specification.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	368
PM074	1	The Vendor should identify and work with the Department to resolve gaps between the Vendor and the Department's understanding of a specification.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	368
PM075	1	The Vendor should conduct the following types of testing in support of the solution	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	368
PM076	2	Unit testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	368
PM077	2	Integration testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	368
PM078	2	Iterative functional testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	368
PM079	2	System integration testing (SIT)	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	369
PM080	2	Interface testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	369
PM081	2	Regression testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	369
PM082	2	End-to-end testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	369
PM083	2	Security testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	369
PM084	2	Performance testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	369
PM085	2	Usability/Accessibility testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	369

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PM086	2	Browser testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	369
PM087	2	User acceptance testing (UAT)	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	370
PM088	2	Data conversion testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	370
PM089	2	Operational readiness testing (ORT)	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	370
PM090	2	Parallel testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	370
PM091	2	Other testing as identified by the Department and/or Vendor	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	370
PM092	1	The Vendor should be prepared to assist the Department with User acceptance testing (UAT).	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	370
PM093	1	The Vendor should be prepared to conduct User acceptance testing (UAT) in all cases whereby the Department does not elect to conduct UAT.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	371
PM094	1	The Vendor should complete regression testing subsequent to, but not limited to, the following:	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	371
PM095	2	Deployment of new solution components	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	371
PM096	2	Integration of each solution component into the primary solution	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	371
PM097	2	Every migration of new build versions to each test environment	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	371
PM098	2	Solution fixes	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	371
PM099	2	Solution patches	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	371

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PM100	2	Solution releases	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	371
PM101	2	Others as defined by the Department	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	372
PM102	1	The Vendor should utilize a subset of system integration testing (SIT) scenarios representative of maximum functional and technical solution coverage for the purposes of regression testing.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	372
PM103	1	The Vendor should obtain approval from the Department on which system integration testing (SIT) should be used for regression testing	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	372
PM104	1	The Vendor should utilize end-to-end test cases in support of regression testing.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	372
PM105	1	The Vendor should perform security testing on functional, technical, and infrastructure components to ensure the solution meets all State, Department, and Federal security requirements.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	372
PM106	1	The Vendor should propose security testing scenarios and/or cases to the Department for their approval.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	372
PM107	1	The Vendor should supply, on an annual basis, a report of the results of a security risk assessment, including all tools used for the assessment, and an action plan detailing the approach for remediation of security risk vulnerabilities.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	372
PM108	1	The Vendor's performance testing methodology should allow for performance tests to be representative of the expected peak period volumes for solution operation.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	372
PM109	1	The Vendor's performance testing should occur on a production ready version of the solution.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	373
PM110	1	The solution's performance testing environment should mirror the final production solution specifications.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	373
PM111	1	The Vendor's usability/accessibility testing should include testing of the user interface for the following users:	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	373
PM112	2	Internal users	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	373

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PM113	2	External users	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	373
PM114	2	Power users	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	373
PM115	2	Users with limited computer skills	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	373
PM116	2	Prospective new users	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	373
PM117	2	Users who will require solution training to complete their daily work	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	374
PM118	2	Users with disabilities	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	374
PM119	2	Others as defined by the Department	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	374
PM120	1	The Vendor's usability/accessibility testing approach should account for testing for compliance with sections 504 and 508 of the Americans with Disabilities Act (ADA).	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	374
PM121	1	The Vendor's browser testing should be performed using a minimum of a subset of system integration test scripts that ensures maximum solution coverage.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	374
PM122	1	The Vendor should supply the data, environments, and test scripts necessary to support user acceptance testing (UAT).	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	374
PM123	1	The Vendor should work with the Department to define user acceptance testing (UAT) cases representative of the full solution environment.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	374
PM124	1	The Vendor should be responsible for working with the Department to define the user acceptance test (UAT) scenarios the Department deems as critical for UAT.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	374
PM125	1	The Vendor should be responsible for drafting all user acceptance testing (UAT) cases.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	375
PM126	1	The Vendor should review all user acceptance testing (UAT) results with the Department, and a strategy for mitigation should be agreed upon for each defect based on the defect's severity, priority, and impact.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	375

