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WV Purchasing Division

State of West Virginia

Department of Health and Human Resources

Optum Response to Predictive Analytics Software and Services

Technical Proposal
Solicitation No.: CRFP MIS2300000001

Signature:

Date: September 23, 2022

Bid Opening Date
September 28, 2022

Contact
Mike Miller
VP, Business Development
Optum

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Optum

September 28, 2022

Ms. Crystal Hustead
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

**RE: Optum Response to Predictive Analytics Software and Services RFP
Solicitation No.: CRFP MIS2300000001**

Dear Ms. Hustead:

On behalf of Optum Government Solutions, Inc. (Optum), I have provided the following
response to the State of West Virginia and the Predictive Analytics Software and Services
request for proposal (RFP).

We are a current DHHR vendor since 2016 through our continued operations and modernization
of RAPIDS—the DHHR eligibility and enrollment system. Optum also supports state Medicaid
and Department of Health programs to transform performance through care management,
technology, analytics, program, and policy consulting. We have implemented and operated over
a dozen Enterprise Data Solutions that include predictive analytics and software services for
state Health and Human services programs since 1994.

Thank you for your consideration of Optum supporting your important program.

Best regards,

Mike Miller
VP, Business Development
Optum

Attachment A: Exceptions and Clarifications

Optum's Exceptions and Clarifications immediately follows this page.

Attachment A - Exceptions and Clarifications

Section II, Instructions To Vendors Submitting Bids, Number 11, Exceptions and Clarifications provides that vendors are to "clearly mark any exceptions, clarifications or other proposed modifications in its bid". Optum proposes the following clarifications and modifications to its general terms and conditions for State consideration. We also request that these become part of the eventual contract awarded as a result of the RFP. Optum has proposed specific wording to address the clarification and modification, and in several places proposes the same language as accepted in our other contracts with the State. However, Optum is prepared to negotiate mutually acceptable alternatives to the wording as proposed. Optum does not propose any exceptions to the Mandatory Requirements found in RFP Section 4.

Section III, General Terms and Conditions:

No. 4, Authority to Proceed. After an award is made, and prior to performance by Optum, Optum expects that parties will negotiate and execute a definitive contract that contemplates clarifications and modifications contained herein.

No. 19, Cancellation. Consistent with what the State has similarly agreed to in prior contracts, Optum requests both a cure period to be added to this provision, as well as a clarification that Contractor will be paid for costs incurred, so that it is modified as follows:

"The Purchasing Division Director reserves the right to cancel this Contract ~~immediately~~ upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract provided that Contractor is given thirty (30) days to cure the nonconforming materials and/or workmanship and fails to cure within that period. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-6.I.e., provided that Contractor shall be paid for costs incurred upon notice of termination.

No. 20, Time. Consistent with what was previously agreed to by the State in prior contracts, Optum requests that this provision be deleted in its entirety because it would mean that any breach, no matter how small or immaterial, would be cause for breach of contract.

No. 28, Warranty. Optum requests an opportunity to discuss this provision with the State during contract discussions. The current standard warranty provision does not address the overall complexity of the solution. Consistent with what has been previously agreed to by the State in other contracts, Optum is willing to provide up to 90 days warranty for its professional services and to the extent the solution leverages software as a service, warranty support for the underlying hardware and operating system software infrastructure will be provided as offered by third party providers.

We would propose the following language in lieu of Section 28, Warranty:

"Vendor warrants that each of Vendor's employees 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 competent and professional manner for a period of ninety (90) days after their completion. 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 Agency. If any hardware or operating system software provided by Optum through a third party service provider as part of its Software as Service Predictive Analytic solution fails to conform to its published specifications during the term of the Contract with the Agency, Vendor shall convey any warranty support to the Agency that Vendor's third party services provider includes as part of its software as a service offer.

EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, VENDOR MAKES NO OTHER WARRANTIES OR REPRESENTATIONS RELATING TO THE SOFTWARE, THE DATA

PRODUCTS OR THE SERVICES, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIMS THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE."

No. 31, Privacy, Security and Confidentiality. Optum proposes the following additional paragraph that would protect Optum's confidential information that the State will have access to under the project, where such language is consistent with language that the State has agreed to in other contracts with Optum or its affiliate:

"The Agency 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 or for Vendor to the Agency, 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 the Agency without restriction before receipt from Vendor, (b) is rightfully disclosed to the Agency without restriction by a third party, (c) is or becomes generally known to the public (d) is independently developed by the Agency or its employees without access to or reliance on such information."

No. 36, Indemnification. Optum is generally agreeable to this section with the understanding that Vendor's indemnification obligation will not include acts and omissions attributable to the State and its representatives. Further, Optum requests that additional language is added to clarify that Optum is provided prompt notice and has sole control and authority to defend or settle any such claims. As such, Optum proposes the following language at the end of the section which is also consistent with language that the State has accepted in other contracts with Optum or its affiliates:

"The parties agree that vendor's indemnification obligations do not apply to acts and omissions attributable to the State. The State shall promptly notify Vendor of any claim giving raise to the indemnity, and in the event a third-party claim is made, Vendor shall have the right and option to undertake and control such defense of such action with counsel of its choice."

Software as a Service Addendum: Optum agrees with most of the terms of the SaaS Addendum to the extent applicable to the scope of work defined in the RFP and DHHR's indication in Appendix A of the SaaS Addendum that Optum, as the "Service Provider" will not have access to restrictive information. Optum has set forth below those provisions of the SaaS Addendum that do not fit those criteria.

(a) Section 1, Data Breach – Optum will not store in its cloud environments any personal data and as such, no Data Breach will occur.

(b) Section 3(c), Data Protection and Privacy - The RFP does not require the predictive analytic software and services provider to interact with any State contracted third party identity provider so this Section shall not apply.

(c) Section 5, Breach Responsibilities – This Section shall not apply to Optum's scope of work in so far as Optum will not possess or control any personal data in the cloud.

(d) Section 8, Background Investigations - Per the terms of W.Va. Code §15-2D-3, a service provider's employees are only subject to criminal fingerprint background investigations if they have access to sensitive or critical information and per the RFP, including Appendix A of the SaaS Addendum, Optum will not have access to such information. In the unlikely event that a DHHR Data Scientist were to provide such information into the Optum provisioned instance of the Azure Commercial cloud made accessible to DHHR, Optum will employ an automated capability to remove such data without any Optum personnel having to do so. As such, this Section does not apply.

(e) Section 11, Data Protection Self-Assessment – To fulfill the Cloud Security Alliance STAR Self-Assessment referenced in this Section, Optum will provide the assessment made by its cloud service providers (CSPs), to the extent applicable and available, with the understanding that if

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any deficiencies are identified, the consequence of such deficiency(ies) shall be for the applicable CSP to use reasonable efforts to remediate the deficiency.

(f) Section 12, Data Center Audit – The RFP does not otherwise require full compliance with all security controls under a SOC 2 Audit and in fact limits the scope of MARS-E controls to only two areas in light of the nature of the data to which Optum will have access. Optum will provide any SOC 2 audits that are available from Azure and Snowflake, its two CSPs, subject to the understanding that for any deficiencies that may be noted in such audit reports, Optum's sole obligation shall be to work with such CSPs to use reasonable efforts to remediate such deficiencies.

(g) Section 13, Change Control and Advance Notice – One of the advantages of using a public cloud infrastructure is that customers may benefit from the management of changes to the underlying hardware, software or firmware. At the same time, such management is done with such frequency as guaranteeing a 30 days advance notice is not possible. As such, the 30 day notice shall not apply but DHHR shall have the benefit of the availability of service credits should the availability service level metric not be met.

Supplemental Clarifications. The following are additional clarifications that Optum proposes to be included in any resulting contract.

1. Limitations on Liability. Optum is proposing that the eventual contract contain language to address limitations around Optum's overall liability. Consistent with language in other contracts between the State and Optum or its affiliates, Optum proposes the following language:

   "The aggregate liability of Vendor for any and all claims arising under the Agreement whether based in contract, tort or otherwise, including, without limitation, any penalties, credits or deductions arising from the failure by Vendor to meet the service level agreement described in Section 4.2.2.2.10.3, but exclusive of claims for bodily injury (including death) and damage to tangible personal property, proximately caused by Vendor, shall not exceed the amount payable to the Vendor in the contract year in which the claim arises. In no event shall Optum be responsible or liable for any indirect, punitive or consequential damages."

2. Service Level Agreements and Excused Performance

   Regarding the State's right to deduct from Optum's monthly invoice certain amounts set forth in Section 4.2.2.2.10.3 of the RFP arising out of Optum's failure to have unscheduled down time be greater than one percent (1%), the following is suggested language around excused performance:

   "Any deduction described in Section 4.2.2.2.10.3 of the RFP shall only be assessed if and to the extent that Vendor has proximately caused there to be more than one percent (1%) of unscheduled such third party is not a cloud service provider to the Vendor) has caused the unscheduled downtime not to have been met, including, without limitation, the failure of DHHR or a third party (where such third party is not a subcontractor to Contractor), Vendor shall not be liable for the deduction. If Vendor and the Agency and/or one or more third parties have caused the event giving rise to the deduction to have occurred, then Vendor shall be liable for the deduction amount only in proportion to the percentage of Vendor's fault.

   To the extent that any failure to meet the unscheduled downtime is attributable to other acts outside of Vendor's control, either solely or partially, then the corresponding deduction shall be excused, either entirely or partially."

Supplier Required License Terms as Part of No. 26, Subsequent Forms. While the RFP and contract terms added a Software as a Service Addendum ("SaaS Addendum"), the terms of such SaaS Addendum did not contain all of the terms that would be found typically in a Software as a Service solution. As a result, Optum's proposed Software as a Service solution includes certain software from third party, commercial, off the shelf (COTS) vendors where such COTS Software is to be used by Optum and by the State. Such COTS vendors require that Optum have the State agree to such vendors' license and

support terms and conditions regarding access and usage that are in addition to those in the SaaS Addendum. In addition, in so far as Optum is proposing to host the applicable third party Predictive Analytic Software, inclusive of data cleansing tools and data visualization software, in an Optum provisioned instance of the Azure Commercial Cloud, Optum is able to do so, subject to the State agreeing to certain license and support terms provided by Microsoft Corporation with regard to the Azure Commercial Cloud that are not found in the SaaS Addendum. Accordingly, Optum has attached to this document the following Exhibits applicable to such license and support terms, as described below, based on the assumption that such Exhibits shall be added as a part of the eventual Contract between Optum and the State:

Description of the CSP or Third Party Software License and Support or Use Terms	Exhibit
Azure Commercial Cloud Service Provider (CSP) License Terms and Support Terms	1
Microsoft Power BI Premium Software Subscription License Terms	2
Azure Machine Learning Service – NVIDIA Cloud End User License Agreement for Compute	3
Cognitive Services and Applied AI Services Terms and Conditions	4
Snowflake Cloud Subscription Terms	5
Microsoft Power BI Desktop License Terms	6

Exhibit 1
Azure Commercial Cloud Service Provider (CSP) License Terms and Support Terms

1. Microsoft Azure Commercial Cloud License Terms

This Section 1 sets forth the license terms and conditions (the "License Terms") that shall apply to the State of West Virginia Department of Health and Human Resources (the "State" or "Agency") and its use of, and access to, the Microsoft Azure Commercial Cloud environment in which the Predictive Analytic Software Solution is hosted, inclusive of any operating system software as well as the Azure Data Lake Storage, Azure Data Factory and Azure DevOps software as a service offerings, where such License Terms are hereby incorporated as part of the Predictive Analytics Software and Services Contract between Optum and the State (the "Contract"):

A. Grant Language:
The State shall have the non-exclusive right and license to use and access for its internal business purposes, the Optum Provided Azure Commercial Cloud space provisioned by Optum for the State (the "Optum Provided Azure Commercial Cloud Space"), including any operating system software for servers that comprise the Predictive Analytic Software Solution infrastructure within that Optum Provided Azure Commercial Cloud Tenant Space (the "Microsoft Azure Commercial Cloud"), solely during the Services Term of this Contract, as defined below, provided that such use is in combination with Optum's Predictive Analytic Software Solution.

B. Use Restrictions:
The State's use of the Microsoft Azure Commercial Cloud is further subject to the State's compliance with the following:
1. The Microsoft Online Service Terms for the Azure Commercial Cloud Services described in such Online Service Terms are in effect upon Optum's provisioning of access by the State to the Azure Commercial Cloud and continuing for as long as the State pays the applicable charges to Optum and this Contract is in effect (the "Azure Commercial Cloud Services Term"), subject to any changes that Microsoft may make during the Services Term for all Azure Commercial Cloud customers from time to time; and

2. The Microsoft Product Terms for the operating system software components of the servers that comprise any hardware systems in the Microsoft Azure Commercial Cloud in effect during the period in which Customer uses such product(s), including any changes made by Microsoft during the Azure Commercial Cloud Services Term for all Azure Commercial Cloud customers of such components.

C. Acceptable Use Policy
The State may not use the Microsoft Azure Commercial Cloud:
• in a way prohibited by law, regulation, governmental order or decree;
• to violate the rights of others;
• to try to gain unauthorized access to or disrupt any service, device, data, account or network;
• to spam or distribute malware;
• in a way that could harm the Online Service or impair anyone else's use of it;
• in any application or situation where failure of the Online Service could lead to the death or serious bodily injury of any person, or to severe physical or environmental damage; or
• to assist or encourage anyone to do any of the above.

Violation of the Acceptable Use Policy in this section may result in suspension of the Online Service. Microsoft will suspend the Online Service only to the extent reasonably necessary. Unless Microsoft believes an immediate suspension is required, Microsoft will provide reasonable notice before suspending an Online Service.

2. Microsoft Azure Commercial Cloud Support Terms

The following Support Terms shall apply to the use of the Microsoft Azure Commercial Cloud, inclusive of the operating system software installed on the servers that comprise the Predictive Analytics Software Solution that shall be provided by Optum to the State during the Contract Term:

Optum shall provide the State with the benefit of Microsoft's service level agreements ("SLAs") in effect as of the beginning of the Services Term as such apply to the Microsoft Azure Commercial Cloud services described in this Amendment, including any changes made by Microsoft during the Services Term for all Azure Commercial Cloud customers of such Services, in all cases as such SLAs may be found at: http://www.microsoftvolumelicensing.com/SLA.

Exhibit 2
Microsoft Power BI Premium (PPU) Service Subscription License Terms

The following license terms shall apply to the State's use of the Microsoft Power BI Premium (PPU) Service, subject to the State's payment of the applicable Subscription charges:

1. Terms of Use for the Power BI Premium Service, Including License Scope
   A. Description of the Power BI Premium Service.

   The Power BI Premium Service is a subscription based service provided in the Azure Commercial Cloud that provides business intelligence tools used or useful in connection with data visualization related to predictive analytics and modeling and solely in conjunction with Optum's Predictive Analytics Software Solution.

   B. General Terms of Use, License Rights and Limitations.

   The following applies to the Customer's use of the Power BI Premium Service, inclusive of the Power BI Premium software:
   1. Optum grants to the State a nonexclusive, nontransferable right to access the Power BI Premium Service, inclusive of the right and license for up to ten (10) named users to use the Power BI Premium Software for the Customer's internal business purposes related to viewing data models and visualizations solely during the Services Term of the Contract and solely in conjunction with the use of other components of Optum's Predictive Analytics Software Solution.   References in these License Terms to "Named Users" authorized by the license shall mean each individual accessing the Power BI Premium Service in any manner. Customer may use the Power BI Premium Service only as permitted in these License Terms, and for no other purposes, with ownership of the Power BI Premium Service, inclusive of the Power BI Premium Software and all other intellectual property rights in such Power BI Premium Service remaining with Microsoft.

   2. The Customer's use of the Power BI Premium Service, inclusive of the Power BI Premium Software, shall be within the Optum provisioned Azure Commercial Cloud production instance and, in the event of an actual disaster, then within the Optum provisioned Azure Commercial Cloud disaster recovery instance and solely in conjunction with the Predictive Analytics Software Solution hosted by Optum.

   3. Customer must comply with any technical limitations in the Power BI Premium Service that only allows the Customer to use it in certain way. The Customer may not:
      a. work around any technical limitations in the Power BI Premium Service, inclusive of the Power BI Premium Software;
      b. reverse engineer, decompile or disassemble the Power BI Premium Software, except and only to the extent that applicable law expressly permits, despite this limitation;
      c. make copies or otherwise publish the Power BI Premium Software for others to copy;
      d. rent, lease or lend the Power BI Premium Software;
      e. transfer the Power BI Premium Software or this agreement to any third party; or use the Power BI Premium Software for commercial software hosting services.

2. Term and Termination
   A. Term. These License Terms are effective upon Optum's provisioning of access by the State to the Azure Commercial Cloud and the Power BI Premium Service (the "Effective Date") and continuing for as long as the State pays the applicable charges to Optum and this Contract is in effect (the "Power BI Services Term").
   B. Effect of Termination. Upon termination or expiration of the Contract, the Customer's right to continued use of the Power BI Premium Service, inclusive of the Power BI Premium Software, shall cease.

Exhibit 3
Azure Machine Learning Service – NVIDIA Cloud End User License Agreement for Compute

The Azure Machine Learning Service is one of the Software as a Service components for which Optum is providing the State access solely during the term of the Predictive Analytics Software and Services Contract between Optum and the State. To the extent the Azure Machine Learning Service includes NVIDIA Corporation's CUDA Toolkit, Tesla drivers, cuDNN, DIGITS, NCCL, and TensorRT (the "NVIDIA Components"), the State agrees that its use of NVIDIA Components during such period is governed by the then current version of the NVIDIA Cloud End User License Agreement for Compute as published by Microsoft Corporation ("Microsoft") at Commercial Licensing Terms (microsoft.com).

As of the date of this Proposal, such NVIDA Cloud End User License Agreement for Compute is found at NVIDIA CLOUD END USER LICENSE AGREEMENT (databricks.com).

Exhibit 4

Cognitive Services and Applied AI Services Terms and Conditions

The Cognitive Services and Applied Artificial Intelligence (AI) Services is one of the Software as a Service components for which Optum is providing the State access solely during the term of the Predictive Analytics Software and Services Contract between Optum and the State. The State's use of such Cognitive Services and AI Services during such period is governed by the terms applicable to such services then in effect as published by Microsoft Corporation ("Microsoft") at Commercial Licensing Terms (microsoft.com).

As of the date of this Proposal, such service terms are set forth below, where references to "Customer" shall mean the State and references to "Customer Solution" shall mean the Predictive Analytics Software and Services solution provided by Optum:

Cognitive Services and Applied AI Services

For the purposes of this section, "Services" means collectively Cognitive Services and Applied AI Services.

1. Product documentation

Microsoft may provide technical documentation regarding the appropriate operation applicable to the Services (including the applicable developer guides), which is made available online by Microsoft and updated from time to time. Customer acknowledges and agrees that it has reviewed this documentation and will use the Services in accordance with such documentation, as applicable.

Some Services are intended to process Customer Data that includes Biometric Data (as may be further described in product documentation) which Customer may incorporate into its own systems used for personal identification or other purposes. Customer acknowledges and agrees that it is responsible for complying with the Biometric Data obligations contained in the Online Services DPA (https://aka.ms/DPA).

2. Limit on Customer use of service output

Customer will not use, and will not allow third parties to use the Services or data from the Services to create, train, or improve (directly or indirectly) a similar or competing product or service.

3. Limited Access Services

Certain Services (or versions thereof) require registration and are subject to limitations on access and use based on Microsoft's eligibility and use criteria, as updated by Microsoft from time to time ("Limited Access Services"). The following Cognitive Services and Applied AI Services are Limited Access Services:

- Azure Cognitive Services Customized Text-to-Speech service
- Azure Cognitive Services Face API service
- Azure Cognitive Services Computer Vision service (Celebrity Recognition)
- Azure Cognitive Services Speaker Recognition service
- Azure Video Indexer Applied AI Service

NOTE: In addition to the services listed here, (i) Cognitive Services and Applied AI Services preview services may be designated, in applicable preview terms, as subject to Limited Access Services terms;

and (ii) certain versions of Cognitive Services and Applied AI Services, such as versions in containers, may be designated, in product documentation or otherwise, as subject to Limited Access Services terms.

Customer agrees that it will only use Limited Access Services (including when used in a Customer Solution) in accordance with the applicable product terms, product documentation, and these Limited Access Services terms; solely for the permitted uses specified in its registration form; and in accordance with any commitments and/or representations made in its Limited Access Services registration form. Customer agrees to provide current, complete, and accurate information in all registration forms and other materials provided to Microsoft pursuant to these Limited Access Service terms. Microsoft may require Customer from time to time to re-verify that all information submitted to Microsoft regarding Customer and Customer's use of the Limited Access Services remains accurate, complete, and up to date, and that Customer is using the Limited Access Services in accordance with the information submitted and these terms. Customer agrees to respond to requests for re-verification from Microsoft within ten (10) business days of receiving a request (requests may be provided via self-certification Azure tools). If Microsoft needs additional information to assure compliance with these terms or eligibility for access to Limited Access Services, Customer agrees to reasonably cooperate with Microsoft to provide such information within thirty (30) business days of request.

Microsoft may re-assess Customer's eligibility to access and use Limited Access Services from time to time. If Microsoft determines that Customer no longer meets Microsoft's eligibility and use criteria for a Limited Access Service (or that Customer does not meet eligibility and use criteria for a Service that has become a Limited Access Service), Microsoft will provide Customer with 12 months' notice before discontinuing Customer's access to and use of that Limited Access Service, unless security, legal, or system performance considerations require an expedited discontinuation of access. This does not apply to Previews, and does not affect any other rights and remedies available to Microsoft with respect to Customer's use of Services.

In addition to Microsoft's right to discontinue access to and use of a Limited Access Service when Customer no longer meets Microsoft's eligibility and use criteria (or Customer does not meet eligibility and use criteria for a Service that has become a Limited Access Service), Microsoft may suspend or terminate Customer's access to these Limited Access Services for non-compliance with any of the terms in this section, without advance notice but only to the extent reasonably necessary under the circumstances.

4   Customized Text-to-Speech (TTS) Services and use of Synthetic Voices

Permissions. Customer represents, warrants and certifies that (i) it has explicit written permission from the voice owner(s) contained within its audio files ("Voice Talent") to use their personal data, including his/her voice likeness to create voice model(s) ("Synthetic Voice(s)"), (ii) Customer's agreement(s) contemplate the duration of use of the Synthetic Voice and any content limitations and (iii) Customer has shared Microsoft's disclosure guidance for voice talent (https://aka.ms/disclosure-voice-talent) with Voice Talent directly or through Voice Talent's authorized representative that describes how synthetic voices are developed and operate in conjunction with text to speech services. Microsoft reserves the right to require Customer to provide audio files containing acknowledgements by Voice Talent(s). Customer acknowledges and agrees that Microsoft may use this to perform speaker verification against Customer's audio training files; however, Microsoft's retention of audio files does not create or imply an obligation that Microsoft will perform speaker verification.

Permitted uses. In addition to compliance with the Acceptable Use Policy, the code of conduct (available at https://aka.ms/custom-neural-code-of-conduct) sets the minimum requirements that all TTS implementations must adhere to in good faith. Customer shall have the exclusive right to use the Synthetic Voice(s)s created by Customer and made available through use of the Services. Notwithstanding the foregoing or anything to the contrary in the DPA, Customer acknowledges and agrees that Microsoft may retain a copy of each Synthetic Voice created by Customer and may, but is not obligated to, use the Synthetic Voice(s) to investigate and respond to any alleged violations of the service terms. Customer agrees and grants Microsoft a limited nonexclusive irrevocable worldwide license to retain acknowledgment audio voice consent file(s)s and a copy of the Synthetic Voice(s) for the limited

purposes above. Customer is required to secure and maintain all rights necessary for Microsoft to retain and use the acknowledgment audio files and Synthetic Voice(s) as described in this section without violating the rights of Voice Talent(s) or any other third party or otherwise obligating Microsoft to Customer, Voice Talent or any other third party. This paragraph will survive termination or expiration of Customer's agreement.