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PM127	1	The Vendor should discuss and obtain the Department's approval on data conversion exception tolerance levels prior to the commencement of data conversion testing.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	375
PM128	1	The Vendor should review and obtain the Department's approval of data conversion test results prior to commencement of production data conversion.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	375
PM129	1	The Vendor should propose a source code management tool for review and approval by the Department.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	375
PM130	1	The Vendor should work with the Department to define an operational readiness testing (ORT) approach that encompasses all Department and Vendor responsible solution operational processes and procedures.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	375
PM131	1	The Vendor should propose and execute a plan for a phased approach to the solution's development, including all of the solution's components and modules.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	375
PM132	1	The Vendor should propose a solution development plan that includes but is not limited to the following elements:	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	375
PM133	2	Code base management	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	376
PM134	2	Source code security analysis	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	376
PM135	2	Development standards	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	376
PM136	2	Individual developer machine configuration requirements	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	376
PM137	2	Build machine configuration requirements	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	376
PM138	2	Code check-out and check-in procedures	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	376
PM139	2	Developer tool expectations	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	376
PM140	2	Others as defined by the Department	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	376

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PM141	1	The Vendor should develop the solution using an iterative development approach.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	376
PM142	1	The Vendor should review and test in logical functional groups of system components or modules.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	377
PM143	1	The Vendor should ensure that all design documentation is kept current throughout the contract.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	377
PM144	1	The Vendor should support all data conversion related activities.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	377
PM145	1	The Vendor's data conversion strategy should minimize risk and the disruption to other enterprise solutions affected with the solution's development and implementation.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	377
PM146	1	The Vendor should be responsible for the data cleansing of all data being migrated from the existing data warehouse decision support system (DW/DSS) and converted to the new solution.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	377
PM147	1	The Vendor should propose an industry standard data conversion methodology that includes but is not limited to:	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	378
PM148	2	Data analysis techniques	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	378
PM149	2	Checks and balances for ensuring data quality and accuracy	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	378
PM150	2	Data conversion tool sets	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	378
PM151	1	The Vendor should complete a full analysis of the Department enterprise to understand what source solutions and corresponding data will need to be integrated into the solution.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	379
PM152	1	The Vendor should complete an assessment of the as-is and to-be environment to understand what reports will be needed in support of operations.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	379
PM153	1	The Vendor should develop and obtain Department approval of all reports identified as needed in support of operations.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	379

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
PM154	1	The Vendor should be prepared to work with the Department to identify and integrate data from the Department-Identified primary source solutions.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	379
PM155	1	The Vendor should propose and manage a process by which data from additional solutions can be identified and integrated into the Enterprise Data Solution (EDS).	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	380
PM156	1	The solution should have the ability to support quality measures as defined by the Department.	Project Management	Will Meet	Attachment I - Implementation Specifications Approach	1. Project Management	380
SM001	1	The solution should have security controls, safeguards, and alerts to prevent, monitor, and detect potential and actual violations in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	338
SM002	1	The Vendor should deliver a Security, Privacy, and Confidentiality Plan within 30 calendar days of contract startup.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	338
SM003	1	The Vendor should submit an updated Security, Privacy, and Confidentiality Plan to the Department for review and approval 30 business days prior to the start of solution operations.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	338
SM004	1	The Vendor should perform a review of the Security, Privacy, and Confidentiality Plan annually and submit to the Department for review and approval within 30 calendar days of the review.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	338
SM005	1	The Vendor should submit substantive change(s) to the Security, Privacy, and Confidentiality Plan for review and approval within 30 calendar days of the proposed change(s).	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	338
SM006	1	The Vendor should maintain a Department-approved Security, Privacy, and Confidentiality Plan that details how the solution complies with applicable Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	339
SM007	1	The solution should maintain an audit trail that can be used to identify unauthorized attempts to access the solution and log the IP address from where the intrusion attempt occurred, in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	339