5. Microsoft Translator Attribution

When displaying automatic translations performed by Microsoft Translator, Customer will provide reasonably prominent notice that the text has been automatically translated by Microsoft Translator.

6. Services in Containers

Services features that are available in containers are designed to connect to a billing endpoint. The containers and the billing endpoint are licensed to Customer under this agreement as Online Services, and the containers are also subject to the terms for Use of Software with the Online Service in this agreement. Customer must configure the containers it uses to communicate with the billing endpoint so that the billing endpoint meters all use of those containers. Provided Customer enables such metering and subject to any applicable transaction limits, Customer may install and use any number of containers (1) on Customer's hardware devices that are dedicated to Customer's exclusive use, and (2) in Customer's Microsoft Azure Service accounts. Any dedicated hardware that is under the management or control of an entity other than Customer or one of its Affiliates is subject to the Outsourcing Software Management clause of the Universal License Terms for All Software.

The containers include material that is confidential and proprietary to Microsoft. Customer agrees to keep that material confidential and to promptly notify Microsoft if Customer becomes aware of any possible misappropriation or misuse.

The terms of the DPA do not apply to containers installed on Customer's dedicated hardware, except to the extent a) any Personal Data is collected in connection with the billing endpoint, or b) custom model training is required prior to download of the Service operating in the container, because the operating environment of those containers is not under Microsoft's control.

7. Inactive Services Configurations and Custom Models

For the purposes of data retention and deletion, a Services configuration or custom model that has been inactive may at Microsoft's discretion be treated as an Online Service for which the Customer's subscription has expired. A configuration or custom model is inactive if for 90 days (1) no calls are made to it; (2) it has not been modified and does not have a current key assigned to it and; (3) Customer has not signed in to it.

Exhibit 5

Snowflake Cloud Subscription Terms and Conditions

1. Snowflake's Acceptable Use Policy

The State of West Virginia, Department of Health and Human Resources, in collaboration with the Vermont Agency of Digital Services (ADS), in collaboration with the Bureau of Behavioral Health and the Office of Drug Control Policy (the "Customer") agrees to abide by the then current Snowflake Acceptable Use Policy in connection with their access and/or use of the Snowflake Cloud Service as described in Optum's Technical Proposal (the "Service") commencing upon the establishment by Optum of such cloud service and continuing for the term of the Predictive Analytics Software and Services contract between Optum and the Customer, subject to the payment of the applicable annual subscription charge:

   A. The Customer agrees not to, and not to allow third parties to use the Service:
      1. to store, transmit, or make available (a) content that is infringing, libelous, unlawful, tortious, or in violation of third-party rights, (b) content or technology that harms, interferes with, or limits the normal operation of the Service or Snowflake offerings, including monitoring traffic or data, or (c) viruses, malware, or other malicious code;
      2. for illegal, threatening, or offensive uses, or for similarly objectionable purposes, such as propagating hate or violence or causing harm to others or to our reputation;
      3. to transact in, or facilitate activities related to, misappropriating another individual's identity, including, but not limited to, improperly obtained credit card information and/or account credentials;
      4. to attempt to gain unauthorized access to the Service or any Snowflake offerings or any related systems, including those of Snowflake's subcontractors and other customers or users;
      5. to permit direct or indirect access to or use of the Service or any Snowflake offerings in a way that violates the Contract or use of the Service or any Snowflake offerings to access or use any intellectual property in or related to the Service or any Snowflake offerings except as permitted under the Contract;
      6. to copy the Service or any Snowflake offerings, or any part, feature, function or user interface thereof except as expressly allowed for in connection with the OPA for HHS Solution under the Contract; or
      7. to build similar or competitive products or services.

   B. The Customer may conduct benchmark tests of the Service (each a "**Test**"). Other than with respect to Tests involving Previews, which may not be disclosed externally, the Customer may externally disclose a Test or otherwise cause the results of a Test to be externally disclosed if it includes as part of the disclosure all information necessary to replicate the Test.

   C. Notwithstanding anything to the contrary in the Contract, in the event of any conflict between the Contract and this AUP, this AUP shall govern. This AUP may be updated by Snowflake from time to time upon reasonable notice (which may be provided through the Service or by posting an updated version of this AUP). Any violation of this AUP may result in the suspension or termination of the Customer's access to and use of the Service or any Snowflake offering.

2. Data Protection at the Business Critical Service Edition Level

The Customer shall receive the benefit of the then current data protection provisions provided by Snowflake at the Business Critical level, as such terms may be found on the following link:

(https://docs.snowflake.com/en/user-guide/intro-editions.html#business-critical-edition),

where such terms shall supersede and replace any other or conflicting security and data protection provisions in the Contract as they relate to the Snowflake cloud service.

3.   Snowflake's Premier Support Terms

The Customer shall receive the benefit of the then current Premier support terms for bugs, defects or errors in the Snowflake cloud computing service reported by the State through Optum for resolution by Snowflake as may be found on the following link: (https://www.snowflake.com/legal-files/Snowflake-Support-Policy-And-Service-Level-Agreement.pdf), where such support terms shall supersede and replace any other or conflicting support terms in the Contract as they relate to the Snowflake cloud service

4.   Snowflake's Security Terms

The Customer shall receive the benefit of the security terms applicable to the Snowflake cloud service as found in the then current version of the Snowflake Security Addendum as may be found on the following link: (https://www.snowflake.com/legal/security-addendum/), where such security terms shall supersede and replace any other or conflicting security terms in the Contract as they relate to the Snowflake cloud service.

Exhibit 6
Microsoft Power BI Desktop Software License Terms

The State's use of the free version of Microsoft Power BI Desktop Software (the "software") that the State's Power Users are assumed to download and install under Optum's Technical Proposal shall be governed by the following end user license terms from Microsoft Corporation set forth below, where references to "you" shall mean the State of West Virginia, Department of Health and Human Resources:

MICROSOFT POWER BI DESKTOP

These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft

- updates,
- supplements,
- Internet-based services, and
- support services

for this software, unless other terms accompany those items. If so, those terms apply.

BY USING THE SOFTWARE, YOU ACCEPT THESE TERMS. YOU MAY CHOOSE NOT TO ACCEPT THESE TERMS, IN WHICH CASE YOU MAY NOT USE THE SOFTWARE (IF YOU HAVE NOT ALREADY INSTALLED IT) OR WITHDRAW YOUR ACCEPTANCE ANY TIME BY UNINSTALLING THE SOFTWARE.

IF YOU COMPLY WITH THESE LICENSE TERMS, YOU HAVE THE RIGHTS BELOW.

1. **INSTALLATION AND USE RIGHTS.**

   a. **Installation and Use.**

      - You may install and use any number of copies of the software on your devices.

   b. **Third Party Programs.**

      i. The software may include third party programs that Microsoft, not the third party, licenses to you under this agreement. Notices, if any, for the third party program are included for your information only.

      ii. The software may also include components licensed under open source licenses with source code availability obligations. Copies of those licenses, if applicable, are included in the ThirdPartyNotices file. You may obtain this source code from us, if and as required under the relevant open source licenses, by sending a money order or check for $5.00 to: Source Code Compliance Team, Microsoft Corporation, 1 Microsoft Way, Redmond, WA 98052. Please write "third party open source code in Power BI Desktop" in the memo line of your payment. We may also make a copy of the source code available at <http://thirdpartysource.microsoft.com>.

   c. **Third Party Connectors.** The software lets you connect to various third party data sources. Your agreements with any of these third party data source providers is solely between you and the applicable third party data source providers and may be governed by other terms of use or agreements that apply to such third party sources. You agree that you are solely responsible for and have the authority to import data from these third party data sources. Microsoft does not monitor, control or assume any liability associated with any data that you import from third party data sources and is not responsible for its quality, accuracy, nature and/or ownership. You agree that you are solely responsible for any content that you create, transmit, distribute or display based on the data that you import, while using the software.

   d. **Included Microsoft Programs. The software contains other Microsoft programs.** Any content provided through Bing Maps, including geocodes, can only be used within the software through

which the content is provided. Your use of Bing Maps is governed by the Bing Maps End User Terms of Use available at go.microsoft.com/?linkid=9710837 and the Bing Maps Privacy Statement available at go.microsoft.com/fwlink/?LinkID=248686.

2. **UPDATES.** The software may periodically check for updates, and download and install them for you. You may obtain updates only from Microsoft or authorized sources. Microsoft may need to update your system to provide you with updates. You agree to receive these automatic updates without any additional notice. Updates may not include or support all existing software features, services, or peripheral devices.

3. **DATA COLLECTION.** The software may collect information about you and your use of the software and send that to Microsoft. Microsoft may use this information to provide services and improve Microsoft's products and services. Your opt-out rights, if any, are described in the product documentation. Some features in the software may enable collection of data from users of your applications that access or use the software. If you use these features to enable data collection in your applications, you must comply with applicable law, including getting any required user consent, and maintain a prominent privacy policy that accurately informs users about how you use, collect, and share their data. You can learn more about Microsoft's data collection and use in the product documentation and the Microsoft Privacy Statement at https://go.microsoft.com/fwlink/?LinkId=512132. You agree to comply with all applicable provisions of the Microsoft Privacy Statement.

4. **PROCESSING OF PERSONAL DATA.** To the extent Microsoft is a processor or subprocessor of personal data in connection with the software, Microsoft makes the commitments in the European Union General Data Protection Regulation Terms of the Online Services Terms to all customers effective May 25, 2018, at http://go.microsoft.com/?linkid=9840733.

5. **TIME-SENSITIVE SOFTWARE.** The software will stop running when a new version of the software is available. You will receive notice in the Status Bar in the software at least thirty days before it stops running. You may not be able to access data used with the software when it stops running.

6. **SCOPE OF LICENSE.** The software is licensed, not sold. This agreement only gives you some rights to use the software. Microsoft reserves all other rights. Unless applicable law gives you more rights despite this limitation, you may use the software only as expressly permitted in this agreement. In doing so, you must comply with any technical limitations in the software that only allow you to use it in certain ways. You may not

   - allow a third party application to connect and read data from the software without Microsoft's prior written approval;
   - download or use the software to conduct competitive research;
   - disclose the results of any benchmark tests of the software to any third party without Microsoft's prior written approval;
   - work around any technical limitations in the software;
   - reverse engineer, decompile or disassemble the software, except and only to the extent that applicable law expressly permits, despite this limitation;
   - make more copies of the software than specified in this agreement or allowed by applicable law, despite this limitation;
   - publish the software for others to copy;
   - rent, lease or lend the software;
   - transfer the software or this agreement to any third party; or
   - use the software for commercial software hosting services.

7. **DOCUMENTATION.** Any person that has valid access to your computer or internal network may copy and use the documentation for your internal, reference purposes.

8. **EXPORT RESTRICTIONS.** The software is subject to United States export laws and regulations. You must comply with all domestic and international export laws and regulations that apply to the software. These laws include restrictions on destinations, end users and end use. For additional information, see www.microsoft.com/exporting.

9. **SUPPORT SERVICES.** Because this software is "as is," we may not provide support services for it.

10. **ENTIRE AGREEMENT.** This agreement, and the terms for supplements, updates, Internet-based services and support services that you use, are the entire agreement for the software and support services.

11. **APPLICABLE LAW.**

    a. **United States.** If you acquired the software in the United States, Washington state law governs the interpretation of this agreement and applies to claims for breach of it, regardless of conflict of laws principles. The laws of the state where you live govern all other claims, including claims under state consumer protection laws, unfair competition laws, and in tort.

    b. **Outside the United States.** If you acquired the software in any other country, the laws of that country apply.

12. **LEGAL EFFECT.** This agreement describes certain legal rights. You may have other rights under the laws of your country. You may also have rights with respect to the party from whom you acquired the software. This agreement does not change your rights under the laws of your country if the laws of your country do not permit it to do so.

13. **DISCLAIMER OF WARRANTY. THE SOFTWARE IS LICENSED "AS-IS." YOU BEAR THE RISK OF USING IT. MICROSOFT GIVES NO EXPRESS WARRANTIES, GUARANTEES OR CONDITIONS. YOU MAY HAVE ADDITIONAL CONSUMER RIGHTS OR STATUTORY GUARANTEES UNDER YOUR LOCAL LAWS WHICH THIS AGREEMENT CANNOT CHANGE. TO THE EXTENT PERMITTED UNDER YOUR LOCAL LAWS, MICROSOFT EXCLUDES THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.**

14. **LIMITATION ON AND EXCLUSION OF REMEDIES AND DAMAGES. YOU CAN RECOVER FROM MICROSOFT AND ITS SUPPLIERS ONLY DIRECT DAMAGES UP TO U.S. $5.00. YOU CANNOT RECOVER ANY OTHER DAMAGES, INCLUDING CONSEQUENTIAL, LOST PROFITS, SPECIAL, INDIRECT OR INCIDENTAL DAMAGES.**

    This limitation applies to

    ·   anything related to the software, services, content (including code) on third party Internet sites, or third party programs; and

    ·   claims for breach of contract, breach of warranty, guarantee or condition, strict liability, negligence, or other tort to the extent permitted by applicable law.

    It also applies even if Microsoft knew or should have known about the possibility of the damages. The above limitation or exclusion may not apply to you because your country may not allow the exclusion or limitation of incidental, consequential or other damages.

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Optum
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DISCLAIMER

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Executive Summary

The West Virginia Bureau for Behavioral Health and Office of Drug Control Policy require predictive analytics and software support to assist State staff in visualizing data, informing policy, and making operational decisions. Optum is a trusted partner that the Agency can depend on to fulfill their goals and objectives. Our proposal consistently exceeds your requirements for predictive analytics software and services.

West Virginia is driving innovation in performing data analytics using epidemiologists, contracted data scientists, and information technology (IT) staff from various State agencies. Using internal databases, Vital Statistics, and other relevant data stores enables a comprehensive view of Agency programs, services, and performance. Partnering with a vendor for cloud-based data management as well as training and support in predictive analytics is a prudent approach to advance your analytic maturity.

Optum is the ideal partner to assist you on your journey to improve programs across your enterprise with fresh analytic approaches and insights. As the State of West Virginia's Recipient Automated Payment and Information Data System (RAPIDS) vendor since 2016, Optum works with State staff daily to maintain, operate, and modernize the legacy eligibility system. RAPIDS provides eligibility determination and necessary benefits to more than 400,000 West Virginians.

We collaborate with the Department of Health and Human Resources (DHHR) to deliver a modular,

West Virginia Commitment

Optum is committed to West Virginia with nearly 1,000 staff in the State.

Across our enterprise, we contribute more than $110,000 to the local economy and more than $260,000 in charitable giving each year.

Our employees donate more than $100,000 and 18,000 volunteer hours annually to give back to the West Virginia communities where they work and live.

Software-as-a-Service (SaaS) integrated eligibility solution for the West Virginia People's Access to Help (WV PATH) program. Optum[1] also supported the State by providing an opioid analytics module and an Opioid Use Disorder dashboard that supported calculations and visualizations of opioid use across the State. Our projects supporting you and our understanding of your systems and data will enhance your efforts for accurate analytic insight and flexible, secure cloud-native services. Our familiarity with your data, systems, people, and culture gives us strong capabilities to support your strategic goals for this project.

For 28 years, states like West Virginia have trusted Optum to provide reliable IT solutions, tools, and services for their vital projects and innovative programs. We invest more than $5.1 billion annually to advance innovation and technology like artificial intelligence and machine learning. Optum delivers efficient IT and predictive analytics and modeling services, training, and support using intelligent solutions and approaches that incorporate scalable cloud services to deliver

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[1] For purposes of this RFP and specifically for some of the experience and references cited herein, references to Optum shall include legal affiliates of Optum, including but not limited to Optum affiliates that are part of the Optum Serve business in so far as Optum will have access to the personnel and tools used by such affiliates to perform the predictive analytic services required by this RFP.

analytic insight, improve outcomes, and reduce the cost of care. States rely on our analytics expertise and policy knowledge to improve the lives of their residents. Figure 1 shows our services and solutions that help states grow, innovate, and strengthen their initiatives.
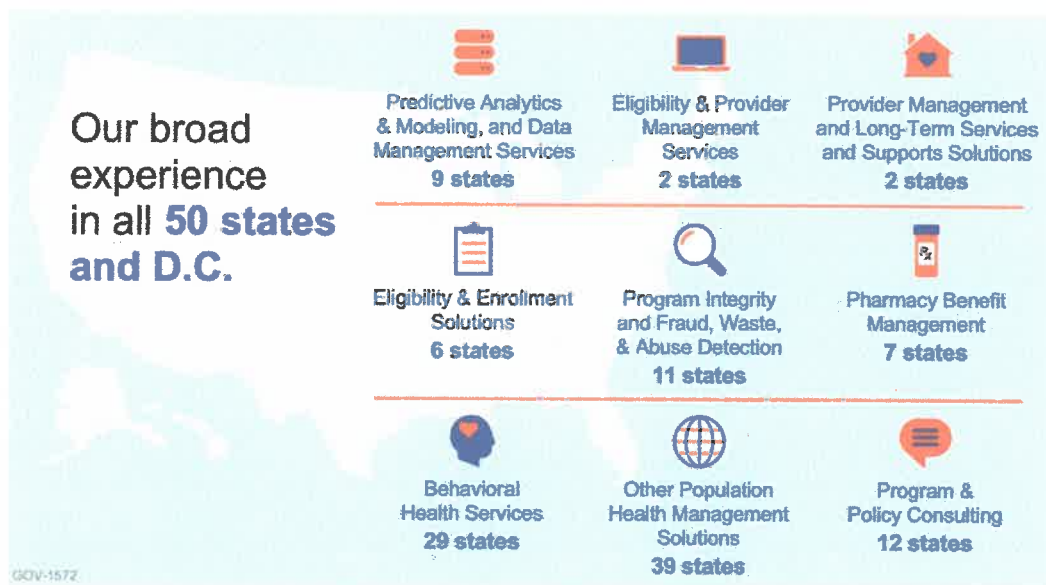
Figure 1: Optum Solutions and Services for State Agencies
Our solutions and services help states strengthen their cross-agency initiatives.

Our analytics experience and skilled staff enable us to achieve your project goals as shown in the following table.

Predictive analytics software that uses machine learning and artificial intelligence that Optum is familiar with using and supporting

Tailored training and integrated tools that generate proficiency in predictive analysis, modeling, data cleansing, transformation, and visualization

Secure, cloud-based repository for Agency data to support predictive analytics meeting federal and West Virginia security standards

Responsive technical support from skilled, knowledgeable staff that support each project scope of work and understands West Virginia programs, systems, and data

Our capabilities and experience are supported by our stability as an organization. Our successful performance is recognized by industry organizations as Figure 2 shows.

FROST & SULLIVAN

Frost & Sullivan awarded Optum the

- **2021 Best Practices Award** for North American Population Health Management Company of the Year Award for the third time in a row

- **2020 Best Practices Award** for Global AI for Healthcare IT Innovation Excellence

Gartner

Gartner's annual Hype Cycle highlights the state of maturity and adoption rates of technology developments occurring in the Healthcare Payer and Provider markets. **Optum appears in 8 different categories** within the reports (2022).

Payer
- BPaaS for U.S. Healthcare Payers
- Consumer-Centric Health Products
- Population Health Management Solutions
- Prospective Payment Integrity Solutions

Provider
- Automated Patient Decision Aids
- Computer-Assisted Coding (Hospital)
- Consent Management for Healthcare
- Population Health Management Solutions

PEAK MATRIX® LEADER

Optum is recognized as a **Leader in nine categories** measured by Everest Group's PEAK Matrix® Assessment:

- Healthcare Consulting[1]
- Healthcare Analytics Services[3]
- Healthcare Payer Operations (BPO)[3]
- Healthcare Payer Payment Integrity Solutions[2]
- Healthcare IT Service Provider of the Year[3]
- Healthcare Payer Digital Services[3]
- Intelligent Automation inn Healthcare[3]

Optum is recognized as a **Leader in three categories** measured by Avasant's RadarView™:

- RCM Business Process Transformation 2021
- Healthcare Provider Digital Services 2022–2023
- Healthcare Payor Digital Services 2022–2023

TOP 10
Healthcare Sector Service Providers

Optum recognized for powerful combination of expertise, data and technology assets

2020 HFS Top 10 Healthcare Sector Service Providers
- Optum placed in HFS Winners Circle
- Ranked #1 for Execution
- Ranked #1 in Business Process Services
- Ranked #1 in Provider Experience
- Ranked #1 in size, scale and growth

IDC | ANALYZE THE FUTURE

IDC recognized Optum:
- **Value-Based Health Services** Market Glance (2022), appear in the most segment categories (13 of 14)
- **Healthcare Analytics** Market Glance (2022)
- **Social Determinants of Health** Market Glance (2022)
- **Healthcare Provider Operations IT Solutions** Market Glance (2021)
- **Healthcare Provider Clinical IT** Market Glance (2021)
- **Healthcare Ecosystem** Market Glance (2021), appear in the most segment categories (11 of 18)

GOV-2183

Aite recognized Optum as a **2021 Best in Class** provider of Payment Integrity Solutions.

[1] 2017 (reflects current, most recent assessment)
[2] 2020 (reflects current, most recent assessment)
[3] 2022 (reflects current, most recent assessment)

Figure 2: Optum Industry Recognition
Our industry reputation and stability enable us to provide skilled staff to support you. Optum staff will deliver IT services with creativity and a strong commitment to performance and client satisfaction.

Analytics and Innovation Experience

Optum has substantial experience retrieving, storing, and cleansing data from diverse data sets and using predictive analytics, machine learning, and artificial intelligence. Our experience and expertise help our clients gain insights to improve programs and performance for the

populations they serve. Optum's Analytic Platform as a Service helps states quickly identify where potential health inequities exist today and predict where they may emerge in the future. We will work with you to develop an analytics approach centered on understanding the impact of social determinants of health (SDOH) on populations and individuals. This will enable you to create a roadmap for interventions and identify a path to healthier, stronger, and more resilient communities.

We know more about program members than ever before. Integrated data is an important key to understanding the root causes of inequities. Optum will help the Agency understand how social determinants affect health equity at the individual level with a focus on identifying the necessary data sources for whole-person analytics.

Similar state government projects we have delivered or operate include the following:

Optum has a proven track record in health care data and analytics

Frost and Sullivan: Population Health Management Company of the Year (2021)

IDC: Leader in U.S. Population Health Analytics MarketScape (2022)

Everest Group: PEAK Matrix® Assessment Leader in Healthcare Analytics Services (2022)

- **West Virginia Opioid Substance Abuse Data Analysis Services:** Optum supported the State's analytic needs by delivering an opioid analytics module and dashboard that provided calculations and visualizations of opioid use. The dashboard used claims data to provide insights such as high-use areas of opioid use across the State.

- **South Dakota Department of Social Services:** We support the Department with analytics for monitoring the South Dakota Medicaid program. The SQL Server data warehouse we developed provides automated data intake and validates claims data for a State data mart. The analytic dashboards we developed support assessing and forecasting program performance and evaluating emerging program issues.

- **MassHealth Payment Reform Design:** Optum partnered with the Commonwealth to develop and implement payment models for validating the delivery of high-quality care. Our responsibilities included enriching claims data, conducting risk analysis, and delivering visualizations for analyzing factors such as cost and utilization.

- **State of Indiana Family and Social Services Administration (FSSA):** We manage a visual analytics portal for Medicaid Program areas for financial analytics, provider analytics, population analytics, managed care, and member engagement leveraging predictive analytics using analytics software. Optum has supported FSSA with analytic and data management services since July 2012 with our Indiana Enterprise Data Warehouse/Business Intelligence solution.