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
SM008	1	The solution should provide an audit of all attempts to access or use sensitive data, consistent with Health Insurance Portability and Accountability Act (HIPAA), Centers for Medicare & Medicaid Services (CMS), and other Department, State, and federal laws and regulations.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	339
SM009	1	The solution should have the ability to prevent, monitor, and detect malicious software and code.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	339
SM010	1	The solution should have the ability to provide security incident reporting and mitigation mechanisms according to State and federal requirements and in accordance with the Department's Incident Reporting and Response Policy including, but not limited to:	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	340
SM011	2	Terminating access and generating a report when a potential security violation is detected	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	340
SM012	2	Preserving and reporting specified audit data when a potential security violation is detected	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	340
SM013	2	Others as defined by the Department	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	340
SM014	1	The Vendor should ensure that any and all security and privacy breaches, incidents, and/or unauthorized disclosures are reported according, to State and federal requirements and in accordance with the Department's Incident Reporting and Response Policy.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	340
SM015	1	The solution should have the ability to log all authorized solution user activity and correlate, analyze, and report on all logged user events and associated data	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	341
SM016	1	The solution should have the ability to provide a report of authorized solution user activity as determined by the Department in the Design, Development, and Implementation (DDI) phase.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	341
SM017	1	The solution should provide an audit trail of record changes, including authorized solution user, date, and time of change.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	341
SM018	1	The solution should have the ability for audit trails to allow information on source documents to be traced through the processing stages to the point where the information is finally recorded.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	341
SM019	1	The solution should have the ability to trace data from the final place of recording back to its source of entry	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	342

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
SM020	1	The solution should continuously monitor, authorize, document, and allow access only through controlled interfaces for all connections originating from outside the security boundary of the system in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	342
SM021	1	The solution should ensure remote connection is performed using multi-factor authentication in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	342
SM022	1	The solution should limit data sharing to only those entities and individuals located in the United States and/or U.S. territories that maintain a current data sharing agreement with the Department consistent with Department-required agreements and security and privacy policies and procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	342
SM023	1	The solution should have the ability to control access rights to data and system functions based on authorized solution user role-based access.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	342
SM024	1	The Vendor should work with the Department to define the process for access to the solution in the Design, Development, and Implementation (DDI) phase.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	342
SM025	1	The solution should support role-based user access.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	343
SM026	1	The solution should provide an interactive, adjustable time-out feature for authorized solution user inactivity in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	343
SM027	1	The solution should provide alerts to authorized solution users that inactivity will result in being timed out after the specified period of inactivity in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	343
SM028	1	The solution should have the ability to enforce password policies for length, character requirements, and required updates in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	343
SM029	1	The solution should store passwords in encrypted form in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	343

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
SM030	1	The solution should permit system administrators to reset authorized solution user passwords.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	343
SM031	1	The solution should allow authorized solution users to reset their own passwords at any time by following system-defined standards in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	343
SM032	1	The solution should permit authorized solution users to set and modify user security access profiles.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	343
SM033	1	The solution should have the ability to supply authorized data sets to authorized solution users.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	343
SM034	1	The solution should have the ability to provide an audit log that identifies amendments to the designated record set for an authorized solution user.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	344
SM035	1	The solution should have the ability to store audit logs of authorized solution user activity in a location determined by the Department in the Design, Development, and Implementation (DDI) phase.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	344
SM036	1	The solution should establish responsibilities and procedures for remote use in compliance with Department security policy.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	344
SM037	1	The solution should block pop-ups, spam, advertisements, and malware.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	344
SM038	1	The solution should have the ability to remove or disable systems, services, components, and modules as defined by the Department.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	344
SM039	1	The solution should have secure transmission and data integrity controls to detect improper modification of transmitted information.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	344
SM040	1	The solution should use Secure Sockets Layer (SSL) certificates that are consistent with State and federal requirements for data in transit.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	344
SM041	1	The solution should have the ability to restrict release of sensitive data.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4. Secuirty Management	344
SM042	1	The solution should support data integrity by preventing and detecting unauthorized alteration or destruction.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	345
SM043	1	The Vendor should maintain procedures that ensure all emergency and non-emergency production system changes follow a Department-approved change control process, including a risk analysis.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	345
SM044	1	The solution should support record, database, table, and field-level access.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	346
SM045	1	The solution should support secure file and folder access.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	346