- **Indiana Substance Use Disorder (SUD) Provider Capacity Planning:** We conducted a comprehensive baseline assessment of Medicaid members with Substance Use Disorder (SUD). The assessment used the Indiana Enterprise Data Warehouse/Business Intelligence and analytics solution Optum supports.

- **Arkansas Decision Support System (DSS):** We implemented, operate, enhance, and provide onsite support for the DSS that uses the health information of thousands of Arkansans. The solution integrates data from multiple data sources and supports enhanced analytics, reporting, and dashboards to drive outcomes-based improvements, payment reform, and program integrity.

- **New Jersey Shared Data Warehouse:** We provide a hybrid solution using Azure cloud technologies like our proposed solution for DHHR. We currently have nine full-time equivalent (FTE) staff providing analytic services for the New Jersey Department of Human

Services. The solution includes our predictive care risk management solution (ImpactPro), our Opioid module, and the Optum Fraud and Abuse Detection System.

- **Centers for Medicare and Medicaid Services (CMS) All-Payer Operations Project:** We provide support for CMS by delivering analytics consulting services, training CMS staff, and providing technical advisory services, policy analysis, and recommendations. As part of our analytics consulting contract with CMS, we complete predictive analytics projects for specific scopes of work such as the State Innovation Group All-Payer Operations Project.

We provide more detail on these projects in Section 4, Qualifications and Experience.

Skilled Staff

Our depth of experience is demonstrated by Optum's more than 24,000 analytic experts and project leaders. We have extensive experience analyzing changing patterns and outcomes through data analytics and business intelligence. Our expertise is represented in how our staff curate data and apply analytics to provide business intelligence. Optum data scientists and experts specialize in applying clinical, financial, actuarial, and program analytics to drive results.

Our experienced project team will help Agency staff use data to solve their most pressing problems and achieve project objectives. They have decades of experience using data analytic applications like the Microsoft Azure suite of tools to create and train predictive models and frameworks for forecasting behaviors, outcomes, and trends. Our proposed staff have substantial qualifications to support you as the following experience summaries demonstrate:

Project Manager Scott Dunfee, MA, PMP, is a Project Management Institute (PMI) certified Project Management Professional (PMP) with more than 22 years of project management experience. His experience includes 15 years in program management supporting implementations, health care data analytics, infrastructure, database development, and security. As the program manager for WV PATH, Scott leads project teams for next-generation solutions and components with a focus on project performance, transparent collaboration, and tangible results. He has supported large systems and systems that have integrated analytics platforms. Scott works effectively with all levels of staff and leadership to manage people, processes, and technology.

Data Scientist Suman Challagulla, MBA, will lead our project support team. He is a seasoned business intelligence professional with more than 17 years of experience. He has the flexibility, knowledge, and experience required to navigate the complexities of concurrent projects. Suman leads predictive analytics projects for multiple clients, applying his expertise in statistical modeling, data mining, machine learning, and programming in R. His career includes extensive work on government projects, including state projects in Indiana, New Jersey, South Dakota, and New York. His certifications include Microsoft Certified Professional and the Johns Hopkins University Data Science Specialization certification.

Power BI Report Lead Kalu Onuma, BS, is an IT professional with more than 11 years of experience in analysis and reporting. Kalu has experience working with client databases and systems to maintain the strategic vision of the client's organization. In his current position as a senior consultant at Optum, Kalu provides reports, data analysis, data manipulation, data extraction, and research for federal and state government clients using tools that include Power BI. Kalu is skilled in providing interactive reporting and dashboard solutions, predictive and descriptive analytics, data modeling, and data mining. He has extensive experience in data migration, data analysis, data manipulation, data extraction, and research to support the Agency.

Why Choose Optum

- **Predictive analytic performance:** We deliver efficient IT and predictive analytics and modeling using approaches that incorporate scalable cloud services to deliver insight, improved outcomes, and cost efficiencies.

- **Experience and understanding:** Optum has served multiple clients on similar journeys. Our industry experience will provide you with the project outcomes you seek.

- **Knowledgeable staff:** Our staff have proven capabilities using analytic software like the Microsoft Azure suite and reporting tools like Power BI to help you strengthen West Virginia programs.

- **Focus on West Virginia:** We recognize your focus on advancing your analytic maturity to improve the health of West Virginians and access to care. We share these principles and will collaborate with you to support them.

Background and Current Operating Environment (4.1)

The WV Department of Health and Human Resources encompasses the Bureaus for Medical Services; Family Assistance; Child Support Enforcement; Public Health; Social Services; the Office of Health Facilities; Inspector General, and the Office of Drug Control Policy (ODCP). This solicitation is offered by the West Virginia Department of Health and Human Resources Office of Management Information Services on behalf of the Bureau for Behavioral Health (BBH) and the Office of Drug Control Policy (ODCP).

The Office of Drug Policy currently performs data analytics utilizing staff epidemiologists, contracted data scientists, and Information Technology staff from the agency's Office of Management Information Services (OMIS). In addition to the ODCP's own databases, data from the Offices of Emergency Medical Services (EMS), Vital Statistics, and other appropriate Agency data stores are utilized in the development of data models to visualize data, inform policy and make operational decisions at both the State and local levels. Data formats may be SQL, SAS, or other.

The Bureau for Behavioral Health performs data analytics utilizing staff epidemiologists, contracted data scientists, and Information Technology staff from OMIS. BBH data sources include their own databases and other appropriate data stores in a number of formats including SQL, SAS, and other common database formats.

As the West Virginia RAPIDS and WV PATH vendor, Optum is familiar with your current operating environment and the bureaus and agencies that make up your enterprise. We have established strong working relationships with many of these agencies and will work collaboratively to support your projects. We have worked with diverse data sets and data stores in formats that include SQL, SAS, and others to derive analytic insight.

Project Goals and Mandatory Requirements (4.2)

The Agency, on behalf of the Bureau for Behavioral Health (BBH) and the Office of Drug Control Policy (ODCP), wishes to license Predictive Analytics Software utilizing Machine Learning and Artificial Intelligence. In addition to the software licenses, the selected vendor will provide integrated tools for data cleansing and transformation; access to a presentation layer for data visualization (may be part of the vendor solution or a third party product. State reserves the right to utilize their own data visualization product such as Microsoft Power BI or Tableaux); data modeling services; a hosted, secure Cloud repository; and training and technical support. Vendor should describe its approach and methodology to providing the service or solving the problem described by meeting the goals/objectives identified below. Vendor's response should include any information about how the proposed approach is superior or inferior to other possible approaches.

Optum will comply with each of the mandatory requirements to achieve the Agency's project goals. Our proposal contains a cohesive solution of integrated tools for data cleansing and transformation and access to a presentation layer for data visualization along with the software licenses. The flexibility of our solution enables your staff to utilize their own products in conjunction with the tools we provide. We provide the platform you have asked for in a cloud-native database enabling your staff to share and govern the data in a way that can scale with your adoption of the solution. We view the adoption of the solution as a key metric of the success of the solution and are committed to providing you the support, training, and advice to help make this solution one of your key capabilities.

In section 2.1, we have described how we will deliver on each goal and objective, and we highlight instances in which we exceed your requirements for predictive modeling software and services.

★ **Throughout our proposal, we have included a blue star to highlight areas where Optum exceeds your requirements.**

Goals and Objectives (4.2.1)

The project goals and objectives are listed below.

4.2.1.1 Through vendor provided training and the use of vendor provided, integrated tools, 10 Agency staff will become proficient in the cleansing and transformation of State datasets for use in data modeling.

4.2.1.2 Agency data will be cleansed, transformed and uploaded to a hosted, secure Cloud data repository utilizing the Agency's Secure File Transfer Protocol (SFTP) or other approved and secure upload.

4.2.1.3 Agency intends to undertake up to 18 projects over the 12 month life of the project utilizing cleansed and transformed data sets with the tools and services procured in this effort.

4.2.1.4 Agency defined Scope of Work documents will detail the amount of technical support, not to exceed 5 hours per active project per week.

4.2.1.5 Ten licensed users at the Agency will be utilizing the procured software. It is anticipated that five users will be performing unlimited predictive analytics and modeling using agency data sets and the software and services proposed in response to the RFP. The remaining five users will use the tools to view data models and visualizations.

Following your defined project goals and objectives, our team has built a solution than includes cloud-native applications and services to power your predictive analytics needs. We propose a cohesive grouping of tools, technology, and skilled resources to deliver on each goal and objective.

Figure 3 provides an overview of our proposed technology solution, and the text that follows explains the details and benefits of our components.
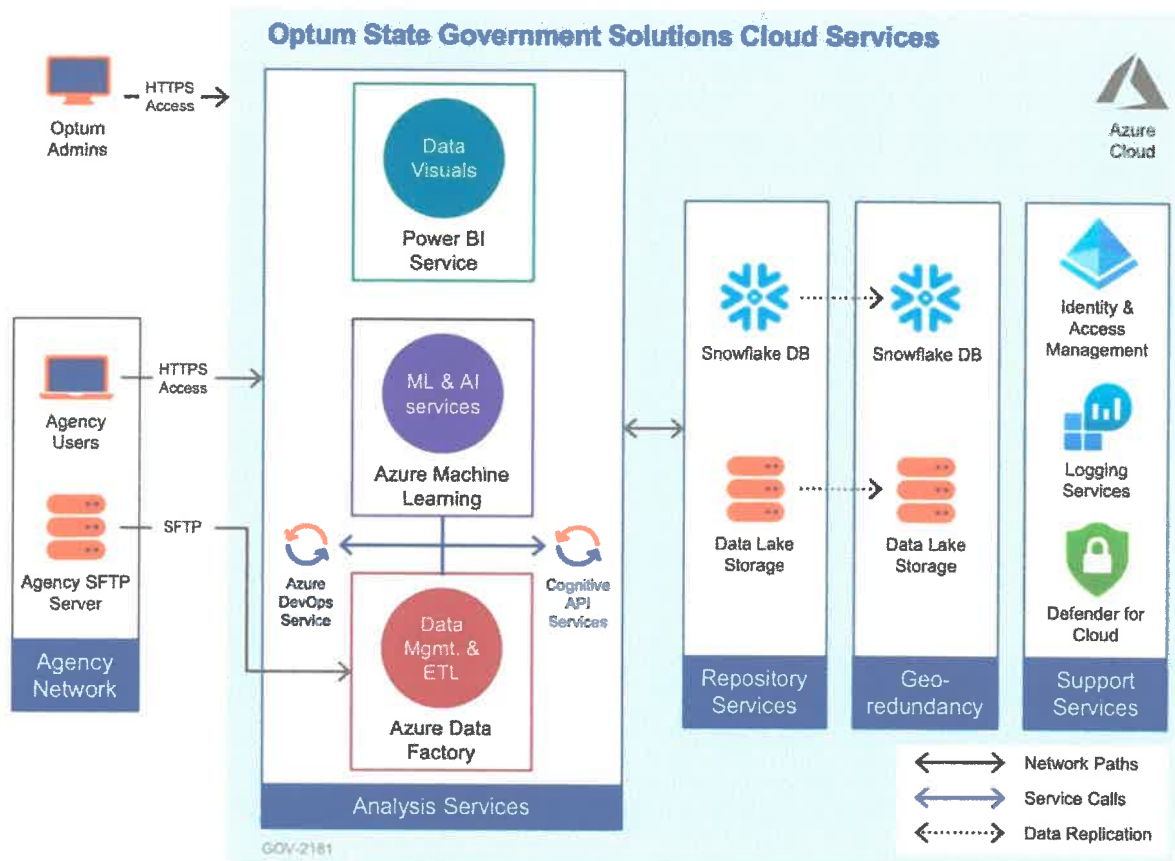
Figure 3: Optum's solution for the West Virginia Predictive Analytics Software and Services
The Agency will receive an easy-to-use environment enabling quick adoption and engagement.

Azure Cloud Hosting

We offer the Agency a solution that is cloud-hosted to provide flexible and modular component scalability. This flexibility enables full life cycle infrastructure support and recovery in the event of component failures. The framework supports open standards and configurable COTS components. With a scalable platform, infrastructure can be quickly sized for the Agency by allocating the resources needed to meet your availability, uptime, and performance requirements. Additional capacity can be easily provisioned as your business demands grows The benefits of our cloud infrastructure include:

Benefits of
Azure Cloud

Azure is an industry-leading platform that is highly available across multiple zones and regions. Resiliency is built into the Azure cloud to provide high availability and fault tolerance using multi-region implementation.

- **Scalable cloud infrastructure** so components can be quickly sized to meet your availability, uptime, and performance requirements

- **High availability and redundancy** to keep critical applications running in the cloud during planned and unplanned outages

- **Built-in quality processes** with a focus on stable operations instead of corrective actions

- **FedRAMP-authorized** Microsoft Azure hosting environment with a mature security posture

- **Continuous monitoring** to protect your information, critical assets, and intellectual property of application and infrastructure components

Optum will implement a comprehensive approach to continuous monitoring as part of our hosting and infrastructure services to maintain adherence to service levels. This ongoing effort will protect your information, critical assets, and intellectual property of application and infrastructure components.

★ We exceed Agency requirements as our cloud solution is fully supported by our State Government Operations Team. Our operations team monitors the system virtually around the clock, providing availability 24 hours a day, seven days a week outside of scheduled or approved downtime. Our solution components can report performance data and conditions in multiple ways. We monitor overall system performance through native cloud tools, such as Azure Monitor, which includes dashboards for critical utilization indicators. Our cloud monitoring function is natively integrated with our platform and automatically publishes detailed metrics at customizable intervals.

By using Azure managed services, we spend more time addressing our clients' needs rather than dealing with infrastructure and environment setup. The cloud technology is configurable, scalable, and interoperable to meet your requirements and evolving needs. By using a cloud solution, the technology is kept updated and compliant.

Data Lake Storage

For your Predictive Analytics Software solution, we will use Azure Data Lake Storage as the landing zone for data integration services. Azure Data Lake Storage (Gen 2) is an enhanced version of Azure BLOB Storage and will be used for integration of data from each source.

You require unstructured data analytics. Azure Data Lake Storage will be your primary store of unstructured data. This solution can store any kind of data, no

> **Benefits of**
> ## Data Lake Storage
>
> With extendible capacity and scalability, it enables you to store structured, semi-structured, and unstructured data in any format to support analytics and reporting requirements.

matter how unstructured, and mount it as a file for other applications to use. We will use Azure Data Lake Storage for distinct purposes, such as the following:

- **Staging area:** Project files need a storage location after secure file transfer protocol (SFTP) services receive them. We will store the files in Data Lake Storage for an Agency-approved length of time and then move project data that is no longer required into archival storage according to your requirements. Our data preparation services work natively with Data Lake Storage to prepare the data for modeling and machine learning.

- **Personal unstructured storage:** Many types of application work product information do not fit neatly into relational databases and need to be stored. This includes file types such as Power BI workspaces containing ongoing projects, projects from individual Agencies, and other sources.

Optum

- **Data collaboration:** Subject to security rules, file owners can change permissions to share access with other people. With appropriate authorization, we can create a publicly available static website using Data Lake Storage.

- **Big Data Analytics:** As the platform grows, the Data Lake Storage can continue to support larger workloads and remain cost effective. Data Lake Storage provides Hadoop (HDFS) compatible access and an optimized driver for big data analytics.

Data Lake Storage allows the storage of hundreds to billions of objects depending on how often data access is required. It helps us store many types of unstructured data, such as images, videos, audio, and documents easily and cost-effectively.

Data Lake Storage is designed for storing files for distributed access, data for analysis, and data for backup and restore, disaster recovery, and archiving.

Azure Data Factory

Our data preparation and transformation services include Azure Data Factory (ADF). Azure ADF is a cloud-based Extract, Transform, Load (ETL) and data integration service that supports creating data-driven workflows for orchestrating data movement and transforming data at scale.

Azure ADF is ideal to accommodate very large data volumes. We leverage our data quality framework knowledge and previous experiences building data warehouses using a variety of these solutions to meet your ETL and data preparation needs.

> **Benefits of**
> # Azure ADF
>
> Azure ADF allows for ease of use through its drag-and-drop interface and graphical configuration to add data quality rules to integrate a variety of data sources, including hetero and homogeneous sources as well as relational and non-relational sources.

Azure ADF empowers data scientists to easily profile data and monitor data issues on an ongoing basis with browser-based functions. The solution enables data scientists to rapidly discover and analyze data using pre-built rules and a single, unified development environment to reuse data profiling results across projects, boosting productivity and eliminating errors.

Our ETL and data preparation processes aim to convert your data while improving its data quality and design. Data quality issues can be found at any step along the intake, transformation, enrichment, or analysis processes. The data quality component incorporates automated rule sets within the actual development process. Authorized users can combine data quality rules with data transformation logic and conduct midstream and comparative profiling to validate and debug logic as it is developed. This can be only achieved by having an iterative cycle that not only collects the metrics but also recommends solutions for data quality issues detected.

Azure ADF will transform the data for cleansing, conforming, linking, and loading to downstream processes, such as Azure Machine Learning (ML) or the structured data repository. From the repository the data will be published to your users in Power BI or their tool of choice. ADF orchestrates data movement and transformation at scale with connectors to Snowflake. Azure Data Factory also offers a large variety of connectors.
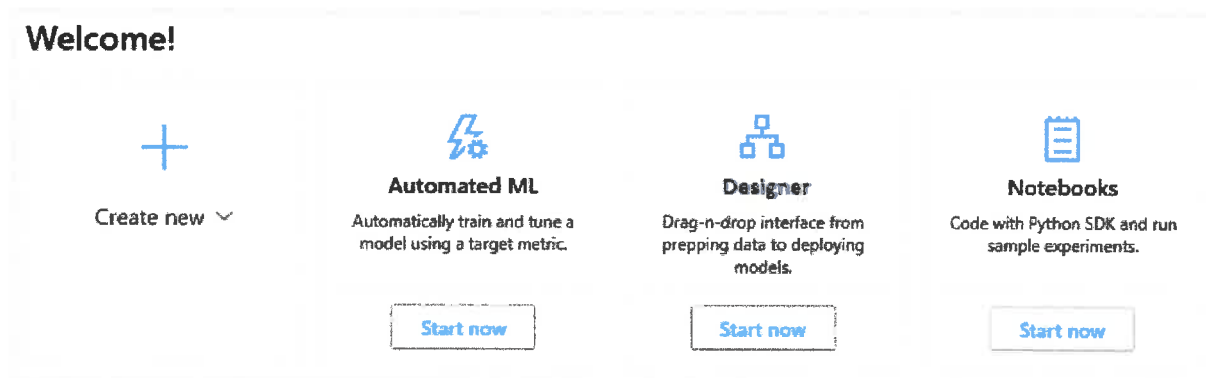
Azure Machine Learning

Azure ML provides a complete studio where users can develop guided Machine Learning projects that use your supplied data. There are 19 different machine learning algorithms in the Azure ML Designer, including six types of regression, K-Means clustering, 12 kinds of classification models including neural networks and support vector machines, and two types of anomaly detection including PCA-based anomaly detection. The ML Designer also has seven different types of text analytics that users can drag and drop to perform natural language processing (NLP) tasks.

Benefits of

Azure ML

Azure ML allows your staff epidemiologists, contracted data scientists, and Information Technology staff to use familiar analysis tools to create and train models and frameworks to forecast future behaviors, outcomes, and trends.

Azure ML provides a wide variety of data mining capabilities in an easy-to-use drag-and-drop palette. These include association rules for market basket analysis, text mining, a wide range of both supervised and unsupervised clustering algorithms, deep learning, social network analysis, and more. Figure 4 shows the entry screen for Azure ML that enables users to employ Automated Machine Learning or use a drag-and-drop interface to perform Machine Learning tasks.

Welcome!

Create new ⌄	Automated ML	Designer	Notebooks
	Automatically train and tune a model using a target metric.	Drag-n-drop interface from prepping data to deploying models.	Code with Python SDK and run sample experiments.
	Start now	Start now	Start now

Figure 4: Powerful Machine Learning
Azure ML provides an entirely web-based experience for users.

⭐ Health care analytics driven by artificial intelligence (AI) and Machine Learning continue to evolve as programs migrate from legacy approaches and technologies. We lead the industry in these capabilities with our private-sector work in driving better outcomes across the health care system. Optum has an enterprise-wide Center of Excellence team of data scientists, computer scientists, mathematicians, epidemiologists, and medical directors to support the development and implementation of advanced analytics, machine learning, and AI solutions that apply techniques across managed care, disease management, and health care delivery settings. This knowledge and experience **exceed Agency requirements** for data scientist support by providing experts in the fields of your 18 projects.

Through our solution, you can quickly and accurately gather medical information, such as utilization and enrollment, access to care, and quality and chronic condition management. The following table shows the benefits of Azure ML.

📋	**Utilization and enrollment**	• Acute claims utilization • Category of service analysis • Claims detail • Claims lag triangle • Delivery analysis • Diagnosis and procedure code analysis • Enrollment analysis • LTSS utilization • Member profile outpatient ER utilization • Retrospective utilization analysis
📍	**Access to care**	• Behavioral health analysis • Member access to care
❤️	**Quality and chronic condition management**	• Episode of care summary • Delivery analysis • MCO performance • Opioid utilization • Pediatric asthma prevalence • Quality measure analysis • Social determinants of health

Snowflake Database

Snowflake is the database engine of our solution. As a fully managed SaaS service, Snowflake delivers leading performance and resiliency through cloud-native massively parallel processing (MPP) for a variety of use cases. Snowflake enables you to store project data for enhanced analytics and sharing across bureaus. Snowflake's cloud native services provide security, availability, scalability, and secure, seamless data sharing.

⭐ Snowflake **exceeds Agency requirements** as it is the only database platform that can transparently and automatically scale out to serve

Benefits of

Snowflake Database

Snowflake maintains business critical controls aligned to FedRAMP moderate.

Snowflake can transparently and automatically scale out to serve growth needs.

Snowflake **exceeds** Agency requirements as their Net Promoter score is three times the industry average and has high renewal rates.

growth needs without any query interruption. In addition to transparently scaling out, Snowflake also offers automatic query caching, parsing and optimization. As a cloud native technology, Snowflake can easily and automatically scale up to provide greater processing power and out to provide capacity for more concurrent users.

Figure 5 illustrates the scope of Snowflake's services for your predictive analytics capability.

Scalability

Scale out

Scale up

Petabyte scale

5x Better data compression

Security

End-to-end encryption

Fully encrypted storage

Strong authentication

Dynamic data redaction

Full logging

High availability

Automatic replication between Azure regions

Time travel

Automatic platform upgrades

Interoperability

Secure data sharing

Zero-copy data cloning

GOV-1760

Figure 5: Snowflake Database Features
Snowflake is a cloud native, modern data repository service that will evolve with your modeling requirements.

The solution's ability to scale up and out provides almost limitless flexibility to meet the needs of your users. New data sources can be added, or existing data sources can be modified at any time. Snowflake allows the ability to query historical data models or data sets. It also includes the ability to clone an existing data set without incurring additional storage usage until the cloned model is modified. This enables testing of data model or data source changes without affecting existing models or data sets. Previous versions of data can also be accessed through the Time Travel functionality, enabling queries on historical data to see how it changes over time. You can query deleted data using Time Travel.

Snowflake automatically replicates data across zones making disaster recovery much easier and making sure the data loss normally associated with outages is minimal.

Power BI

Power BI is a flexible enterprise business intelligence (BI) commercial off-the-shelf (COTS) tool offered by Optum under a Software as a Service, cloud-based component. Gartner recognized it as the best query and reporting tool in the marketplace. Ninety-seven percent of Fortune 500 companies use Power BI. We selected it as our BI tool because of its popularity with our client base as well as its functionality. Power BI is also well aligned with the technical direction of West Virginia. Key features of Power BI include:

Benefits of

Power BI

Power BI allows for a large range of data analysis users. Its intuitive graphical user interface (GUI) with point and click functionality makes analysis possible for team members new to data analysis and has complex statistical capabilities for your advanced data scientists.