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
SM046	1	The solution should support workforce privacy and security awareness through such methods as security reminders, training reminders, online training capabilities, and/or training tracking.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	347
SM047	1	The Vendor should collaborate with the Department to determine a security approach that integrates with other solution components to supply role-based single-sign-on access.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	347
SM048	1	The solution should have the ability to provide authorized solution users access to view and audit records of changes to free-form text data fields by capturing information including, but not limited to:	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	347
SM049	2	The name of the authorized solution user who updated a field	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	347
SM050	2	The date and time a field was updated	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	347
SM051	2	Others defined by the Department	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	347
SM052	1	The solution should have data encryption standards in accordance with Department, State, and federal security and privacy laws, policies, and/or procedures.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	347
SM053	1	The Vendor should provide documentation on how the solution governs the confidential nature of information about applicants and members, including the legal sanctions that can be provided, to the State, applicants, members, and other persons and agencies to whom information is disclosed.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	348
SM054	1	The Vendor should be prepared to demonstrate how the solution of interest supports regulations governing the safeguard of information about applicants and beneficiaries including, but not limited to:	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	348
SM055	2	Names	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	348
SM056	2	Addresses	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	349
SM057	2	Medical services provided	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	349
SM058	2	Social and economic conditions or circumstances	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	349
SM059	2	Agency evaluation of personal information	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	349
SM060	2	Medical data, including diagnosis and past history of disease or disability	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Security Management	349

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
SM061	2	Any information received for verifying income eligibility and amount of medical assistance payments	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	349
SM062	2	Any information received in connection with the identification of legally liable third party resources	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	349
SM063	2	Others as defined by the Department, State, and federal security and privacy policies	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	349
SM064	2	Others as defined by the Department	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	349
SM065	1	The Vendor should be prepared to demonstrate that the solution supports safeguarding income information that is received from the Social Security Administration (SSA) or the Internal Revenue Service (IRS).	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4. Secuirty Management	349
SM066	1	The solution should disable accounts after three consecutive invalid log in attempts and protect against further user authentication attempts using a Department approved lock-out mechanism.	Security Management	Will Meet	Attachment H - Technical Specifications Approach	4: Secuirty Management	350
TN001	1	The Vendor should provide a sandbox training environment for authorized solution users within the solution that uses de-identified data and is compliant with the Health Insurance Portability and Accountability Act (HIPAA), Department, and other State and federal regulations.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	423
TN002	1	The Vendor should develop and maintain a sandbox environment for training that mirrors production.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	424
TN003	1	The solution's training environment should have the capacity to support all components of the solution.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	424
TN004	1	The Vendor should ensure that no aspect of training uses protected health information (PHI), personally identifiable information (PII), or federal tax information (FTI), and that the training materials and environments are compliant with the Health Insurance Portability and Accountability Act (HIPAA), Department, and other State and federal regulations.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	424
TN005	1	The Vendor should provide the necessary training and ongoing support to all Department authorized solution users participating in data conversion validation and user acceptance testing (UAT) of the solution components, reporting options, and data structure.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	424
TN006	1	The Vendor should provide initial and ongoing training and associated reference documentation to authorized solution users for the duration of the contract, at the request of the Department.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	424