- Easy access to data visualizations
- Point and click query and report development
- Spreadsheet-like features for selecting data records and creating new calculated fields
- Underlying pivot table data model that is familiar to users

With Power BI, users can quickly transform tabular data into meaningful visualizations with one click. Power BI provides a broad range of interactive visualizations and BI capabilities to help users create reports, dashboards, and analyses they need to gain insight into their data.

Power BI's base features support users' requirements, including the ability to multi-task and have multiple windows of Power BI open and split screens to work in an environment that best meets the business needs. When filtering, instead of remembering a value or description, there is the ability to search for the value and click the values you wish to use. There are also search features on the data elements to quickly narrow down the items to display.

The point-and-click capability enables the use of the mouse to maneuver through data fields and screens. You can use the keyboard by pressing the tab key as well. Power BI can display descriptions of Agency-defined data elements using hover over tooltips to support team members.

Meeting your Goals and Objectives

The following table outlines how Optum will meet as well as exceed each of your stated mandatory project requirements. We have also provided a reference to where the details related to our approach are found.

Department Requirement	How Optum Meets and Exceeds This Requirement	Reference
4.2.1.1 Training	To exceed your training requirement, Optum's comprehensive and strategic training plan will provide users with the knowledge to utilize the solution quickly and easily, gaining convenient access to analytically rich data and advanced analytics to improve population health.	3.1 Training, Page 16
4.2.1.2 Data Repository	To exceed your requirement for a data repository, Optum is delivering state-of-the-art Azure and Snowflake tools that are simple to operate and provide flexibility to ingest, store, and retrieve data.	3.1.1 Data Repository, Page 19
4.2.1.3 Eighteen projects	To exceed your requirement for project support, Optum is proposing skilled and experienced professionals, giving you the right staff at the right time with the right skills in predictive analytics, machine learning, and artificial intelligence.	3.1.1 Data Repository, Page 20
4.2.1.4 Technical Support	To exceed your requirement for technical support, Optum is proposing highly educated staff with backgrounds in public health and epidemiology combined with data scientist experience.	3.1.2 Data Modeling Projects, Page 27
4.2.1.5 Predictive analytics and modeling	To exceed your requirements for predictive analytics and modeling, Optum is providing Power BI, which industry analysts agree is the best query and reporting tool in the marketplace for ease of use and impressive visualizations.	3.1.3 Required Software, Page 29

Mandatory Project Requirements (4.2.2)

The following mandatory requirements relate to the goals and objectives and must be met by the Vendor as a part of its submitted proposal. Vendor should describe how it will comply with the mandatory requirements and include any areas where its proposed solution exceeds the mandatory requirement. Failure to comply with mandatory requirements will lead to disqualification, but the approach/methodology that the vendor uses to comply, and areas where the mandatory requirements are exceeded, will be included in technical scores where appropriate. The mandatory project requirements are listed below.

Optum will comply with each of the mandatory project requirements outlined by the Agency in the RFP. In the previous section of our response, we summarized the comprehensive software and services we will provide. Throughout the following sections, we describe how our solution and services map to your RFP requirements and in many cases exceed your expectations.

Training (4.2.2.1)

4.2.2.1.1 Vendor shall provide 40 hours of instructor lead, virtual training to up to 10 Agency Staff covering the data cleansing and transformation tools and all of the functions of the Predictive Analytics Software.

Our solution includes the staff expertise and processes to provide 40 hours of instructor-led, virtual training to up to 10 Agency Staff members. We will cover each aspect of our tools and solution services, including the provided toolset for data cleansing and transformation, machine learning, cognitive services, and data visualization.

Our training focuses on developing users with a thorough understanding of the solution. This will enable them to apply their background industry and modeling knowledge with our tools' capabilities to develop models that can be readily approved for production deployment. We will work with you and your user delegates to make certain that the training enables users to efficiently analyze data to gain insights into their program area regardless of their level of experience and knowledge.

⭐ We understand training is vital to effectively maximize the use of our tools and services. To deliver the most effective training, we develop a training plan with flexibility in mind. Our comprehensive approach **exceeds Agency requirements** by including an industry standard training methodology, anchored by skilled trainers, a well-defined Agency-approved training plan, and the flexibility to adapt to changes. This includes levels of education, user types, group size, and level of experience.

Our approach will feature the ADDIE methodology to deliver training that is focused on your staff's specific training needs. Using ADDIE, our training experts will build an engaging and effective training curriculum. In our experience with state government predictive analytics clients, we have found that successful training allows for collaborative and multi-faceted content delivery. ADDIE includes the following five phases:

- **Analyze:** We work with you as we review training content to make sure it aligns with your objectives outlined in RFP Section 4.2.1. 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 SMEs to create training materials. These may include facilitator guides, participant guides, visual aids, computer-based training (CBT), videos, trainee activities, and other materials needed to support the training.

- **Implement:** We will deliver training using different methods, such as self-study, CBT, and instructor-led training (ILT). We will work with you to select the best delivery method for your staff and stakeholders.

- **Evaluate:** The Agency, instructional designers, trainers, and our SMEs will work together to evaluate training effectiveness and modify training as needed over the course of the contract.

Figure 6 shows the ADDIE phases we use to determine and configure your specific training program.

Phase	Steps	Work Products
Analyze	• Access Business Goals • Conduct Needs Analysis • Identify Knowledge Gap • Conduct Audience Analysis • Develop Learning Objective	• Training Needs Analysis • Training Plan
Design	• Identify Instructional Design Strategy • Select Delivery Method(s) • Determine Training Plan • 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

Figure 6: ADDIE Methodology

We will apply the ADDIE methodology to deliver training that focuses on your users' specific training needs.

In addition to utilizing industry best practices, standards, and trends for training, we consider survey comments or recommendations into our training materials and methods. For example, if 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.

4.2.2.1.2 Training shall be broken down, at a minimum, into segments for Data Transformation, Predictive Analytics for Developers, and Predictive Analytics for Viewers.

Optum's training plan will be broken down into segments to cover Azure Data Factory for Data Transformation, Azure ML and Power BI Premium for Predictive Analytics, and additional trainings for dashboards and model results visualizations using Power BI. Training courses developed for Agency staff will include specific learning objectives, goals, and hands-on exercises to evaluate whether those goals have been met.

4.2.2.1.3 Training shall be interactive and shall be recorded and made available for Agency use as a refresher or to train additional licensees.

Training provided by Optum will be interactive, recorded, and made available for Agency use as a refresher, or to train additional licensees. Our team will use a tool, such as Camtasia, for recording training sessions. Our trainers will provide clear, informational training in a variety of methods that will be recorded and made available for those who cannot attend.

Training will be tailored to provide role-based, personalized content at the right time, pace, and place. Through advanced technology, Optum can quickly adapt to the needs of your learners with effective and up to date in-person, online, or blended learning opportunities.

We offer training in a wide variety of methods and materials to meet your unique training requirements to provide the most effective training. Training may include delivery in the following forms:

- **Instructor-led training:** Optum provides instructor-led classroom-style training sessions as agreed to by the Agency. We can deliver instructor-led training virtually using tools like Microsoft Teams. These hands-on skills sessions are an effective learning method to cover advanced skills, problem solving, or updated operational processes.

- **Webinars:** We provide webinars for immediate new staff training when the next scheduled on-site training is weeks or months away. Delivery options include Microsoft Teams meetings, training videos, and on-demand training in formats, such as recorded webinars.

- **End User-focused training:** We provide end user-focused training meetings for the user community. We regularly perform demonstrations of tools and system components to help staff use them efficiently and give us feedback about their experiences.

- **One-on-one mentoring:** To supplement our instructor-led training courses, Optum can provide one-on-one mentoring sessions with advanced users as needed. End users can also contact the help desk for support with a tool or report. With their permission, we can connect to their system to provide direct assistance and troubleshooting, if needed.

- **Computer-based Training (CBT)/Web-based Training (WBT):** We provide CBTs/WBTs to offer flexible and convenient access to training 24 hours a day, seven days a week. CBTs/WBTs support self-paced learning by allowing participants to complete training remotely and independently. We often use CBTs/WBTs for refresher training.

We will partner with you to make sure each module has been adequately addressed through our trainings. On an ongoing basis, training will adjust and account for changing user needs so that training provided is relevant, concise, and effective.

To make sure training is delivered optimally, we will provide trainees with assessment tools and evaluations to measure the effectiveness of the training received. We will conduct training assessments and collect feedback on training activities.

> **4.2.2.1.4** Training shall be provided during regular business hours and will not exceed 8 hours per business day.

Optum agrees trainings will be provided during regular business hours and will not exceed 8 hours per business day. We provide a methodical approach for training with a clear focus on achieving learning objectives within an agreed upon schedule and timeframe.

Data Repository/Secure File Transfer (4.2.2.2)

> **4.2.2.2.1** Vendor shall host the Agency data in vendor's secure, U.S. based, Cloud repository. The Agency will not provide an environment for the repository.

⭐ Optum will host the Agency data in a secure, U.S. based, cloud repository. Our hosting solution for the data repository is our Microsoft Azure state government tenant. We chose this specific cloud infrastructure because it **exceeds Agency requirements** as it is designed, managed, and aligned with global and regional regulations, standards, and best practices programs.

HHS industry regulations require services to meet MARS-E standards, which are based on National Institutes for Standards and Technology (NIST) 800-53 controls or to be hosted within a FedRAMP compliant cloud environment. Our Azure hosting is performed within FedRAMP accreditation. Hosting in a FedRAMP environment provides a known and mature security posture. As such, its standards are overarching for federal cloud computing standards for HHS programs. We additionally apply controls through Azure policy and application configuration to meet security requirements. As such, Optum fully meets the applicable federal privacy and security standards your programs need.

Benefits of

Optum Cloud Hosting

The benefits of Optum's cloud infrastructure include:

- Scalable cloud infrastructure so components can be quickly sized to meet availability, uptime, and performance requirements
- High availability and redundancy
- Quality built-in processes with a focus on stable operations instead of corrective actions
- FedRAMP-authorized hosting environment with a mature security posture
- Continuous monitoring to protect your information, critical assets, and intellectual property

⭐ Resiliency is built into the Azure cloud to provide high availability and fault tolerance, **exceeding Agency requirements**. Optum has Azure SMEs in house to provide guidance and support. We have direct contacts and close working relationships with the Microsoft Azure team, enabling the highest level of support for the Agency. The following table summarizes the hosting services Optum will provide.

☁	Cloud services with 99.5% availability, exceeding the mandatory project requirements of 99% availability
✔	Environment monitoring 24 hours a day, 7 days a week to identify, record, report, and analyze hosting equipment, system alarms, and conditions that may lead to abnormal operations
⚙	Real-time monitoring services and performance statistics across environments
☰	Support for vulnerability scanning, penetration testing, and analysis used to maintain secure/compliant environments

✏️	Support for audits by the Agency or Agency-authorized representatives
🗄️	A secure perimeter with firewall, intrusion detection and protection, and data leak prevention services
📁	Annual disaster recovery planning and testing services to validate the hosted environment's technology, procedures, and personnel are prepared
⟳	Patch management during approved maintenance windows

4.2.2.2.1.1 Vendor will provide adequate Cloud storage and compute resources for 10 Agency users and up to a total of 18 Agency projects, adding resources as necessary to avoid performance degradation.

⭐ Optum will provide adequate cloud storage and compute resources for 10 Agency users and up to a total of 18 Agency projects. Our cloud solution can add resources as necessary to avoid performance degradation. Our cloud native solution provides security, availability, scalability as well as the ability to share data easily and securely. To exceed Agency requirements, with Snowflake's limitless scaling and Azure Data Lake Storage, we provide increased processing capability with scalability to put data more quickly into the hands of the data scientists and critical decision makers.

Our hosting environment's infrastructure provides flexible, modular scalability. The solution supports scalable, timely sizing by allocating the resources needed to meet availability, uptime, and performance requirements. This solution will provide the flexibility to scale the infrastructure to accommodate dynamic workloads and user needs.

4.2.2.2.1.2 Agency staff must be able to securely transfer data and models in formats including, but not limited to those included in 4.2.2.4.2, to the Agency SFTP for use with other Agency software.

Agency staff will be able to securely transfer data and models in formats including, but not limited to, those included in RFP Section 4.2.2.4.2, to the Agency SFTP for use with other Agency software. The solution uses Azure hosting services, which enable Azure-native services for data exchanges with the security and controls required to enforce allowable access and full auditing traceability.

4.2.2.2.2 Data repository shall include industry standard antivirus and antimalware protection. Vendor must name the products utilized in their response.

The Optum data repository will include industry standard antivirus and anti-malware protection.

⭐ We use Microsoft Defender for Cloud native cloud services to scan solution components and to protect the solution from the threat of malware. Defender for Cloud exceeds Agency requirements by going beyond standard antivirus and anti-malware protection to increase the security of your resources and workloads in the following ways:

- Continually assesses the security posture to track new security opportunities
- Secures workloads with step-by-step actions that protect workloads from known security risks
- Defends workloads in real-time so we can react immediately and prevent security events from developing
- Defender for Cloud includes a range of advanced, intelligent protections

Optum

4.2.2.2.3 Data in the repository shall be encrypted both at rest and in transit.

Optum encrypts data at rest, in transit, and backed up data per FIPS 140-2 Standards. Some of the encryption methods we deploy include:

- Transmission encryption using TLS 1.2

- Encryption for data at rest using standard encryption algorithms, such as the Advanced Encryption Standard (AES)

- Data ingress and egress employ encryption using Secure File Transfer Protocol (SFTP), Hypertext Transfer Protocol Secure (HTTPS), and Transport Layer Security (TLS)

To **exceed Agency requirements,** we encrypt data at rest and in transit regardless of if it contains identified PHI/PII. We have a proven record of developing solutions that employ data masking and encryption to store, transmit, and process Electronic Protected Health Information (ePHI). Network links accessing data will use encryption for data transfers using SFTP and transport layer security (TLS). Our security controls provide the required technical, physical, and administrative safeguards to protect your data.

4.2.2.2.3.1 All mechanisms used to encrypt data shall be FIPS 140-2 compliant and operate using the FIPS 140-2 compliant module (Standards available on the National Institutes for Standards and Technology (NIST) Website - https://csrc.nist.gov/publications/detail/fips/140/2/final). Vendor must name any products utilized to provide encryption.

Mechanisms used to encrypt data will be FIPS 140-2 compliant and operate using the FIPS 140-2 compliant module. As a leading vendor in the state government industry, we understand the standards available on NIST. We encrypt data according to our response outlined in the previous requirement. As a completely web-based solution hosted in the cloud, encryption is built in and does not require additional external products.

Additionally, we use Azure Key Vault to encrypt small secrets, like passwords, that use keys stored in hardware security modules (HSMs). Benefits of Key Vault include:

- Increased security and control over keys and passwords

- Ability to create and import encryption keys in minutes

- Applications have no direct access to keys

- Uses FIPS 140-2 Level 2 and Level 3 validated HSMs

- Reduced latency with cloud scale and global redundancy

- Simplified and automated tasks for SSL/TLS certificates

- Complete control over the keys used in the solution

4.2.2.2.3.2 Storage devices where data has resided must be securely sanitized according to MARS-E MP-6 Media Sanitization security prior to use. A guidance document is available at the Centers for Medicare and Medicaid Services website (https://www.hhs.gov/guidance/document/minimum-acceptable-risk-standards-exchanges- mars-e-20).

As applicable, storage devices where data has resided will be securely sanitized according to MARS-E MP-6 Media Sanitization when data is removed from the device. Optum provides a certificate of destruction, as required, for cases where data was stored on physical media. As a completely web-based and cloud hosted solution, sanitization is different than with an on-premises solution.

4.2.2.2.4 Data repository shall include a perimeter firewall. Vendor must identify the firewall that is used.

Optum's proposed data repository, Snowflake Database, includes a perimeter firewall as a cloud native service. A server-level firewall blocks access to the public endpoint for the solution. Snowflake network policies control access to the data by including IP-blocking to limit traffic to allowed destinations.

Firewall rules are stored in a master database. We create the rules for each database, including the master database, and store them in the individual databases. The Snowflake firewall enhances the security of the solution without affecting authorized users' productivity.

In addition to Snowflake, we will use Azure Data Lake Storage for the initial data repository before data is moved into Snowflake and while data is being modeled in Azure ML. Azure Data Lake Storage provides a layered security model that enables us to secure and control the level of access to the data. The Azure Storage firewall can be configured with network rule to restrict access to specific networks, such as the State's network endpoint, an Azure Virtual Network, or specific services, such as Azure Data Factory. It is also possible to completely block public-facing access to the storage account and only allow access through private endpoints, such as only allowing access from Data Factory but not from the State network.

4.2.2.2.5 Data will be stored in at least two geo redundant locations making it improbable that a single event, whether naturally occurring or manmade, will impact both locations. In the event operations are interrupted at the primary data center, Agency operations will be shifted to the secondary location within 4 hours.

Optum agrees to store data in at least two geo redundant locations, making it unlikely that a single event, whether naturally occurring or manmade, will affect both locations. Agency operations will be shifted to the secondary location within four hours of interruption at the primary site.

We leverage geographically dispersed, resilient operations through the Azure cloud hosting solution. We establish a secure virtual network containing components of the solution and arrange backup of the solution both at the primary site and a secondary site hosted in different locations. For example, primary hosting is in the U.S. central location and the secondary back up is hosted in the U.S. east location.

Using geographically separated availability zones provides disaster isolation of the backup site. We **exceed Agency requirements** for failover and recovery because the cloud data centers offer:

- Resiliency built into the Azure cloud to provide high availability and fault tolerance using multi-region implementation
- Collaboration through high availability that supports Agency staff, members, providers, third-party vendors, and payers across multiple zones and regions
- Tools like Azure Load Balancer for managing the load across services

We will document your return to operations (RTO) requirement of four hours in our disaster recovery plan and position our services to meet the objective.

4.2.2.2.6 Vendor shall scan incoming data for fields that appear to contain Personally Identifiable Information (PII) or other sensitive data types and reject flagged files back to the Agency to verify no sensitive data is included.

Optum will scan incoming data for fields that appear to contain PII or other sensitive data types and reject flagged files back to the Agency to verify no sensitive data is included.

★ During the file ingestion process, Azure Data Factory will use some of the machine learning and artificial intelligence algorithms in Azure Cognitive Service to detect PII and PHI. The PII detection feature of Cognitive Service can identify, categorize, and redact sensitive informative. The service uses pre-trained machine learning models to analyze data and provide feedback based on specified categories, for example email or phone number, by delivering a confidence score of the found data. We **exceed Agency requirements** as the file can be rejected outright (as requested) or the identified information can be redacted, replaced, or removed and the file stored in the Data Lake for further analysis.

4.2.2.2.7 Vendor shall acknowledge that all data in the repository is the property of the Agency and will be provided to the agency upon request. Data in the repository at the end of the contract period will be provided to the Agency in a mutually agreeable format and upon written notice by the Agency, all copies in the possession of the vendor will be destroyed with a certificate of data destruction provided to the agency.

Optum acknowledges that data in the repository is the property of the Agency and will be provided to the Agency on request. Data in the repository at the end of the contract period will be provided to the Agency in a mutually agreeable format. On written notice by the Agency, copies in the possession of Optum will be destroyed with a certificate of data destruction provided to the Agency.

Data Transfer

As the end of contract approaches, we will collaborate with the Agency on a transition and turnover plan to define and document how the data transfer will take place.

4.2.2.2.8 Agency will upload cleansed and transformed data to the Agency SFTP Server and notify the vendor by email when it is available. Vendor will move the data from the SFTP server to the data repository.

Optum understands the Agency will upload cleansed and transformed data to the Agency SFTP Server and notify Optum by email when it is available. We will then move the data from the SFTP server to the data repository (Data Lake Storage).

When retrieved, your project data will be cleansed through Azure Data Factory and retained in cleansed form in Data Lake Storage. From that point, your users can perform predictive modeling, advanced analytics, and machine learning. After processing is completed, the finalized data will be loaded into the Snowflake database for import into Power BI or other tools. Figure 7 shows the proposed process.
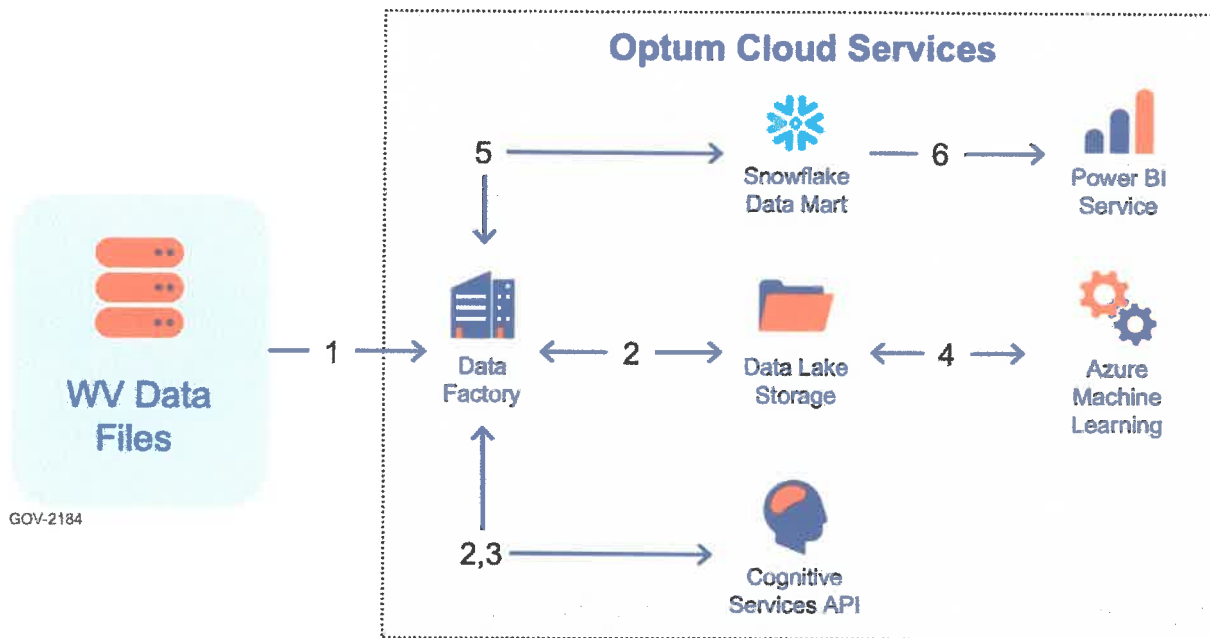
Figure 7: Analytics Data Flow
Data will flow securely through our cloud environment with automated or triggered processing steps.

The Analytics Data Flow is as follows:

1. Data will be ingested into Azure Data Factory from the WV SFTP server.

2. During ingestion, Azure Data Factory will use Azure Cognitive Service to validate if PII data exists.

   - Files with PII data will be rejected and not stored in the Optum environment.

   - Files that pass the PII check will be stored in the Azure Data Lake storage location.

3. If needed, files will be further modeled in Azure Data Factory, using Cognitive Service as desired for other AI functions (such as natural language processing).

4. Files will be ingested into Azure ML for machine learning training and/or analysis, then saved back to Azure Data Lake Storage in a new folder structure.

5. Finalized data sets will be uploaded into a Snowflake Data Mart through Azure Data Factory.

6. Data will be imported into Power BI Datasets for visualization.

4.2.2.2.9 Vendor will certify that the hosted cloud environment satisfies MARS-E privacy controls (available at https://www.cms.gov/CCIIO/Resources/Re1-tulations-and- Guidance/Downloads/3-MARS-E-v2-0-Catalog-of-Security-and-Privacy-Controls- 11102015.pdf), including privacy training and awareness, and rules of behavior.

Optum certifies that the hosted cloud environment satisfies MARS-E privacy controls, including privacy training and awareness along with rules of behavior.