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
TN007	1	Throughout the duration of the contract, the Vendor should provide regular training sessions for authorized solution users on updated or new functionality and/or business processes related to the solution, at the request of the Department.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	424
TN008	1	The Vendor should track and provide confirmation of attendance at all training sessions and report on which versions of training materials were presented at the training.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	424
TN009	1	The Vendor should provide evaluation feedback forms to training participants at the end of each training and provide summaries of these evaluations to the Department.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	424
TN010	1	The Vendor should provide hands-on, in-person, remote, and/or online training.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	425
TN011	1	The Vendor should provide Department-approved, commercially-available training and/or guide books addressing all components of the solution and provide to the Department at least four (4) copies of each book for distribution as well as online electronic copies.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	425
TN012	1	The Vendor should ensure that all Department-approved training documentation for the solution is posted where authorized solution users can access it on demand.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	425
TN013	1	The Vendor should propose a role-based training approach.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	425
TN014	1	The Vendor should develop training materials that support each training.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	425
TN015	1	The Vendor should conduct training evaluations that provide feedback on the effectiveness of each training.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	425
TN016	1	The Vendor should provide as-is necessary the training facilities and equipment to best ensure the training's success.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	425
TN017	1	The Vendor should provide user acceptance testing (UAT) training.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	425
TN018	1	The Vendor should provide train-the-trainer training sessions.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	426
TN019	1	The Vendor should support all aspects of training that the Department and Vendor agree are key towards the trainings delivery.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	426

Specifications				Vendor Response			
Req ID #	Hierarchy Level	Specification Text	Subject Matter Area	Capability Assessment	Attachment	Section	Page #
TN020	1	The solution's training environments should be reflective of real-world data.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	426
TN021	1	The solution's training environments should include end-to-end training on processes during applicable phases of the project.	Training	Will Meet	Attachment I - Implementation Specifications Approach	1.7 Training Approach	426

Vendor Response - Capability Assessment	
Capability Assessment	**Description**
Will Meet	Specification will be met by the Vendor
Will Not Meet	Specification will not be met by the Vendor

Response Templates	
Response Template	**Description**
Attachment A	Cost Workbook
Attachment B	Title Page, Executive Summary, Subcontractor Letters, and Table of Contents
Attachment C	Vendor Qualifications and Experience
Attachment D	Project Organization and Staffing
Attachment E	Initial Work Plan
Attachment F	Mandatory Requirements
Attachment G	Business Specifications Approach
Attachment H	Technical Specifications Approach
Attachment I	Implementation Specifications Approach
Attachment J	Maintenance and Operations Specifications Approach
Attachment K	Terms and Conditions

West Virginia Ethics Commission

Disclosure of Interested Parties to Contracts

Pursuant to *W. Va. Code* § 6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of $1 million or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing interested parties to the contract within 30 days following the completion or termination of the applicable contract.

For purposes of complying with these requirements, the following definitions apply:

"Business entity" means any entity recognized by law through which business is conducted, including a sole proprietorship, partnership or corporation, but does not include publicly traded companies listed on a national or international stock exchange.

"Interested party" or *"Interested parties"* means:

(1) A business entity performing work or service pursuant to, or in furtherance of, the applicable contract, including specifically sub-contractors;
(2) the person(s) who have an ownership interest equal to or greater than 25% in the business entity performing work or service pursuant to, or in furtherance of, the applicable contract. (This subdivision does not apply to a publicly traded company); and
(3) the person or business entity, if any, that served as a compensated broker or intermediary to actively facilitate the applicable contract or negotiated the terms of the applicable contract with the state agency. (This subdivision does not apply to persons or business entities performing legal services related to the negotiation or drafting of the applicable contract.)

"State agency" means a board, commission, office, department or other agency in the executive, judicial or legislative branch of state government, including publicly funded institutions of higher education: Provided, that for purposes of W. Va. Code § 6D-1-2, the West Virginia Investment Management Board shall not be deemed a state agency nor subject to the requirements of that provision.