⭐ Our hosting solution satisfies the requirements of the MARS-E and NIST security controls. Optum **exceeds Agency requirements** by also tailoring to the FedRAMP moderate baseline. We apply Azure Policy throughout our solutions to enforce security controls for each

required compliance framework. Our solutions use cloud native and third-party security controls that are designed based on the compliance frameworks, so security is built into the infrastructure. Our toolset includes a combination of advanced data protection, auditing and logging, encryption, identity and access management, infrastructure security, data classification, security incident management, and threat and vulnerability management solutions to protect your data.

> **4.2.2.2.10** Vendor agrees that the hosted cloud environment will be available to Agency staff for data transfer and data modeling 99% of the time, 24 hours per day, 7 days per week, with the exception of scheduled downtime.

⭐ Optum's hosted cloud environment **exceeds the Agency's requirement** in that it will be available to Agency staff for data transfer and data modeling 99.5 percent of the time, 24 hours per day, seven days per week, with the exception of scheduled downtime. To establish continuous application performance and meet uptime requirements, we will use multiple availability zones within our cloud environment to achieve 99.5 percent uptime for critical applications.

We built our solution with rigor around availability and response time to maximize the benefits to your users. We will continuously monitor the components of our solution using automated monitoring and alerting tools. In addition to the built-in monitoring utilities of our tools, we will use Azure Monitor and Metrics Explorer to monitor resources and applications on Azure in real time.

> **4.2.2.2.10.1** Vendor proposal shall include maintenance windows and scheduled downtime which shall occur in off-peak hours, between 8:00 p.m. and 6:00 a.m., Eastern Time (ET) Monday through Friday or on Saturday, Sunday or State Holidays.

Optum's maintenance windows and scheduled downtime will occur in off-peak hours, between 8 p.m. and 6 a.m. ET, Monday through Friday, or on weekends or state holidays to minimize stakeholder disruption. This is a customary practice for our projects. We work closely with our clients to recommend a schedule and make suggestions that minimize disruption for users. We will work with you to publish a calendar of maintenance dates to keep your staff informed.

Although we establish a standard maintenance window, we recognize that there may be a need for emergency maintenance. We will notify and coordinate with the Agency for approval of scheduled and emergency maintenance windows and system outages. In these situations, we will notify stakeholders of emergency maintenance windows and system outages using a pre-approved, mutually agreeable emergency protocol. As with the standard maintenance, we will recommend a time that results in minimal impact to users.

> **4.2.2.2.10.2** Vendor shall provide a system downtime report delineating both scheduled and unscheduled downtime for the month, with each monthly invoice for cloud services.

⭐ Built on a highly scalable and highly available cloud-based platform, our solution will deliver consistent service levels to users. The cloud solution offers redundant servers and databases located in multiple availability zones to eliminate possible causes of unexpected downtime and mitigate service disruptions as quickly as possible. The cloud infrastructure can handle predictable and planned loads as well as sudden spikes or changes in load. This **exceeds Agency requirements** by minimizing the impact of degraded service availability and enables efficient infrastructure operations for the State.

4.2.2.2.10.3 Vendor agrees that for any month unscheduled downtime is greater than 1% but less than 2.51%, Agency may deduct 2.5% from the total due on the monthly invoice. If unscheduled downtime is equal to, or greater than 2.51%, Agency may deduct 5% from the total due.

Optum will provide the Agency with monthly reporting of actual downtime, including both scheduled and unscheduled based on mutually agreed upon definitions of what is considered unscheduled, as applied to the facts for the particular month. Optum agrees that for any month unscheduled downtime caused by Optum is greater than 1 percent but less than 2.51 percent through Optum's acts or omissions, the Agency may deduct 2.5 percent from the total due on the monthly invoice. If unscheduled downtime is equal to or greater than 2.51 percent as a result of Optum's acts or omissions, the Agency may deduct 5 percent from the total due.

Data Modeling Projects (4.2.2.3)

4.2.2.3.1 Agency will initiate project requests by preparing a data set and uploading to the SFTP server. Vendor shall move the dataset to the hosted cloud repository. Agency staff will perform preliminary data modeling in the cloud before initiating a project with the vendor.

We understand data modeling projects will follow a collaborative path. Figure 8 illustrates our understanding.

GOV-2180
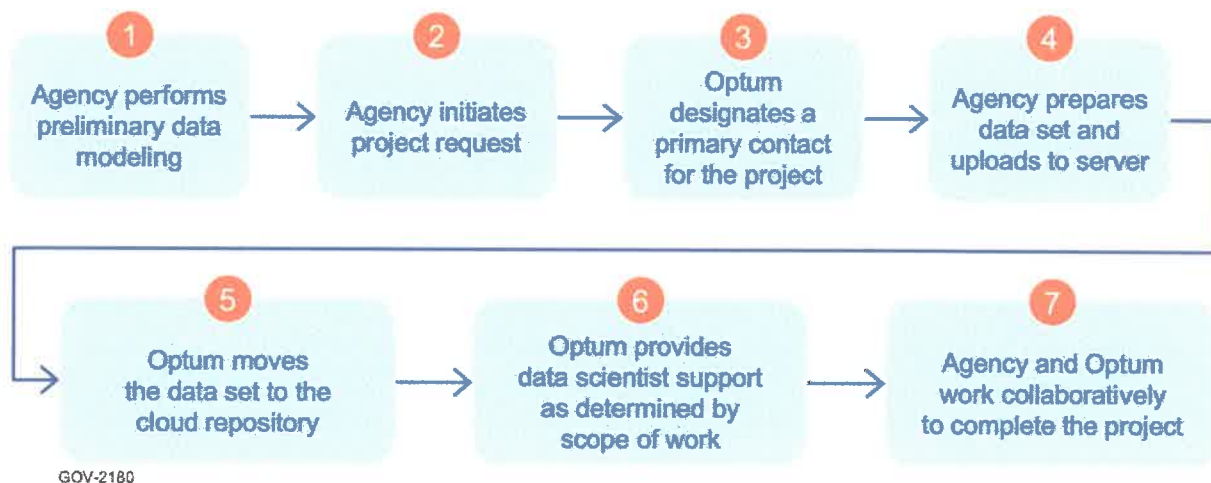
Figure 8: Data Modeling Collaborative Path
We will use this path for each data modeling project.

Optum has extensive experience with data modeling projects. Our data modeling experts will work with your business experts to develop a common understanding of the data and data relationships across the enterprise.

Our solid foundation in data modeling for some of the nation's largest databases will support accurate and timely analysis and reporting. We have created the data models for the California Management Information System/Decision Support System (MIS/DSS), which currently ingests, stores, and presents data for approximately 12 million Medicaid members. The solution maintains 10 years of data from 23 data feeds. We also created the data model for the New York State Department of Health All-Payer Database (APD). The APD stores more than six billion records to support more than 57,000 APD users. The APD receives more than one billion claims and other data annually from Medicare, Medicaid, Child Health Plus (CHP), Qualified Health Plans (QHPs), and commercial payers.

Optum

We know that enterprise data models for health and human services programs are extensive and evolving. We have proven our ability to break this work up into manageable segments. We typically start from our core dimensional data model baseline, complete with ETL from lower data stages. We then work with Agency subject matter experts to identify the relevant business entities and attributes, then merge the changes to the baseline into what becomes the enterprise data model.

⭐ Through mapping and data modeling meetings with Agency teams and stakeholders, we have created extensible data models that are designed around state-specific business practices and policies. We will bring this experience and knowledge to your projects. To exceed Agency requirements, we will also bring our knowledge of industry-leading data modeling tools to assist the Agency as needed.

4.2.2.3.2 Within 2 business days of a request to initiate a project, Vendor shall schedule a meeting with Agency staff to occur within 5 business days. Agency and vendor will determine the project scope including desired outcomes, number of models desired, and a not to exceed estimate of project duration (expressed in hours of support required per week). Within 2 business days after the meeting, the vendor will provide a draft project scope for Agency approval.

Within two business days of a request to initiate a project, Optum will schedule a meeting with Agency staff to occur within five business days. The Agency and Optum will collaborate to determine the project scope including desired outcomes, number of models desired, and project duration—not to exceed the estimate, expressed in hours of support required per week. Within two business days after the meeting, Optum will provide a draft project scope for Agency approval.

The designated primary contact for each project will work with the Agency to coordinate calendars, choosing meeting times that meet the stated requirement and work well for participants. We understand the Agency staff may be involved in as many as six projects at a time, so we will be respectful of the demands on their time. We keep meetings on track and on agenda, wisely using staff time.

4.2.2.3.3 Upon receipt from the Agency of an approved project scope vendor shall begin providing up to 5 hours of data scientist support per week to the Agency project staff at the data scientist billable rate proposed in the RFP response until the scope of work is satisfactorily completed. Vendor or Agency may request fewer support hours per week, spreading the total hours over a longer period of time but any such modification shall require mutual agreement of the parties in the project scope.

When an approved project scope is received from the Agency, Optum will begin providing up to five hours of data scientist support per week to the Agency project staff. This support will be at the data scientist billable rate proposed in our RFP response until the scope of work is satisfactorily completed. We understand that the Agency or Optum may request fewer support hours per week, spreading the total hours over a longer period, and that this type of modification will require mutual agreement in the project scope.

⭐ As a leading provider of data analysis services to health and human services enterprises, we have a large footprint and projects from which to draw talented data scientists based on the scope of work for each of your projects. In addition, to exceed Agency requirements we can hand select staff with skills and qualifications to meet your project needs

Optum
Analytics Expertise

Suman Challagulla, Data Scientist, has 15 years managing health care claims solutions through:

- Analytical tools, predictive analytics, and quality measures
- Statistical Modeling, Machine Learning
- Credentials in Data Science Specialization, Johns Hopkins University

from our more than 24,000 analytics experts, including data scientists, as well as data experts who specialize in applying clinical, financial, actuarial, and program analytics to drive results.

4.2.2.3.4 Vendor agrees that the project duration in the scope of work is a not to exceed estimate and the hours billed shall represent actual hours worked.

Optum agrees that the project duration in the scope of work is a not to exceed the estimate and the hours billed will represent actual hours worked. Our project manager will carefully manage the time of each resource engaged to make sure hours are used properly and estimates are not exceeded. We have experience with providing DHHR statements of work that include not to exceed hour estimates and completing accepted deliverables for the Agency.

4.2.2.3.5 Agency may request changes to the scope of work resulting in a modified scope of work. Vendor shall prepare a new estimate of required support for the modified Statement of Work. Changes in scope that add no more than 25% to the project duration shall be considered a project change and added to the maximum billable hours for the project. A scope change that adds greater than 25% shall be considered a new project.

Optum understands the Agency may request changes to the scope of work resulting in a modified scope of work. We will prepare a new estimate of required support for the modified Statement of Work as needed. We acknowledge and agree that changes in scope that add no more than 25 percent to the project duration will be considered a project change and added to the maximum billable hours for the project. We agree that a scope change that adds greater than 25 percent will be considered a new project.

Project Manager Scott Dunfee will collaborate with the Agency on each Statement of Work to make sure our estimates are accurate and, when approved, staff adhere to the hours defined.

4.2.2.3.6 Vendor shall support up to 18 total projects during the 12 month life of the contract including up to 6 projects concurrently.

Optum will support up to 18 total projects during the 12-month contract, including up to six projects concurrently. Our Project Manager will work with the Agency to prioritize projects and create a project schedule for each. Scott Dunfee has the flexibility, knowledge, and experience required to navigate the complexities of concurrent projects.

To manage staffing for each of your statements of work, we will provide the right staff at the right time with the right skills in predictive analytics, machine learning, and artificial intelligence.

4.2.2.3.7 Agency may adjust the priority of projects, placing a lower priority project on hold to keep the number of concurrent projects to six or fewer. Vendor shall accommodate the Agency priorities.

Optum understands the Agency may adjust the priority of projects, placing a lower priority project on hold to keep the number of concurrent projects to six or less. Optum will accommodate the Agency priorities throughout the life of the contract.

Our staff have worked on concurrent projects through to successful completion. They possess skills of time management, workload management, and prioritization.

Optum currently works with the Agency on project prioritization through the RAPIDS operations project. In our nine health and human services data and analytics engagements we assist our customers to prioritize

Optum
Management Expertise

Scott Dunfee, PMP, our proposed Project Manager, has effective and efficient expertise:

- 22 years of project management experience
- 17 years' experience in the health care industry
- Active PMI certified PMP

projects through a Change Control Board (CCB) process.

> **4.2.2.3.8** Upon contract award, the Vendor shall designate one primary contact and at least one backup that will be the initial point of contact for all project engagements under this contract. Only projects properly initiated with the Vendor point of contact are valid projects under the contract.

We have designated our proposed Project Manager as the primary contact that will be the initial point of contact for the Predictive Analytics Software and Services engagements under this contract. We will also designate a backup to this point of contact. Only projects properly initiated with the project manager, Scott Dunfee, or his backup are valid projects under the contract. Scott will work closely with the Agency to manage the engagements from request through completion.

Required Software (4.2.2.4)

> **4.2.2.4.1** Vendor shall list in their technical proposal ALL of the software the State Agency will need in order to satisfy the stated goals and objectives and to meet all of the mandatory requirements within the RFP.

Optum is providing a self-contained, cloud-based solution, requiring no software from the Agency, although for developers, the Agency will be required to download a version of Power BI Desktop that is made available at no additional charge. View-only and web-based access to model results will be available through our provided Power BI Premium (PPU) cloud-based service. Agency staff will be able to use their analytic software of choice, as long as it meets State requirements for security.

> **4.2.2.4.2** Predictive analytics software proposed in response to this RFP must have the capability to process text data via natural language processing and must handle multiple file formats including, but not limited to (.csv, .tsv, .dsv, .xls, .xlsx, .sas7bdat, .geojson, .gz, .bz2, .tar, .tgz, .zip). The software must be able to export data in formats that are compatible with popular data visualization software including, but not limited to Tableaux and Microsoft Power BI.

The Optum solution has the capability to process text data via natural language processing. The solution can handle multiple file formats including, but not limited to, .csv, .tsv, .dsv, .xls, .xlsx, .sas7bdat, .geojson, .gz, .bz2, .tar, .tgz, and .zip. Our solution can export data in formats that are compatible with popular data visualization software including, but not limited to, Tableau and Microsoft Power BI.

The solution we propose uses the cloud native service ADF for data transfers. ADF is an ETL and data integration service. It can be used to cleanse and format the data before moving it into the data repository. Implementing data quality remediation in ADF allows for data to be cleansed as it is handled by the ETL process for loading.

The solution provides text and NLP capabilities as well as traditional script-based capabilities in Azure ML. NLP supports applications that can see, hear, speak with, and understand users. Azure ML uses text analytics, translation services and language understanding services to make it easy to build applications that support natural language.

Our solution also uses Azure Cognitive Service for Language, which is a cloud-based service that provides NLP features for understanding and analyzing text.

Data export can be made available to users but is restricted by role. We will work with you to determine the data export needs that align to your user population. For example, most of our state clients allow users to export summary data, but very few of our clients allow users to export raw data as this is generally viewed as a security risk. Such data export capabilities are confidential or limited to specific user roles.

4.2.2.4.3 Vendor will clearly identify any software that is proprietary and will explain the basis for software licenses including whether the licenses are named user licenses or concurrent user licenses; whether licenses are annual or perpetual; any requirements requiring software to be under vendor support contracts; etc.

Optum is proposing no proprietary software (meaning software owned by Optum) as part of their predictive analytics software solution. Optum is proposing, however, a SaaS, Optum-hosted predictive analytic software solution that includes certain third-party software.

With respect to that third party software, we have addressed in our response to Section 4.2.2.4.4 the basis for third party software licenses, whether the third-party software licenses are named or concurrent users or some other metric, whether they are annual or perpetual and requirements for such third-party software to be under vendor support.

4.2.2.4.3.1 Vendor proposal shall indicate whether licenses are transferable (from an Agency staff member leaving the project to a new staff member) and whether and, how a license might be upgraded during the license term, for instance from a view only license to a license with full access to SW features.

Optum is proposing certain third-party software under a SaaS licensing model, as described in more detail in response to Section 4.2.2.4.4 of the RFP. Some of the third-party software, such as Power BI Software, is licensed on a named user basis, so if one Agency staff member leaves the project and is replaced by a new staff member, as long as the total number of Named User licenses provided as part of the solution is not exceeded, such licenses can be transferred.

The software Optum is proposing will run primarily as SaaS. As such, the ability to upgrade or downgrade a license type is feasible; however, there may be pricing adjustments based on the change of license type or number of user-based licenses.

4.2.2.4.4 Vendor will clearly identify any required third party software, if Vendor is an authorized distributor of such third party software or if the Agency will have to procure their own licenses. (NOTE: Where an existing Agency or Statewide Contract includes the required third party software, Agency reserves the right to purchase from the existing contract rather than from the Vendor.)

The following table identifies the third-party software used in our solution for your Predictive Analytics Software and Services project. Because our Predictive Analytics Software solution is offered under a SaaS model, Optum is authorized to make the third-party software available for use by the Agency, subject to the Agency abiding by certain license terms of use from Optum's Cloud Service Provider, Microsoft, or the applicable owner of the third-party software. The details of such license terms are included as part of Attachment A, Optum's Exceptions and Clarifications, that is part of Optum's executive summary.

For each item of third-party software, Optum has indicated if the license is included or if the Agency will have to procure their own license, as well as the applicable license metric—machine-based, named or concurrent user, or other. Licenses are subscription based and have been priced on an annual basis for as long as the contract is in effect. On termination or expiration of the contract, as is true of any SaaS offering, the Agency's right to use the third-party software will cease.

Third Party Software	License included by Optum	License procured by Agency	License Metric (i.e., Machine Based, Named or Concurrent Users, other)	Annual or Perpetual
Azure Data Lake Storage	X		Other – Optum Tenant	Annual
Azure Data Factory	X		Other – Optum Tenant	Annual
Azure DevOps	X		SaaS – Named User (10)	Annual
Azure ML	X		Other – Optum Tenant	Annual
Azure Cognitive Services (NLP	X		Other – Optum Tenant	Annual
Power BI Premium (PPU)	X		SaaS – Named User (10)	Annual
Power BI Desktop*		X	SaaS – Named User (5)	Annual
Snowflake Database	X		Other – Optum Tenant	Annual
OpenIAM**	X		SaaS – Named User (10)	Annual
Camtasia or other similar tool to record training**	X			

* Power BI Desktop is a free downloadable application required for end-users who will create Power BI reports and datasets and as such, Optum will not be providing this third-party Software. The Agency will need to download, install, and update Power BI Desktop on the state desktop computers. The updates are typically monthly in alignment with the Power BI SaaS and would be made available not from Optum but from the manufacturer after having engaged in the download process.

** OpenIAM is third-party software that is used solely by Optum and hence, no license terms need be accepted by the Agency.

*** Camtasia (or other similar tool that Optum may use to record training) is third-party software that is used solely by Optum and hence, no license terms need be accepted by the Agency.

We understand that where an existing Agency or statewide contract includes the required third-party software, the Agency reserves the right to purchase from the existing contract rather than from Optum. In such cases, Optum will work with the Agency through the established change control process to enable access through Optum's integrated Identity and Access Management services and procure any necessary Cloud services to support the compute and storage resources required for the Agency applications.

4.2.2.4.5 Vendor will address their approach to SW version and release updates (including bug fixes). The response should include details regarding what updates are required vs. optional; the amount of notice the Agency will be provided for routine updates; the amount of notice the Agency will be provided for bug fixes; etc.

Software updates and bug fixes are provided as a standard part of our offering. As the solution uses cloud native SaaS components, we follow the upgrade and bug fix schedules for Microsoft and other vendors.

For software upgrades, Optum performs the following steps:

- We will explain the upgrade features and the plan for the upgrade to the Agency well before beginning the work.

- After the Agency approves the upgrade plan for the application software, we will coordinate with users to understand how each group interacts with the system and how an upgrade will affect them.

- We will upgrade a test site that runs the application to identify any issues that may arise during the upgrade. When the technical aspect of the upgrade has been completed and any issues resolved, we will upgrade the development environment, followed by the staging and production environments.

During the stages of the upgrade process, we will thoroughly test (both non-functional and technical) for quality assurance, data integrity, security, performance, design, and device testing. Any issues encountered during the testing process are captured and tracked until completely resolved.

For Power BI, Microsoft releases Power BI fixes and upgrades monthly. The Power BI release schedule can be found at this link: **https://community.powerbi.com/t5/Data-Stories-Gallery/Power-BI-Release-Plan/m-p/930557**. For Power BI there is no downtime required.

The amount of notice to the Agency for bug fixes will vary by the software that needs to be fixed. We will triage, prioritize, and resolve bugs in collaboration with the Agency.

With respect to the Power BI Desktop Software, because this software is provided at no charge through the State performing the download, it will be up to the Agency to procure any bug fix or update support from the manufacturer while Optum will provide the Agency with associated training on the use of such tool.

Qualifications and Experience (4.3)

Vendor should provide information and documentation regarding its qualifications and experience in providing services or solving problems similar to those requested in this RFP. Information and documentation should include, but is not limited to, copies of any staff certifications or degrees applicable to this project, proposed staffing plans, descriptions of past projects completed (descriptions should include the location of the project, project manager name and contact information, type of project, and what the project goals and objectives were and how they were met.), references for prior projects, and any other information that vendor deems relevant to the items identified as desirable or mandatory below.

Optum will comply with each of the mandatory project requirements outlined by the Agency in the RFP. Throughout the following sections, we provide information and documentation regarding our qualifications and experience in providing services or solving problems similar to those requested in your RFP. This detail will demonstrate how we comply with your qualifications and experience requirements.

We have strong qualifications and certifications to support varying scopes of work. For example, Optum is a Microsoft GOLD partner, which reflects an organization's elite status and capabilities within Microsoft solution areas. We achieved a GOLD competency level in the following areas:

- ✓ Azure Consumption option
- ✓ Hosting option

We also assign resources who are qualified and driven to use their credentials and expertise in support of our clients. Our proposed project manager, Scott Dunfee, is a PMI certified Project Management Professional (PMP). Our proposed data scientist Suman Challagulla, has multiple Microsoft certifications, including Microsoft Certified Professional and Microsoft Solution Developer. Suman also has a Johns Hopkins University Data Science Specialization certification.

Copies of staff certifications, degrees, and related resumes applicable to this project are in Appendix A – Resumes.

Qualification and Experience Information (4.3.1)

Vendor should describe in its proposal how it meets the desirable qualification and experience requirements listed below.

We have extensive qualifications and experience in predictive analytics and modeling, training, cloud-based data storage, and responsive technical support to comply with your requirements as the following sections demonstrate.

4.3.1.1. Vendor should demonstrate that they have provided predictive analytics SW, including machine learning and artificial intelligence to companies and agencies in the United States for a minimum of five years prior to this bid opening.

We position our teams strategically to meet requirements for each of your projects. To manage staffing for each of your statements of work, we provide our extensive experience with predictive analytics, machine learning, and artificial intelligence with more than five years' experience. These projects include:

Opioid Substance Abuse Data Analysis Services (April 2018 – April 2019): West Virginia was experiencing a substance use epidemic that threatened the physical and socioeconomic stability of the state and its residents. In 2018, we implemented the Opioid Analytics Module

(OAM) for DHHR that was funded through the West Virginia RAPIDS project led by Optum. The project objectives were to assist DHHR with:

- Identifying individuals with excess opioid utilization
- Monitoring providers and program integrity
- Providing epidemiological studies and performance metrics
- Improving access to prevention, early intervention, treatment, and recovery services

We developed an Opioid Use Disorder dashboard for West Virginia Bureau for Medical Services (BMS). Using claims, provider, and enrollment data, the dashboard calculated and visualized use of opioids across the state, identifying high-use areas, providers' prescribing patterns, and utilization and quality metrics for opioid use.

South Dakota Department of Social Services (May 2016 – Present): We are working with the South Dakota Department of Social Services to deliver analytics that are used to monitor their Medicaid program. We have developed an SQL Server data warehouse that intakes claims and recipient data weekly, runs a rigorous data validation process, and creates a data mart that is used by DSS. The data intake process is completely automated, and data is received from multiple sources such as claims, provider, Supplemental Nutrition Assistance Program (SNAP), and TANF. As part of the solution, we have developed a set of analytic dashboards deployed on our infrastructure. These dashboards allow the Department to assess historical performance and project future performance. The Department also uses these dashboards to evaluate key aspects of their program as well as conduct ad hoc analytics to evaluate emerging program issues. We will leverage our experience from South Dakota to create automation opportunities for processing continuous data intake from multiple disparate sources, validate and enrich data, and deliver meaningful analytic reports at a pre-defined frequency to your program.

MassHealth Payment Reform Design (12/2019 – 3/2021): We partnered with Massachusetts Executive Office of Health and Human Services (EOHHS), commonly known as MassHealth, to support the development and implementation of new, innovative payment models to certify the delivery of high-quality health care and improved outcomes while reducing cost. As a part of this engagement, we researched payment models, attributed members to providers, enriched claims data, conducted risk analysis, and developed actuarial models to inform the design of new payment models. We also delivered a series of visualizations to analyze enrollment, cost, utilization, and providers segmented by both demographic factors and disease category.

State of Indiana Family & Social Services Administration (FSSA) (06/2020 – Present): We manage a visual analytics portal for Medicaid Program Areas for financial analytics (cost-based analysis, forecasting), provider analytics (provider and facility, utilization), population analytics (clinical, cost drivers, enrollment, population studies, risk, utilization), managed care (clinical, MCO), and member engagement (access) that leverages predictive analytics using analytics software. Optum has supported FSSA with analytic and data management services since July 2012 with our Indiana Enterprise Data Warehouse/Business Intelligence solution.

Indiana Substance Use Disorder (SUD) Provider Capacity Planning (12/2019 – 3/2021): We conducted a comprehensive baseline assessment of Medicaid members with Substance Use Disorder (SUDs) using the Indiana Enterprise Data Warehouse/Business Intelligence and analytics solution Optum supports. Target populations for the SUD project included pregnant/post-partum women, infants under 12 months of age, adolescents, and dual-eligible individuals and assess the capacity, qualifications, and willingness of Medicaid-enrolled providers to provide SUD treatment and services. Optum designed an action plan to improve

Indiana Medicaid provider recruitment, training, and technical support specific to SUD treatment and/or recovery services.

CMS State Innovation Group All-Payer Operations Project (2015 – Present): We provide support for CMS. As a trusted partner, we deliver analytics consulting services, training of CMS staff, technical advisory services, policy analysis, or recommendations. As part of our analytics consulting contract with CMS, we complete predictive analytics projects for specific scopes of work such as the State Innovation Group All-Payer Operations Project. Using machine learning techniques, we calculated prospective provider payments to set benchmarks for two different payment models. The objective of the project was to deliver CMS a model that would provide a more accurate payment forecast, that is less disruptive to providers receiving prospective payments.

New Jersey Shared Data Warehouse (2001- Present): We provide a hybrid solution using Azure cloud technologies similar to the proposed solution for DHHR. We currently have nine full-time equivalent (FTE) staff providing analytic services for the New Jersey Department of Human Services. Included in this solution is our predictive care risk management solution (ImpactPro), our Opioid module, and our Fraud and Abuse Detection System. We also provide maintenance and operations of the Medicare Medicaid Data Integration environment to support analytic capabilities. This project combines existing state data warehouse data with CMS-provided Medicare claims and related data while meeting CMS' required data security standards. We also built and support an application called Healthfocus that shows recipient, provider, and claims data for the Department of Children and Families using Azure and Power BI.

Additionally, Optum applies innovative research practices, forward-thinking ideas, and leading-edge machine learning initiatives. Our state government advanced analytics framework includes a suite of Optum technologies, analytics, and health care services to state government clients to help inform and drive policy decisions. For example, through our advanced analytics platform, we deliver relevant machine learning modules to support our clients' programs. For example, three major machine learning modules we develop for clients include:

> Experience
> ## Machine Learning
>
> Optum has created more than **50** machine learning modules for health and human services projects through:
> - Deep learning technologies
> - Refined engineering methodologies

- **Opioid Use Disorder (OUD):** This complex predictive model identifies individuals who are at risk for developing OUD, with a proven 81.5 percent precision rate.

- **Home Care to Long-Term Care Transition:** This is predictive model that identifies specific markers to predict the likelihood of when an individual may need to transition from short-term (in home or community based) to long-term care.

- **Pediatric Asthma Prediction:** This model includes markers and algorithms to predict the likelihood of persistent pediatric asthma.

> **4.3.1.1.1** Vendor should provide the current release of the SW being proposed and comment on the maturity level of that release.

The following table provides the current releases of the software we are proposing and our comments on the release maturity levels.

Software	Release	Maturity Level Comments
Azure Data Lake Storage	Gen 2	Gen 2 is the second generation of the Azure Data Lake Storage service. Azure Data Lake Storage is an enhancement over the traditional Azure BLOB Storage type.
Azure Data Factory	V2	V2 is the second generation of the Azure Data Factory service. Azure Data Factory is a managed cloud service built for complex ETL, ELT, and data integration. Although labeled as V2, the service is constantly updated with fixes and features.
Azure DevOps	Latest	Azure DevOps is a managed cloud service that provides code development collaboration and work planning. It is used as part of the CI\CD processed and as a repository for Azure Data Factory. As a managed cloud service, it is updated periodically.
Azure Machine Learning	Latest	Azure Machine Learning is a managed cloud service that provides a machine learning integrated development environment and compute clusters to support machine learning modeling. As a managed cloud service, it is updated periodically.
Azure Cognitive Services	Latest	Azure Cognitive Service is a managed cloud service that provides pre-built machine learning and artificial intelligence capabilities. These pre-built models are updated periodically as are the API's
Snowflake Database	Latest	Snowflake is a managed cloud service that provides database and date warehouse services independent of specific cloud service providers. As a managed cloud service, it is updated periodically.
Microsoft Power BI Premium (Service)	13.0.x	Power BI service is a managed cloud service that provides data visualization of data sets. As a managed cloud service, it is updated periodically.
Microsoft Power BI Desktop	2.108.x	Power BI Desktop is desktop tool that is used to create datasets and associated visuals. While the tool can be run standalone on the user's desktop, the power comes with the ability to publish datasets and visual to the managed Power BI cloud service. When paired with the Power BI service, the versions must match between desktop and service. The desktop tool is typically update monthly.
OpenIAM	4.2.x	OpenIAM is the tool we use for integrated identity and access management and allows us to integrate with Azure Active Directory and State managed identity platform(s). OpenIAM is currently supported in the cloud and as a cloud managed service. Our current model is to use OpenIAM in the cloud within a Kubernetes cluster and move to the full managed service in the future.
Camtasia	2022	Camtasia is the tool that Optum uses to record training and the release shown is the latest release available.

4.3.1.2. Vendor should provide a staffing plan that will clearly support the requirements enumerated in the RFP. The plan should include, at a minimum, resumes for proposed staff along with copies of certifications or degrees applicable to this contract; descriptions of past projects completed; project manager name and contact information for past projects; and, customer name and contact information for each project cited.

Our staffing plan will support the RFP requirements and describe the organizational structure, personnel, and approach we will use to complete a defined scope of work for your projects. The plan will list our proposed staff, lead roles, and analytics team roles for the project. It will include information such as number of staff, roles to be performed, and functions for each position category. Optum will review the staffing plan with the State prior to statement of work commencement, and we will maintain the staffing throughout the life of the contract.

Benefits of
Optum Staffing

The benefits of Optum's staffing plan include:

- Flexible model that has access to more than 24,000 analytics and experts
- Public health/epidemiology experience
- Staff that understand the State of West Virginia policy and related procedures
- Experts in behavioral health and drug overdose/dependency surveillance

The resumes we provide in Appendix A include descriptions of past projects completed, project manager name and contact information for past projects, and customer name and contact information for each project cited.

Our predictive analytical team, led by project leaders with decades of experience, analyzes changing patterns and outcomes in each area of analytics and business intelligence. Our expertise lies in how we curate data and how we apply the analytics to provide business intelligence. These include data scientists and experts who specialize in applying clinical, financial, actuarial, and program analytics to drive results. Dedicated to helping state governments like yours succeed, Optum analytics experts collaborate with states to advance business strategies and improve program performance with analytics that support your goals and objectives.

To support the requirements enumerated in the RFP, Optum and our experts have experience that includes direct project work such as the following:

- **Training:** Optum provided the South Dakota Medicaid Data Analytics project with training on how to use the data analytics portal. The trainings were tailored to small groups to make sure that they were relevant and interactive. For the Veterans Administration Suicide Prevention project, we documented the solution, trained the stakeholders to use the reports, and to maintain, update, and redeploy the solution. Optum also hosted office hours to clarify any questions regarding the solution.

- **Data repository/secure file transfer:** 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 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.

- **Data modeling projects:** Optum has done predictive modeling for an interactive data visualization to allow the South Dakota DSS to analyze and predict spending and resource allocation for its Medicaid program. Our work with the State of New Jersey Department of Human Services, Division of Medical Assistance and Health Services included upgrades to

their solution. This upgrade included ingestion of multiple Medicare data attributes into an additional cloud-hosted warehouse model. The enhancement included implementation of new a data model and mapping legacy data elements to new data structures based on information gained during configuration sessions with the State.

- **Required software:** Optum's work with the Indiana Family and Social Services Administration (FSSA), Office of Medicaid Policy and Planning leverages Power BI, Tableau, and Cognos to provide the ability to gain insights in ways to improve programs, increase federal funding, and improve health outcomes. For example, FSSA used the data 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. The SUD population grew at more than four times the rate of the overall Medicaid population. FSSA used the data and analytics 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.

Within our portfolio of services, we also provide client projects with predictive analytics, including machine learning and artificial intelligence services dedicated to working with fraud, waste, and abuse. Our staff are experts in machine learning and specialize in complex and innovative data mining methodologies needed to uncover fraud, waste, and abuse. They provide a comprehensive approach to detecting behaviors through:

- **Discovery** through focused analytics and statistical analysis
- **Research** using reports, visualizations, and dashboards
- **Machine Learning** based on predictive models, supervised/unsupervised models, and NLP
- **Support** anchored by training, analytical strategies, and collaboration

Our proposed staff has the knowledge and skills required to support sophisticated analytics capacity for a wide range of project activities. The following are brief biographies of proposed staff for the project. Copies of any staff certifications, degrees, and related resumes applicable to this project may be found in Appendix A.

Scott Dunfee, MA, PMP
Project Manager

Scott Dunfee has more than 22 years of project management experience including more than 17 years of experience in the health care industry. His expertise includes 15 years of program management with a focus on implementations, health care data analytics, infrastructure, database development, and security. In his current role as Program Manager for the WV PATH project, Scott leads engagements for next-generation solutions and components, by specializing in project performance, transparent collaboration, and tangible results. Scott's career also includes the management of 20 data analysts in a data analytics center of excellence where he worked with experts such as epidemiologists, behavioral health data analysts, and data modelers. Scott is a result driven, team focused leader. Scott is a credentialed as a certified Project Management Professional (PMP). He has a Master of Arts degree and a Bachelor of Arts degree from Marshall University in Huntington, West Virginia.

Suman Challagulla, MBA
Data Scientist

Suman Challagulla will serve as our primary data scientist. He has more than 17 years of experience years of analytics and data science engineering expertise. Suman has the flexibility, knowledge, and experience required to navigate the complexities of concurrent projects. He actively leads concurrent projects predictive analytics, leveraging his expertise in statistical modeling, data mining, machine learning, and R. Suman's career includes extensive work in service to government projects, working for Optum supporting projects in Indiana, New Jersey, South Dakota, and New York as well as federal projects for CMS and Veterans Administration. Suman is credentialed in Data Science Specialization from Johns Hopkins University, Baltimore, Maryland. He has a Master of Business Administration from Indiana University and two Master of Science degrees from Arizona State University. Suman also has a Bachelor of Engineering degree from the Gandhi Institute of Technology and Management in India.

Kalu Onuma, BS
Power BI Report Lead Power

Kalu is an IT professional with more than 11 years of experience in analysis and reporting. Kalu has experience working with client databases and systems to maintain the strategic vision of the client's organization. In his current position as a senior consultant at Optum, Kalu provides reports, data analysis, data manipulation, data extraction, and research for federal and state government clients using tools that include Power BI. Kalu is skilled in providing interactive reporting and dashboard solutions, predictive and descriptive analytics, data modeling, and data mining. He has extensive experience in data migration, data analysis, data manipulation, data extraction, and research to support the Agency. Before joining Optum, Kalu served as a Tableau developer and analyst, working with physicians, schedulers, and ambulatory departments developing intuitive, visual analytics and dashboards to improve efficiencies for patients and physicians. Kalu has a Bachelor of Science in Accounting and Information Science from the University of Lagos in Nigeria.

Copies of any staff certifications, degrees, and related resumes applicable to this project may be found in Appendix A. The following table shows roles of our staff proposed for your projects.

Roles and Responsibilities	
Project Manager **Scott Dunfee**	• Leads the Optum team and tracks contract performance
	• Collaborates with the Agency on each statement of work
	• Acts as point of contact for each project
	• Prepares or confirms estimates for each project
	• Plans, schedules, organizes, assigns, directs and control activities, either directly or through assigned staff, to successfully perform the contract scope of work
	• Proactively manages and mitigates project risks, resolves project issues, and manages changes to project scope
	• Facilitates a variety of client and stakeholder meetings and status reporting

Roles and Responsibilities	
Data Scientist **Suman Challagulla**	• Serves as backup for the project manager • Supports five hours per week of project support as defined in each statement work • Collects and reviews analytical requirements • Collaborates with State analytics staff • Analyzes diverse data sets • Establishes meaningful connections and linkages between data sets to inform program development and continuous improvement • Identifies data variations and provides holistic visualizations using Power BI workbooks • Guides or supports on data collection, analysis, and visualization • Models algorithms, and interprets models/results, and reports using data visualization techniques • Prepares training materials and trains on applicable topics • Serves as expert on analytic and visualization tools and the functions of the predictive analytics software
Report Lead **Kalu Onuma**	• Manages activities related to reporting including design, development, production, documentation, reconciliation, quality, and maintenance • Provides support for Power BI visualizations • Provides Power BI subject matter expertise • Prepares training materials and trains on applicable topics
Data Lead	• Designs structures for data ingestion • Communicates and reports data findings to support decision-making • Performs data analysis and data remediation as needed • Prepares training materials and trains on applicable topics
Trainers	• Provides 40 hours of instructor lead, virtual training for up to 10 Agency Staff • Produces and maintains training material

A major factor in retaining staff levels is providing and hiring the right people. We measure retention and attrition monthly through management reviews and use an employee engagement model. Optum promotes employee engagement to help staff reach their full potential for successful careers. Our employee engagement model focuses on six key areas.

- **Diversity, equity, and inclusion:** Our continued commitment and pursuit of a more diverse, equitable, and inclusive culture at Optum is grounded in our values of integrity, compassion, and relationships.

- **Meaningful work:** Employees want to believe their work is valued. We assign resources to positions that enable them to use their skills in meaningful ways to support our clients.

- **Linked rewards:** We offer competitive benefits linked to performance. In annual performance reviews, we include peer input to understand staff performance on client contracts.

- **Effective teams and leaders:** We assess our leaders continuously and provide programs that promote superior services and continuous improvement.

- **Company vision:** In town halls and web-based meetings, we share our company vision to keep staff aligned with our values as they represent Optum and serve our clients.

- **Personal potential:** We discuss career goals in annual reviews and throughout the year. We provide our staff with professional development and opportunities through programs, events, tools, and resources that inspire progress as well as a deeper understanding of positions and what is needed to lead to their life's best work. Our career development program provides our staff with the path to achieve personal, professional, and organizational goals.

> **4.3.1.3.** Vendor should address how they will make substitutions for proposed staff if staff leave the project before completion. The plan should address Agency's prerogative to accept or reject proposed replacements for any or for no cause.

We will maintain the staffing and experience levels throughout the project to make certain we meet your project objectives on time. If we make substitutions for staff, we will work closely with the State to match new candidate qualifications and expertise with position requirements. Before we make a staffing change, we will provide resumes of qualified replacement candidates for consideration. We will make replacement candidates available for you to interview and approve replacements, and we will only assign staff to the project with your advance approval.

Mandatory Qualification/Experience Requirements (4.3.2)

> The following mandatory qualification/experience requirements must be met by the Vendor as a part of its submitted proposal. Vendor should describe how it meets the mandatory requirements and include any areas where it exceeds the mandatory requirements. Failure to comply with mandatory requirements will lead to disqualification, but areas where the mandatory requirements are exceeded will be included in technical scores where appropriate. The mandatory qualifications/experience requirements are listed below.

We comply with your mandatory qualification/experience requirements as we demonstrate in our proposal. The following sections describe how we meet your mandatory requirements, highlighting areas where we exceed your mandatory requirements. Optum has 28 years of experience with comprehensive data and analytics. We build and maintain some of the largest health data repositories in both the public and private sectors supporting analytics, data warehouse and data management solutions, including for California and New York, two of the largest Medicaid programs in the nation. We deliver objective analyses and strategic support to our clients,

Optum

Performance

Optum provides predictive analytics and detection solutions that prevent improper Medicaid claim payments for states such as:

- Arkansas
- California
- New Hampshire
- New Mexico
- Virginia

specializing in providing insightful, actionable, data-driven policy analysis and data analytics. Our expertise also includes program strategy, program implementation and evaluation, health care financing, and technical assistance for health and human services agencies.

> **4.3.2.1.** Vendors must have at least two existing Federal, State or Local government accounts where they have provided the full range of services requested in this RFP for at least two years.

Optum implements, operates, enhances, and provides onsite support for clients in all 50 states, at the state, federal, and local government level. The following are a select collection of our clients where, when considered collectively, we have provided the full range of RFP requested services for at least two years.

Arkansas Decision Support System (DSS): Optum implemented, operates, enhances, and provides onsite support for the DSS that uses the health information of thousands of Arkansans. The solution integrates data from multiple data sources, such as Medicaid, the Children's Health Insurance Program, qualified health plans, foster care, and adoption programs.

The DSS enables effective and efficient use of health data through enhanced analytics, reporting, and dashboards that support outcomes-based improvements, payment reform, and program integrity. The solution supports predictive analytics that prevent improper Medicaid claim payments. The DSS manages more than 10 years of data with more than 337 million records.

Optum
Performance

The Arkansas DSS supports the State with:

- User training and knowledge transfer
- Responsive technical support
- Predictive analytics to prevent improper claims payment
- Data modeling, cleansing, management, and storage

The project scope of services include:

- Business analysis, project management, project governance, and contract management

- User training and knowledge transfer

- Help desk and user support, including technical support and user software and tools support

- Business intelligence and enterprise data management, including data extract, migrations, conversion, modeling, mapping, cleansing, transformation, and storage

- Enhanced reporting and analytics, including analytic dashboards

- Operational services and support, including database and infrastructure management as well as hardware, software, and application management and security support

- Development services for enhancements

- Clinical risk grouping, quality reporting, and federal reporting

- Fraud and abuse detection

- Security and disaster recovery

We recently completed adding data sources for the entire First Databank drug file, National Council for Prescription Drug Programs pharmacy claim data, and managed care encounter data. Our operations and maintenance services include continuous improvements to maintain a modern, stable solution for the State.

CMS All-Payer Operations Project: We provide support for the Centers for Medicaid and Medicare Services (CMS). As a trusted partner since 2015, we deliver analytics consulting services, training of CMS staff, technical advisory services, policy analysis, and recommendations. As part of our analytics consulting contract with CMS, we complete predictive analytics projects for specific scopes of work such as the State Innovation Group All-Payer Operations Project (SIG).

For SIG, we leveraged machine learning techniques to develop a model to forecast Per Beneficiary Per Month (PBPM) expenditures. We calculated prospective All-

Optum
Performance

The CMS State Innovation Group All-Payer Operations Project delivered:

- Analytic models to predict provider payments
- Execution of more than 50,000 simulations
- Accurate results with minimal variances

Inclusive Population Based Payments (AIPBP) to set benchmarks for two different payment models.

The goal of this project was to develop a model that would provide a more accurate payment forecast, that is less disruptive to providers receiving prospective payments.

The project scope and activities included:

- **Use of machine learning techniques** to train and test different combinations of time-series models. To determine the best model specification, our experts used R statistical software to test more than 50,000 simulations using hundreds of model specifications and time intervals drawn from historical data.

- **Model testing** used data from the CMS Integrated Data Repository (IDR). The use of our client's own historical data prevented problems that often occur when payment models simply rely on use of national trend data. Testing the models provided an opportunity to examine variances to forecast enabling CMS to look at potential adjustments to policies and procedures and identify possible improvements.

- **Analysis and evaluation of results** for each model's iterations to determine the best model.

- **Report Results** to CMS on forecasts using the best payment models. We successfully exceeded expectations by providing forecasts within a one to two percent variance, when other projections had as much as 20 percent variance.

- **Work with cloud-native technologies** to pull source data and support cloud-based analytics tools. CMS' IDR analytics tools run in the CMS AWS Cloud. The data repository itself resides in Snowflake Cloud Data Warehouse, the same repository technology we include for your predictive analytics services.

Throughout the project our team worked collaboratively in partnership with CMS leaders, leveraging data science best practices such as collaboration and integration along with a strong knowledge of business processes, operations, and health policy.

The project approach included the following benefits to CMS which included:

- An optimized model using real out-of-sample data that provided highly accurate results. Finding the best model through optimizing and refining models with different scenarios helps prevent large variances.

- A model that was developed empirically rather than a priori; free from potential bias. We used statistical techniques that allow for unplanned and unique events such as COVID. We developed a methodology to determine when expenditure patterns stabilize and appropriately apply imputation to time periods that cannot be accurately forecast.

- A model that helps provide accurate model benchmarks for the planning and funding of provider payments

New Jersey Shared Data Warehouse: We provide a hybrid solution using Azure cloud technologies similar to the proposed solution for DHHR. We currently have nine FTE staff providing analytic services for the New Jersey Department of Human Services. Included in this solution is our predictive care risk management solution (ImpactPro), our Opioid module, and our Fraud and Abuse Detection System. We also provide maintenance and operations of the Medicare Medicaid Data Integration environment to support analytic capabilities. This project combines existing state data warehouse data with CMS-provided Medicare claims and related data while meeting CMS' required data security standards. We also built and support an

application called Healthfocus that shows recipient, provider, and claims data for the Department of Children and Families using Azure and Power BI.

> **4.3.2.2** For each of the accounts listed in response to 4.3.2.1, vendor shall provide a reference including Name, title, email address, phone number, and the date range in which services were provided.

We provide references in the following tables for the accounts listed in our response to 4.3.2.1.

Project #1: Arkansas Decision Support System	
Client Name	Arkansas Department of Human Services, Division of Medical Services
Reference Information	Robin Roberts, Arkansas Medicaid Enterprise IT Director Robin.k.roberts@dhs.arkansas.gov (501) 320-3922
Dates Range of Services Provided	December 2013 - Present

Project #2: CMS State Innovation Group All-Payer Operations Project	
Client Name	State Innovations Group, Center for Medicare and Medicaid Innovation
Reference Information	Tanya Williams, Program Analyst, CMS, Division of All-Payer Models Tanya.williams@cms.hhs.gov (410) 786-5910
Dates Range of Services Provided	9/29/2015 - Present

Project #3 New Jersey Shared Data Warehouse	
Client Name	State of New Jersey Department of Human Services
Reference Information	Shawn Knox, Director shawn.knox@dhs.nj.gov (980) 907-3245
Dates Range of Services Provided	2001 - Present

> **4.3.2.3.** Vendor must provide an organization chart with sufficient detail to demonstrate the ability to support up to the maximum number of projects over the life of the contract as well as to support the maximum number of concurrent projects at any point over the life of the contract.