The contracting business entity must complete this form and submit it to the contracting state agency prior to contract award and to complete another form within 30 days of contract completion or termination.

This form was created by the State of West Virginia Ethics Commission, 210 Brooks Street, Suite 300, Charleston, WV 25301-1804. Telephone: (304)558-0664; fax: (304)558-2169; e-mail: ethics@wv.gov; website: www.ethics.wv.gov.

Revised June 8, 2018

West Virginia Ethics Commission

Disclosure of Interested Parties to Contracts

(Required by *W. Va. Code* § 6D-1-2)

Name of Contracting Business Entity: Optum Government Solutions, Inc. **Address:** 11000 Optum Circle Eden Prairie, MN 55344

Name of Authorized Agent: Amy Shaw **Address:** 11000 Optum Circle, Eden Prairie, MN 55344

Contract Number: TBD **Contract Description:** Medicaid Enterprise Data Solution

Governmental agency awarding contract: Department of Health and Human Resources

☐ **Check here if this is a Supplemental Disclosure**

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below *(attach additional pages if necessary)*:

1. **Subcontractors or other entities performing work or service under the Contract**
   ☐ Check here if none, otherwise list entity/individual names below.
   TEKSystems, Inc

2. **Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)**
   ☐ Check here if none, otherwise list entity/individual names below.
   OptumInsight, Inc. (100% owner of the contracting entity, Optum Government Solutions, Inc.)

3. **Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)**
   ☑ Check here if none, otherwise list entity/individual names below.

Signature: _____ Date Signed: 1/28/20

Notary Verification

State of Minnesota, County of Hennepin

I, Amy Shaw, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 28th day of January, 2020

Vicki L. Martin
Notary Public's Signature

VICKI L MARTIN
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2025

To be completed by State Agency:

Date Received by State Agency: _____

Date submitted to Ethics Commission: _____

Governmental agency submitting Disclosure: _____

Revised June 8, 2018

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFP 0511 HHR2000000001

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[X] Addendum No. 1	[X] Addendum No. 6
[X] Addendum No. 2	[X] Addendum No. 7
[X] Addendum No. 3	[ ] Addendum No. 8
[X] Addendum No. 4	[ ] Addendum No. 9
[X] Addendum No. 5	[ ] Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Optum Government Solutions, Inc.

Company

Authorized Signature

February 11, 2020

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Optum Government Solutions, Inc.

Authorized Signature: _____ Date: 1/28/20

State of Minnesota

County of Hennepin, to-wit:

Taken, subscribed, and sworn to before me this 28th day of January, 2020.

My Commission expires January 31, 2025.

AFFIX SEAL HERE

VICKI L MARTIN
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2025

NOTARY PUBLIC Vicki L Martin

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Steve Grimshaw, Account Manager

(Name, Title)

Steve Grimshaw, Account Manager

(Printed Name and Title)

9300 Tech Center Drive Suite 200 Sacramento, CA 95826

(Address)

(916) 288-2572

(Phone Number) / (Fax Number)

Steve.Grimshaw@optum.com

(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Optum Government Solutions, Inc.

(Company)

Amy Shaw, Senior VP, Finance

(Authorized Signature) (Representative Name, Title)

Amy Shaw, Senior VP, Finance

(Printed Name and Title of Authorized Representative)

February 4, 20202

(Date)

952.205.6032 / 952.205.9009

(Phone Number) (Fax Number)

6.9 AVAILABILITY OF INFORMATION

Proposal submissions become public and are available for review immediately after opening pursuant to West Virginia Code §5A-3-11(h). All other information associated with the RFP, including but not limited to, technical scores and reasons for disqualification, will not be available until after the contract has been awarded pursuant to West Virginia Code of State Rules §148-1-6.3.d.

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Optum Government Solutions, Inc
(Company)

Amy Shaw, Senior VP, Finance
(Representative Name, Title)

952.205.6032/ 952.205.9009
(Contact Phone/Fax Number)

February 4, 2020
(Date)