★ Optum **exceeds Agency expectations** by providing a flexible staffing model that will provide additional support dependent upon your individual scopes of work.

Our proposed organization chart shows the roles we provide to support the maximum number of concurrent projects for Optum clients. Note that not all roles are a full FTE to the project. With our staff's extensive experience, they may fill more than one role, depending on project scope. The combination of staffing resources and roles will vary based on project statements of work. The Tier 4 Secondary Roles shown on the organization chart represent Optum staff who will support your analytic solutions through their expertise and association with the staff assigned to your projects. These include subject matter experts in health care, system support, and other disciplines to address your potential needs. Figure 9 shows our proposed organization chart.
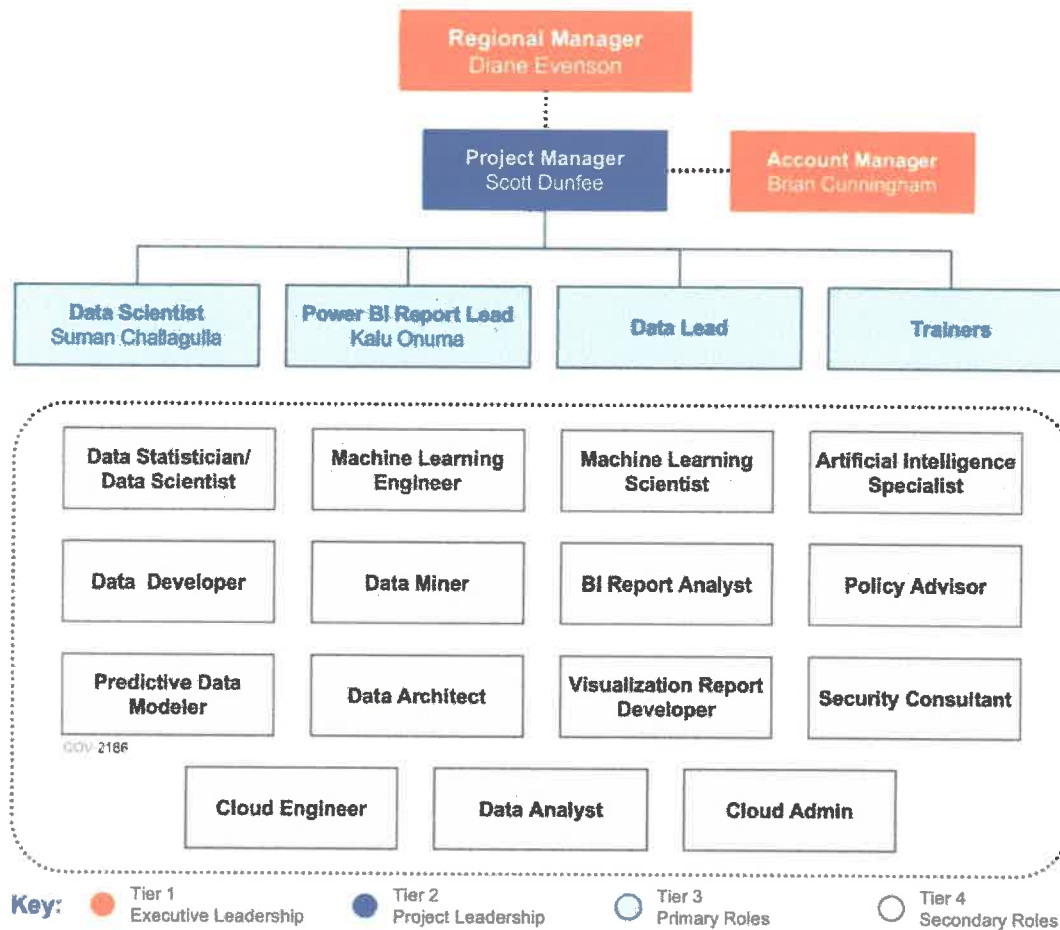
Figure 9: Proposed Organization Chart
Optum's West Virginia Predictive Analytics Software and Services project includes highly experienced staff to support up to the maximum number of projects over the life of the contract.

Optum has a record of success building strong relationships with our state government clients. Regional Manager Diane Evenson will provide executive leadership and oversight for West Virginia predictive analytics software and services projects. She will work with Project Manager Scott Dunfee and the project team to maintain open communications throughout the life cycle of projects. Brian Cunningham is the account manager for West Virginia RAPIDS and WV PATH. He will provide State-specific knowledge, insights, and executive leadership support for successful project completion.

Signature Pages

General Terms and Conditions with Signature

Optum's signed general terms and conditions immediately follows this page.

GENERAL TERMS AND CONDITIONS:

1. CONTRACTUAL AGREEMENT: Issuance of an Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance by the State of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid, or on the Contract if the Contract is not the result of a bid solicitation, signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. DEFINITIONS: As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

2.1. "Agency" or **"Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

2.2. "Bid" or **"Proposal"** means the vendors submitted response to this solicitation.

2.3. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

2.4. "Director" means the Director of the West Virginia Department of Administration, Purchasing Division.

2.5. "Purchasing Division" means the West Virginia Department of Administration, Purchasing Division.

2.6. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

2.7. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.8. "State" means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

2.9. "Vendor" or **"Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☑ **Term Contract**

Initial Contract Term: The Initial Contract Term will be for a period of one (1) year _____. The Initial Contract Term becomes effective on the effective start date listed on the first page of this Contract, identified as the State of West Virginia contract cover page containing the signatures of the Purchasing Division, Attorney General, and Encumbrance clerk (or another page identified as n a   ), and the Initial Contract Term ends on the effective end date also shown on the first page of this Contract.

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to three (3)   successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

> ☐ **Alternate Renewal Term** – This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☐ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that:

> ☐ the contract will continue for _____ years;

☐ the contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's Office (Attorney General approval is as to form only).

☐ **One-Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

☐ **Construction/Project Oversight:** This Contract becomes effective on the effective start date listed on the first page of this Contract, identified as the State of West Virginia contract cover page containing the signatures of the Purchasing Division, Attorney General, and Encumbrance clerk (or another page identified as _____), and continues until the project for which the vendor is providing oversight is complete.

☐ **Other:** Contract Term specified in _____

4. AUTHORITY TO PROCEED: Vendor is authorized to begin performance of this contract on the date of encumbrance listed on the front page of the Award Document unless either the box for "Fixed Period Contract" or "Fixed Period Contract with Renewals" has been checked in Section 3 above. If either "Fixed Period Contract" or "Fixed Period Contract with Renewals" has been checked, Vendor must not begin work until it receives a separate notice to proceed from the State. The notice to proceed will then be incorporated into the Contract via change order to memorialize the official date that work commenced.

5. QUANTITIES: The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

☑ **Open End Contract:** Quantities listed in this Solicitation/Award Document are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

☐ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

☐ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

☐ **One-Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. EMERGENCY PURCHASES: The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One-Time Purchase contract.

7. REQUIRED DOCUMENTS: All of the items checked in this section must be provided to the Purchasing Division by the Vendor as specified:

☐ **BID BOND (Construction Only):** Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award.

☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under $100,000. Personal or business checks are not acceptable. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits upon request and in a form acceptable to the State. The request may be prior to or after contract award at the State's sole discretion.

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The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications regardless of whether or not that requirement is listed above.

8. INSURANCE: The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below and must include the State as an additional insured on each policy prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether that insurance requirement is listed in this section.

Vendor must maintain:

☑ **Commercial General Liability Insurance** in at least an amount of: $1,000,000.00 _____ per occurrence.

☑ **Automobile Liability Insurance** in at least an amount of: $1,000,000.00 _____ per occurrence.

☐ **Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: _____ per occurrence. Notwithstanding the forgoing, Vendor's are not required to list the State as an additional insured for this type of policy.

☐ **Commercial Crime and Third Party Fidelity Insurance** in an amount of: _____ per occurrence.

☐ **Cyber Liability Insurance** in an amount of: _____ per occurrence.

☐ **Builders Risk Insurance** in an amount equal to 100% of the amount of the

Contract.

☐ **Pollution Insurance** in an amount of: _____ per occurrence.

☐ **Aircraft Liability** in an amount of: _____ per occurrence.

☑ ***STATE OF WV SHALL BE INCLUDED AS ADDITIONAL INSURED ON INSURANCE CERTIFICATE

☑ ***CERTIFICATE HOLDER SHOULD READ AS FOLLOWS:
WV DHHR
ONE DAVIS SQUARE, RM 211, CHARLESTON, WV 25301

☐

☐

Notwithstanding anything contained in this section to the contrary, the Director of the Purchasing Division reserves the right to waive the requirement that the State be named as an additional insured on one or more of the Vendor's insurance policies if the Director finds that doing so is in the State's best interest.

Revised 07/01/2022

9. WORKERS' COMPENSATION INSURANCE: Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

10. [Reserved]

11. LIQUIDATED DAMAGES: This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

☑ __n/a_____ for _____.

☐ Liquidated Damages Contained in the Specifications.

☐ Liquidated Damages Are Not Included in this Contract.

12. ACCEPTANCE: Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

13. PRICING: The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

14. PAYMENT IN ARREARS: Payments for goods/services will be made in arrears only upon receipt of a proper invoice, detailing the goods/services provided or receipt of the goods/services, whichever is later. Notwithstanding the foregoing, payments for software maintenance, licenses, or subscriptions may be paid annually in advance.

15. PAYMENT METHODS: Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

16. TAXES: The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

17. ADDITIONAL FEES: Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia, included in the Contract, or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

18. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available. If that occurs, the State may notify the Vendor that an alternative source of funding has been obtained and thereby avoid the automatic termination. Non-appropriation or non-funding shall not be considered an event of default.

19. CANCELLATION: The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

20. TIME: Time is of the essence regarding all matters of time and performance in this Contract.

21. APPLICABLE LAW: This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code, or West Virginia Code of State Rules is void and of no effect.

22. COMPLIANCE WITH LAWS: Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

    SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

23. ARBITRATION: Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

24. MODIFICATIONS: This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

25. WAIVER: The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

26. SUBSEQUENT FORMS: The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

27. ASSIGNMENT: Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments.

28. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

29. STATE EMPLOYEES: State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

30. PRIVACY, SECURITY, AND CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/default.html.

31. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

32. LICENSING: In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

> **SUBCONTRACTOR COMPLIANCE:** Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

33. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

34. VENDOR CERTIFICATIONS: By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. INDEMNIFICATION: The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. NO DEBT CERTIFICATION: In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State. By submitting a bid, or entering into a contract with the State, Vendor is affirming 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, neither the Vendor nor any related party owe a debt as defined above, and neither the Vendor nor any related party are in employer default as defined in the statute cited above unless the debt or employer default is permitted under the statute.

38. CONFLICT OF INTEREST: Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

39. REPORTS: Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

☑ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.division@wv.gov.

40. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check. Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

41. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

   a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.

   b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process.

   c. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:

      1. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars ($2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or

      2. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

42. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars ($50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel
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products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

43. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE: W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least $1 million, the Vendor must submit to the Agency a disclosure of interested parties prior to beginning work under this Contract. Additionally, the Vendor must submit a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-work interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

44. PROHIBITION AGAINST USED OR REFURBISHED: Unless expressly permitted in the solicitation published by the State, Vendor must provide new, unused commodities, and is prohibited from supplying used or refurbished commodities, in fulfilling its responsibilities under this Contract.

45. VOID CONTRACT CLAUSES – This Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law.

46. ISRAEL BOYCOTT: Bidder understands and agrees that, pursuant to W. Va. Code § 5A-3-63, it is prohibited from engaging in a boycott of Israel during the term of this contract.

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.

(Name, Title)   Mike Miller, Vice President, Business Development

(Printed Name and Title)   Mike Miller, Vice President, Business Development

(Address)   1325 Boylston Street, Boston, MA 02215

(Phone Number) / (Fax Number)   (508) 308-2085

(email address)   mike.miller@optum.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through *wv*OASIS, I certify that: I have reviewed this Solicitation/Contract 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/Contract 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.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62. which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Optum Government Solutions, Inc.
_____
(Company) _____
                                               Associate Finance Director
(Authorized Signature) (Representative Name, Title)
  W. Mark Youngman, Associate Finance Director
(Printed Name and Title of Authorized Representative) (Date)
  (763) 797-5882   9/28/2022
(Phone Number) (Fax Number)
    mark.youngman@optum.com
(Email Address)

Federal Funds Addendum

Optum's signed Federal Funds Addendum immediately follows this page.

FEDERAL FUNDS ADDENDUM
2 C.F.R. §§ 200.317 – 200.327

Purpose: This addendum is intended to modify the solicitation in an attempt to make the contract compliant with the requirements of 2 C.F.R. §§ 200.317 through 200.327 relating to the expenditure of certain federal funds. This solicitation will allow the State to obtain one or more contracts that satisfy standard state procurement, state federal funds procurement, and county/local federal funds procurement requirements.

Instructions: Vendors who are willing to extend their contract to procurements with federal funds and the requirements that go along with doing so, should sign the attached document identified as: "REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.317)"

Should the awarded vendor be unwilling to extend the contract to federal funds procurement, the State reserves the right to award additional contracts to vendors that can and are willing to meet federal funds procurement requirements.

Changes to Specifications: Vendors should consider this solicitation as containing two separate solicitations, one for state level procurement and one for county/local procurement.

State Level: In the first solicitation, bid responses will be evaluated with applicable preferences identified in sections 15, 15A, and 16 of the "Instructions to Vendors Submitting Bids" to establish a contract for both standard state procurements and state federal funds procurements.

County Level: In the second solicitation, bid responses will be evaluated with applicable preferences identified in Sections 15, 15A, and 16 of the "Instructions to Vendors Submitting Bids" omitted to establish a contract for County/Local federal funds procurement.

Award: If the two evaluations result in the same vendor being identified as the winning bidder, the two solicitations will be combined into a single contract award. If the evaluations result in a different bidder being identified as the winning bidder, multiple contracts may be awarded. The State reserves the right to award to multiple different entities should it be required to satisfy standard state procurement, state federal funds procurement, and county/local federal funds procurement requirements.

State Government Use Caution: State agencies planning to utilize this contract for procurements subject to the above identified federal regulations should first consult with the federal agency providing the applicable funding to ensure the contract is complaint.

County/Local Government Use Caution: County and Local government entities planning to utilize this contract for procurements subject to the above identified federal regulation should first consult with the federal agency providing the applicable funding to ensure the contract is complaint. For purposes of County/Local government use, the solicitation resulting in this contract was conducted in accordance with the procurement laws, rules, and procedures governing the West Virginia Department of Administration, Purchasing Division, except that vendor preference has been omitted for County/Local use purposes and the contract terms contained in the document entitled "REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.317)" have been added.

FEDERAL FUNDS ADDENDUM

REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.317):

The State of West Virginia Department of Administration, Purchasing Division, and the Vendor awarded this Contract intend that this Contract be compliant with the requirements of the Procurement Standards contained in the Uniform Administrative Requirements, Cost Principles, and Audit Requirements found in 2 C.F.R. § 200.317, et seq. for procurements conducted by a Non-Federal Entity. Accordingly, the Parties agree that the following provisions are included in the Contract.

1. **MINORITY BUSINESSES, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS:**
   (2 C.F.R. § 200.321)

   a. The State confirms that it has taken all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. Those affirmative steps include:

      (1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
      (2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
      (3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
      (4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
      (5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and
      (6) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (1) through (5) above.

   b. Vendor confirms that if it utilizes subcontractors, it will take the same affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

2. **DOMESTIC PREFERENCES:**
   (2 C.F.R. § 200.322)

   a. The State confirms that as appropriate and to the extent consistent with law, it has, to the greatest extent practicable under a Federal award, provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United

States (including but not limited to iron, aluminum, steel, cement, and other manufactured products).

b. Vendor confirms that will include the requirements of this Section 2. Domestic Preference in all subawards including all contracts and purchase orders for work or products under this award.

c. Definitions: For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
(2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

3. **BREACH OF CONTRACT REMEDIES AND PENALTIES:**
(2 C.F.R. § 200.327 and Appendix II)

(a) The provisions of West Virginia Code of State Rules § 148-1-5 provide for breach of contract remedies, and penalties. A copy of that rule is attached hereto as Exhibit A and expressly incorporated herein by reference.

4. **TERMINATION FOR CAUSE AND CONVENIENCE:**
(2 C.F.R. § 200.327 and Appendix II)

(a) The provisions of West Virginia Code of State Rules § 148-1-5 govern Contract termination. A copy of that rule is attached hereto as Exhibit A and expressly incorporated herein by reference.

5. **EQUAL EMPLOYMENT OPPORTUNITY:**
(2 C.F.R. § 200.327 and Appendix II)

Except as otherwise provided under 41 CFR Part 60, and if this contract meets the definition of "federally assisted construction contract" in 41 CFR Part 60–1.3, this contract includes the equal opportunity clause provided under 41 CFR 60–1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964–1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

6. **DAVIS-BACON WAGE RATES:**
   (2 C.F.R. § 200.327 and Appendix II)

   Vendor agrees that if this Contract includes construction, all construction work in excess of $2,000 will be completed and paid for in compliance with the Davis–Bacon Act (40 U.S.C. 3141–3144, and 3146–3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must:

   (a) pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor.
   (b) pay wages not less than once a week.

   A copy of the current prevailing wage determination issued by the Department of Labor is attached hereto as Exhibit B. The decision to award a contract or subcontract is conditioned upon the acceptance of the wage determination. The State will report all suspected or reported violations to the Federal awarding agency.

7. **ANTI-KICKBACK ACT:**
   (2 C.F.R. § 200.327 and Appendix II)

   Vendor agrees that it will comply with the Copeland Anti-KickBack Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). Accordingly, Vendor, Subcontractors, and anyone performing under this contract are prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The State must report all suspected or reported violations to the Federal awarding agency.

8. **CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**
   (2 C.F.R. § 200.327 and Appendix II)

   Where applicable, and only for contracts awarded by the State in excess of $100,000 that involve the employment of mechanics or laborers, Vendor agrees to comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, Vendor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

9. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT.
(2 C.F.R. § 200.327 and Appendix II)

If the Federal award meets the definition of "funding agreement" under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

10. CLEAN AIR ACT
(2 C.F.R. § 200.327 and Appendix II)

Vendor agrees that if this contract exceeds $150,000, Vendor is to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401–7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251–1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

11. DEBARMENT AND SUSPENSION
(2 C.F.R. § 200.327 and Appendix II)

The State will not award to any vendor that is listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

12. BYRD ANTI–LOBBYING AMENDMENT
(2 C.F.R. § 200.327 and Appendix II)

Vendors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non–Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non–Federal award.

13. PROCUREMENT OF RECOVERED MATERIALS
(2 C.F.R. § 200.327 and Appendix II; 2 C.F.R. § 200.323)

Vendor agrees that it and the State must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

14. PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.
(2 C.F.R. § 200.327 and Appendix II; 2 CFR § 200.216)

Vendor and State agree that both are prohibited from obligating or expending funds under this Contract to:

(1) Procure or obtain;
(2) Extend or renew a contract to procure or obtain; or
(3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115–232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

    (i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

    (ii) Telecommunications or video surveillance services provided by such entities or using such equipment.

    (iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

In implementing the prohibition under Public Law 115–232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

State of West Virginia Purchasing Division	Vendor Name: Optum Government Solutions, Inc.
By: _____	By: _____
Printed Name:_____	Printed Name: W. Mark Youngman
Title: _____	Title: Associate Finance Director
Date: _____	Date: 9/23/2022

Required Contract Provision for Non-Federal Entity Contracts, Exhibit B

Optum's required contract provision for non-federal entity contracts, Exhibit B immediately follows this page.

EXHIBIT B To:
REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.317):

Prevailing Wage Determination

[X] – Not Applicable Because Contract Not for Construction

[ ] – Federal Prevailing Wage Determination on Next Page

Addendum Acknowledgment Form with Signed Addendum

Optum's addendum acknowledgement form and signed numbered addendum immediately follows this page.

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

State of West Virginia
Centralized Request for Proposals
Info Technology

Proc Folder:	1090427		**Reason for Modification:**
Doc Description:	REQUEST FOR PROPOSAL-PREDICTIVE ANALYTICS SOFTWARE/ SERVICES		
Proc Type:	Central Master Agreement		

Date Issued	Solicitation Closes	Solicitation No	Version
2022-08-18	2022-09-13 13:30	CRFP 0506 MIS2300000001	1

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code: 000000187225

Vendor Name :   Optum Government Solutions, Inc.

Address :   11000

Street :   Optum Circle

City :   Eden Prairie

State :   MN   Country :   USA   Zip : 55344

Principal Contact :   Mike Miller

Vendor Contact Phone: (508) 308-2085   Extension:

FOR INFORMATION CONTACT THE BUYER
Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Optum Government Solutions, Inc.
Vendor
Signature X *W. Mark Youngman*
W. Mark Youngman (Sep 23, 2022 11:37 EDT)   **FEIN#** 04-3574101   **DATE** 9/23/2022

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

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: MIS2300000001

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	[ ]	Addendum No. 6
[X]	Addendum No. 2	[ ]	Addendum No. 7
[X]	Addendum No. 3	[ ]	Addendum No. 8
[X]	Addendum No. 4	[ ]	Addendum No. 9
[ ]	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

W. Mark Youngman
W. Mark Youngman (Sep 23, 2022 11:37 EDT)
_____
Authorized Signature

9/23/2022
_____
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012

Proc Folder:	1090427		**Reason for Modification:**
Doc Description:	REQUEST FOR PROPOSAL-PREDICTIVE ANALYTICS SOFTWARE/ SERVICES		ADDENDUM 1 TO CORRECT QUESTION DEADLINE DATE ON PAGE 2 OF SOLICITATION DOCUMENTS
Proc Type:	Central Master Agreement		

Date Issued	Solicitation Closes	Solicitation No	Version
2022-08-22	2022-09-13 13:30	CRFP 0506 MIS2300000001	2

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code: 000000187225

Vendor Name :   Optum Government Solutions, Inc.

Address : 11000

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State :   MN   **Country :** US   **Zip :** 55344

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Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Optum Government Solutions, Inc.
Vendor Signature X *W. Mark Youngman* W. Mark Youngman (Sep 23, 2022 11:37 EDT)   **FEIN#** 04-3574101   **DATE** 9/23/2022
All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES, IS SOLICITING PROPOSALS TO ESTABLISH A CONTRACT FOR PREDICATIVE ANALYTICS SOFTWARE AND SERVICES PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

ONLINE RESPONSES ARE PROHIBITED FOR THIS SOLICITATION

INVOICE TO	SHIP TO
HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE ONE DAVIS SQUARE, RM 211 CHARLESTON　　　　WV　　25301 US	HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE 321 CAPITOL ST, STE 200 CHARLESTON　　　　WV　　25301 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	Predictive Analytics Software and Services				

Comm Code	Manufacturer	Specification	Model #
43232305			

Extended Description:
PRICING SHALL BE INCLUDED ON ATTACHMENT A COST SHEET

SCHEDULE OF EVENTS

Line	Event	Event Date
1	VENDOR QUESTION DEADLINE	2022-08-31

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[   ]   Modify bid opening date and time

[   ]   Modify specifications of product or service being sought

[   ]   Attachment of vendor questions and responses

[   ]   Attachment of pre-bid sign-in sheet

[✓]   Correction of error

[   ]   Other

Description of Modification to Solicitation:

1. To correct the question deadline date on page 2 of the solicitation documents to 08/31/2022

Question Deadline: August 31, 2022 at 10:00 AM ET

No other changes

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

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

State of West Virginia
Centralized Request for Proposals
Info Technology

Proc Folder:	1090427		**Reason for Modification:**
Doc Description:	REQUEST FOR PROPOSAL-PREDICTIVE ANALYTICS SOFTWARE/ SERVICES		ADDENDUM 2 TO EXTEND THE PROPOSAL DUE DATE
Proc Type:	Central Master Agreement		

Date Issued	Solicitation Closes	Solicitation No	Version
2022-09-07	2022-09-28 13:30	CRFP 0506 MIS2300000001	3

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code: 000000187225

Vendor Name :   Optum Government Solutions, Inc.

Address :   11000

Street :   Optum Circle

City :   Eden Prairie

State :   MN   **Country :**   USA   **Zip :**   55344

Principal Contact :   Mike Miller

Vendor Contact Phone: (508) 308-2085   **Extension:**

FOR INFORMATION CONTACT THE BUYER
Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Optum Government Solutions, Inc.

Vendor
Signature X *W. Mark Youngman*   FEIN# 04-3574101   DATE 9/23/2022
W. Mark Youngman (Sep 23, 2022 11:37 EDT)

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

ADDITIONAL INFORMATION

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES, IS SOLICITING PROPOSALS TO ESTABLISH A CONTRACT FOR PREDICATIVE ANALYTICS SOFTWARE AND SERVICES PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

ONLINE RESPONSES ARE PROHIBITED FOR THIS SOLICITATION

INVOICE TO	SHIP TO
HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE ONE DAVIS SQUARE, RM 211 CHARLESTON WV 25301 US	HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE 321 CAPITOL ST, STE 200 CHARLESTON WV 25301 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	Predictive Analytics Software and Services				

Comm Code	Manufacturer	Specification	Model #
43232305			

Extended Description:
PRICING SHALL BE INCLUDED ON ATTACHMENT A COST SHEET

SCHEDULE OF EVENTS		
Line	**Event**	**Event Date**
1	VENDOR QUESTION DEADLINE	2022-08-31

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 2

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[✓] Modify bid opening date and time

[ ] Modify specifications of product or service being sought

[ ] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[ ] Other

Description of Modification to Solicitation:

1. To extend the proposal close date to September 28, 2022 at 1:30 PM ET

The answers to vendor questions will be provided in a forthcoming addendum

No other changes

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

Proc Folder:	1090427		**Reason for Modification:**
Doc Description:	REQUEST FOR PROPOSAL-PREDICTIVE ANALYTICS SOFTWARE/ SERVICES		ADDENDUM 3 TO PROVIDE ANSWERS TO VENDOR QUESTIONS AND REVISED COST SHEET
Proc Type:	Central Master Agreement		

Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2022-09-20	2022-09-28 13:30	CRFP 0506 MIS2300000001	4

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code: **000000187225**

Vendor Name :   **Optum Government Solutions, Inc.**

Address :   **11000**

Street :   **Optum Circle**

City :   **Eden Prairie**

State : **MN**   Country : **US**   Zip :   **55344**

Principal Contact :   **Mike Miller**

Vendor Contact Phone: **(508) 308-2085**   Extension:

FOR INFORMATION CONTACT THE BUYER
Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Optum Government Solutions, Inc.

Vendor
Signature X   *W. Mark Youngman*
W. Mark Youngman (Sep 23, 2022 11:37 EDT)   FEIN# **04-3574101**   DATE **9/23/2022**

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

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES, IS SOLICITING PROPOSALS TO ESTABLISH A CONTRACT FOR PREDICATIVE ANALYTICS SOFTWARE AND SERVICES PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

ONLINE RESPONSES ARE PROHIBITED FOR THIS SOLICITATION

INVOICE TO	SHIP TO
HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE ONE DAVIS SQUARE, RM 211 CHARLESTON WV 25301 US	HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE 321 CAPITOL ST, STE 200 CHARLESTON WV 25301 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	Predictive Analytics Software and Services				

Comm Code	Manufacturer	Specification	Model #
43232305			

Extended Description:
PRICING SHALL BE INCLUDED ON ATTACHMENT A COST SHEET

SCHEDULE OF EVENTS		
Line	Event	Event Date
1	VENDOR QUESTION DEADLINE	2022-08-31

The purpose of this addendum is to modify the solicitation identified as CRFP MIS2300000001 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[ ]   Modify bid opening date and time

[ ]   Modify specifications of product or service being sought

[x]   Attachment of vendor questions and responses

[ ]   Attachment of pre-bid sign-in sheet

[ ]   Correction of error

[ ]   Other

Description of Modification to Solicitation: To answer Vendor questions.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith and is specifically incorporated herein by reference.

Terms and Conditions:
1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgement, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

Question 1: What are the storage requirements (rounded up to nearest TB) for data repository?

Answer 1: We would expect the requirement to be less than 2 TB. If we go above the 2TB level, additional storage (Per TB) above the required base solution, with a per-unit cost (see 4.2.2.2 (Includes 4.2.2.2.1 thru 4.2.2.2.10.3)) Additionally, the State may elect to move data to off-line storage on a State server and reduce the storage requirements.

"The Cost Sheet has been revised to allow vendors to propose incremental increases for storage and compute resources. The per unit, incremental increases may be requested by the state and added to the monthly costs for Data Repository Hosting if it is determined that additional resources are required to optimize performance of the solution. Conversely, if demands on the environment decrease, the State reserves the right to ask for reductions in compute resources in these same increments but never decreasing below the base configuration of the proposed solution."

Question 2: Are there any CPU processing requirements sizing done for data repository?

Answer 2: This is an analytical tool, which is not used in real time. CPU resources should be able to complete analysis within a reasonable time frame. If additional computational resources are needed, we can add resources. That is also covered in 4.2.2.2.

"The Cost Sheet has been revised to allow vendors to propose incremental increases for storage and compute resources. The per unit, incremental increases may be requested by the state and added to the monthly costs for Data Repository Hosting if it is determined that additional resources are required to optimize performance of the solution. Conversely, if demands on the environment decrease, the State reserves the right to ask for reductions in compute resources in these same increments but never decreasing below the base configuration of the proposed solution."

Question 3: If data needs to be backed up and kept for longer than 60 days, what are the storage requirements (rounded up to nearest TB) for data backups?

Answer 3: The initial storage requirement is 2 TB.

"The Cost Sheet has been revised to allow vendors to propose incremental increases for storage and compute resources. The per unit, incremental increases may be requested by the state and added to the monthly costs for Data Repository Hosting if it is determined that additional resources are required to optimize performance of the solution. Conversely, if demands on the environment decrease, the State reserves the right to ask for reductions in compute resources in these same increments but never decreasing below the base configuration of the proposed solution."

Question 4: Are any other users needing read-only type access accounts beyond the 10 users mentioned: 5 predictive analytics and modeling users and 5 view only data models and visualization users?

Answer 4: No

Question 5: Most of this RFP seems to indicate the vendor can pick the cloud hosting platform but following statement is contradicting that approach. Please clarify vendor choice of cloud platform – "State reserves the right to utilize their own data visualization product such as Microsoft Power BI or Tableaux); data modeling services; a hosted, secure Cloud repository; and training and technical support".

Answer 5: The vendor is required to provide a hosted, secure Cloud repository where data modeling, data analysis, and data visualization can be conducted. The vendor must allow for data export from the repository in the formats already mentioned should the State elect to utilize our own data visualization tools. Training and technical support must be available for the vendor's data visualization solution. The state will be responsible for user training and support when/if utilizing our own data visualization tools.

Question 6: How should we account for project management or consulting? This includes tracking of hours, billing, scoping, software outages, etc. outside of data science work.

Answer 6: Vendor quotes should include the necessary overhead in the data repository hosting fee. (4.2.2.2)

Question 7: How should we account for data engineering support for projects (separate from data scientist support)?

Answer 7: No data engineering support is requested in the RFP.

Question 8: Does technical support include hands-on data science support only or does it also include infrastructure/installation support and/or project management?

Answer 8: The vendor is responsible for infrastructure/installation support as this is a hosted solution.

Question 9: Is there an expectation that data will need to be transformed by vendor in some way before agency staff performs preliminary modeling (including but not limited to table joining, matching, etc.)?

Answer 9: No.

Question 10: 4.2.1.4 states hours may not exceed 5 hours of data science work per week per project - do these hours include project management or data engineering support?

Answer 10: No.

Question 11: Is there a target timeframe after submission that the Award will be completed and work started?

Answer 11: Refer to General Terms and Conditions, Section 4 - Authority to Proceed. The award and encumbrance date on the front page of the contract award is the start date.

Question 12: 4.2.2.2.1.1: does "additional resources" mean team members, or computer ('workers'/compute)?

Answer 12: This specification deals with the processing environment.

Question 13: If multiple vendors team together to respond, can team collectively meet past performance requirements?

Answer 13: The use of sub-contractor is not prohibited in the RFP. The primary vendor must meet all mandatory requirements.

Question 14: Are any of the 18 projects currently scoped? If yes, can you describe any of the projects scoped?

Answer 14: No.

Question 15: How much data preparation work is estimated to be required for the initial 2-3 projects?

Answer 15: Any data preparation work requested of the vendor will be included in the maximum 5 hours per week.

Question 16: 4.2.2.2.6: Can the scanning of Personally Identifiable Information (PII) or other sensitive data types be done manually by an employee on the project?

Answer 16: Yes, any combination of automated or manual processes is acceptable to the State. The vendor remains responsible for verifying no sensitive data is included.

Question 17: What is the expectation of an automated solution or product to scan and filter out PII before it is uploaded to the AI Catalog or are you open to a manual process?

Answer 17: Any combination of automated or manual processes is acceptable to the State. The vendor remains responsible for verifying no sensitive data is included.

Question 18: Is there an exception to providing contact info in this public response for clients who want to maintain their privacy?

Answer 18: No. See Instructions to Vendors Submitting Bids - Item 21.

Question 19: What is the budget identified for the Initial Contract Term (i.e., year one)? What is the budget identified for each of the three years of the optional Renewal Term?

Answer 19: West Virginia does not disclose budget information prior to contract award.

Question 20: What federal grant(s) and/or other federal fund sources will be used to fund this procurement?

Answer 20: The State intends to use a combination of State and Federal funds.

Question 21: Since no PII or other sensitive data will be included per Section 4.2.2.2.6 and given that MARS-E privacy controls are highly stringent and intended to protect PII and/or Restricted data, would the Agency accept an alternative security standard to MARS-E?

Answer 21: No.

Question 22: How does the Agency define Personally Identifiable Information (PII)? How does the Agency define" other sensitive data types?" Do you not anticipate doing any data integration and entity resolution for your analytics if PII is removed?

Answer 22: The State uses the definition found in 2 CR § 200.79.

Question 23: What is the anticipated size of the environment required to host Agency data? What is the anticipated volume of Agency data that will be processed through the hosted environment? What is the size of what will be in storage and what will pass through the system?

Answer 23: 2 TB, as stated in Answer to question 1.

Question 24: Is it acceptable for the Vendor to submit our proposal only through wvOASIS? Does WV ODCP require a physical submission of the proposal?

Answer 24: Additional Information on page 2 of the RFP states that online responses are prohibited for an RFP solicitation.

Question 25: Due to the limited time frame between the response to vendor clarification questions due 8/31/22 and the solicitation due date of 9/13/22, and the holiday, would the state please grant a 2-week extension for the solicitation response so as to permit bidders to provide even more responsive bids to the clarified solicitation responses?

Answer 25: The bid opening has been extended to 09/28/2022

Question 26: The General Terms and Conditions found in Section 3 specify that after the first year, any renewal of the contract is subject to mutual agreement. The Cost Sheet found in Attachment A appears to ask for only one year of pricing. Can the Department clarify whether bidders only have to provide one year of pricing for the scope of work required or will they be required and evaluated upon pricing for both the initial one year term and the three (3) optional renewal terms?

Answer 26: The cost sheet has been revised to include the option years.

Question 27: Based on the instructions provided in Section 2 it indicates vendors can submit on the WVOasis portal, however, when you log into the portal, it indicates "Online responses are prohibited for this response". Please clarify if vendors are able to submit through WVOasis. If not, please indicate how many hard copies of the technical and cost are required to be sent to the address provided under section 2.

Answer 27: Section 2 of the RFP also states that online responses are prohibited for RFP solicitations. Also, refer to Section 5 Vendor Proposal - Item 5.3.1 which states this is a two part submission process.

Question 28: The second sentence of this Section states that following the opening of the bid, Vendor's entire response to the Solicitation "will be disclosed to the public ... as required by the Freedom of Information Act, West Virginia Code §§ 29B-1-1 et seq." §29B-1-4 of the West Virginia Freedom of Information Act exempts from disclosure any information in a bid or proposal that meets the definition of a "Trade Secret".

The next to last sentence of Section 21 says the exact opposite, i.e., that DHHR will disclose even information that meets the definition of a "Trade Secret". This next to last sentence states: "The Purchasing Division will disclose any document labeled "confidential', "proprietary", "trade secret", "private", or labeled with any other claim against public disclosure of the documents to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq."

If DHHR permits bidders to include 'trade secret' information in their proposal with the assurance that such information will not be publicly disclosed, DHHR will benefit from more detailed bidder information germane to its overall procurement goal: awarding a contract based on best value. If it does not permit trade secrets to be redacted, bidders will refrain from including information that would be highly germane to the Department's evaluation.

In light of the above inconsistency and in order to permit trade secret information that is part of a proposal to be redacted in a manner permitted under West Virginia law, would DHHR clarify the Solicitation such that bidders can include information that meets the definition of a Trade Secret under West Virginia law and have that information not disclosed to the public as long it is appropriately marked?

Answer 28: See Item 21 of Instructions to Vendors Submitting Bids and Item 31 in the General Terms and Conditions. Bids will be released to the public per the Freedom of Information Act, however, submission of any bid, proposal, or other document to the West Virginia Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal or document. The West Virginia Purchasing Division will disclose any document labeled "confidential, "proprietary", "trade secret', "private", or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined in *WVa Code* § 47-22-1, et. seq.

All submissions are subject to public disclosure without notice.

Question 29: Can the state provide an example of a typical project that illustrates relative size and complexity?

Answer 29: No

Question 30: The State asks for a "a hosted, secure Cloud repository", does this imply that the state wishes the data scientist workbench capabilities would be entirely housed within a secure enclave or does the state wish that State data scientists be able to connect from their secure State desktops to perform work? If the state does wish to have a secure enclave hosted entirely within the vendor environment, please reconcile

this requirement with the State right to use its own software "State reserves the right to utilize their own data visualization product such as Microsoft Power BI or Tableaux);".

Answer 30: The vendor is required to provide a hosted, secure Cloud repository where data modeling, data analysis, and data visualization can be conducted. The vendor must allow for data export from the repository in the formats already mentioned should the State elect to utilize our own data visualization tools. Training and technical support must be available for the vendor's data visualization solution. The state will be responsible for user training and support when/if utilizing our own data visualization tools.

Question 31: Does the state desire to have a relational database management system to store structured data (e.g., Redshift, Synapse, Azure SQL DB, Snowflake, Big Query) or are state data scientists more comfortable working with files in blob storage?

Answer 31: State data scientists are not familiar with blob storage, if not using traditional structured data formats vendor will be responsible for providing additional training.

Question 32: Please confirm that vendors are required to connect to the state's identity system. If so, what protocols are supported by the identity platform?

Answer 32: Vendor is not required to connect to the state's identity system.

Question 33: The RFP clearly states that all data will be de-identified. There are only two references in the RFP to MARS-E 2.2 compliance; one with respect to the cloud hosting environment and the other to storage devices being sanitized in accordance with MARS-E 2.2. Given the nature of the data and in order for WV to benefit from a lower cost solution, please confirm that the only scope of MARS-E Compliance applicable to the Vendor are those two references. If so, please confirm vendors can port logs back to the state to meet logging requirements for data access under MARS-E.

Answer 33: Yes

Question 34: Given requirement 4.2.2.2.6 that any incoming data that includes PII or sensitive data should be rejected, please confirm all data hosted in the solution is expected to be deidentified.

Answer 34: Yes

Question 35: Regarding cloud storage, please provide an estimate of the total amount of storage required for potential peak usage of data sets for concurrent projects.

Answer 35: Please refer to the answer to Question 1.

Question 36: Our state Medicaid and Health and Human Services customers have only recently implemented cloud-based solutions in data science, machine learning, and development of resulting predictive analytics, especially when compared to commercial customers, making the two year prior experience requirement more challenging. In light of this market reality, while at the same time wanting to increase competition with equally valuable commercial experience, would the state consider amending the RFP so as to permit bidders to submit bids if they have equivalent experience with non-(federal, State, or local) customers to meet the mandatory experience and reference requirements?

Answer 36: No.

Question 37: The total amount for Data Modeling Technical Support is calculated by multiplying hourly rate times Project length (weeks) time number of projects. Should the total amount also include number of hours such that the total amount is calculated by multiplying hourly rate times number of hours times Project length (weeks) times the number of projects?

Answer 37: The cost sheet assumes the maximum 5 hours per week.

Questions 38: Please confirm that vendors can add rows for hourly rates to the pricing sheets for the staffing positions under Data Modeling Technical Support.

Answer 38: Vendor should provide a single not to exceed hourly rate for data scientist support.

Question 39: Do you have a preference on Cloud provider?

Answer 39: No, any secure Cloud provider.

Question 40: What tools are you currently using to perform Data Science and Predictive Analytics activities?

Answer 40: None.

Question 41: What tools are you currently using to perform data cleansing and ETL?

Answer 41: For ETL SSIS is used, for data cleansing we use manual processes including Excel.

Question 42: Do you have a preference for the user interface of data cleansing and Predictive Analytics tools (i.e. GUI, code-based, both)?

Answer 42: GUI

Question 43: Of the 10 users, what is the breakdown of roles (e.g. data engineer, data scientist, business analyst, etc.)?

Answer 43: The final breakdown is not yet known, however the State anticipates Epidemiologists and business analysts.

Question 44: What are some of the use cases that comprise the 18 anticipated projects?

Answer 44: None

Question 45: What is the volume of data that will need to be initially loaded into the Cloud repository?

Answer 45: 2 TB

Question 46: What is the anticipated annual data volume that will incrementally be loaded into the Cloud repository?

Answer 46: 2 TB

Question 47: What is the proportion of data that are unstructured vs. structured?

Answer 47: Most or all data will come from relational database systems. Data imported into the system will be via agreed upon file format.

Question 48: Is the intention to use data cleansing and predictive analytics software on-premise, in the cloud (i.e. software-as-a-service), or a hybrid approach (i.e. data cleansing on-premise and predictive analytics as SaaS)?

Answer 48: In the cloud.

Question 49: How many consumers/viewers do you anticipate for data visualization?

Answer 49: Not defined.

Question 50: Does the Agency prefer perpetual or subscription-based software licensing?

Answer 50: No preference.

Question 51: The RFP states that the vendor provided Data Scientist will support all prospective 18 projects. What will responsibilities include (i.e. assisting with tuning and expanding on preliminary model, preparing for deployment, operationalizing results, etc.)?

Answer 51: They will help create and validate the primary model, help prepare for deployment and operationalization and provide other duties as required.

Question 52: Is it expected that the vendor provided Data Scientist will provide a maximum of 5 hours per week total, 5 hours per week per project, or can more hours be allocated based on individual project requirements and estimates?

Answer 52: 5 hours per week per project with no option for allocating more hours.

Question 53: What is the Agency team's level of expertise with data cleansing and Predictive Analytics?

Answer 53: Minimal

Question 54: Is the intention to enable Agency staff to become self-sufficient in the end-to-end data and modeling lifecycle?

Answer 54: That is not a requirement of the RFP.

Question 55: Do you have a proposed budget that you can share (e.g. not-to-exceed amount)?

Answer 55: No.

REVISED Attachment A: Cost Sheet

Specification	Category					Months	Hours/Week	Per Unit	Project Length in Weeks (Assumption for Evaluation Purposes Only)	Total Number of Projects (Assumption for Evaluation Purposes Only)	Totals	
4.2.2.1 (includes 4.2.2.1.1 thru 4.2.2.1.4)	TRAINING		Requirement is a firm, fixed price that covers all training material and delivery of training. Vendor to invoice for the training after delivery of training sessions and recordings.	Firm, fixed		Months	Hours/Week	Per Unit				
											$0.00	
4.2.2.2 (includes 4.2.2.2.1 thru 4.2.2.10.3)	DATA REPOSITORY HOSTING FEE		Requirement is a monthly cost to cover hosting, storage, and compute resources meeting the requirements in 4.2.2.2.1 through 4.2.2.10.3	Monthly								
						12					$0.00	
	Additional Storage (Per TB) above the required base solution. May be added throughout the life of the contract at the request of the State. The State may elect to move data to off-line storage on a State server and reduce the storage requirements in the same increments throughout the life of the contract.											
	CPU, provide per unit pricing for incremental increases in the processor speed (GHz) available for the solution. CPU may be upgraded throughout the life of the contract at the request of the State.											
	CPU cores, provide per unit pricing for incremental increases in the number of cores available for the solution. Cores may be added throughout the life of the contract at the request of the State.											
	RAM, provide the per unit pricing for incremental increase in RAM available for the solution. RAM may be upgraded throughout the life of the contract at the request of the State.											
4.2.2.3 (includes 4.2.2.3.1 thru 4.2.2.3.6)	DATA MODELING TECHNICAL SUPPORT		Requirement is an hourly rate for the services of data scientists providing support as outlined in the RFP.				Hourly Rate					
	Data Scientists							5	16	16	$0.00	
4.2.2.4	REQUIRED SOFTWARE			(annualized)	# of Licenses							
	Predictive Analytics SW (full access)										$0.00	
	Predictive Analytics (view only if applicable)										$0.00	
			If third party SW is required to provide all required functionality, enter the name/version of the required SW Below. Pricing should be based on a published price or a quote from authorized distributor. Agency reserves the right to procure SW from other sources but verifiable costs are required to calculate total project cost.	Per License (annualized basis)	# of Licenses							
	Third Party SW (if applicable)										$0.00	
	Third Party SW										$0.00	
	Third Party SW										$0.00	
	Third Party SW										$0.00	
	Third Party SW										$0.00	
											$0.00	Grand Total SW and Services

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

State of West Virginia
Centralized Request for Proposals
Info Technology

Proc Folder:	1090427		Reason for Modification:
Doc Description:	REQUEST FOR PROPOSAL-PREDICTIVE ANALYTICS SOFTWARE/ SERVICES		ADDENDUM 4 TO PROVIDE REVISED COST SHEET AND SAAS ADDENDUM
Proc Type:	Central Master Agreement		

Date Issued	Solicitation Closes	Solicitation No	Version
2022-09-22	2022-09-28 13:30	CRFP 0506 MIS2300000001	5

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code: 000000187225

Vendor Name :   Optum Government Solutions, Inc.

Address :   11000

Street :   Optum Circle

City :   Eden Prairie

State :   MN

Country :   US   Zip :   55344

Principal Contact :   Mike Miller

Vendor Contact Phone: (508) 308-2085   Extension:

FOR INFORMATION CONTACT THE BUYER
Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Optum Government Solutions, Inc.

Vendor Signature X *W. Mark Youngman* W. Mark Youngman (Sep 23, 2022 11:37 EDT)   FEIN#   04-3574101   DATE   9/23/2022

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

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES, IS SOLICITING PROPOSALS TO ESTABLISH A CONTRACT FOR PREDICATIVE ANALYTICS SOFTWARE AND SERVICES PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

ONLINE RESPONSES ARE PROHIBITED FOR THIS SOLICITATION

INVOICE TO	SHIP TO
HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE ONE DAVIS SQUARE, RM 211 CHARLESTON WV 25301 US	HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE 321 CAPITOL ST, STE 200 CHARLESTON WV 25301 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	Predictive Analytics Software and Services				

Comm Code	Manufacturer	Specification	Model #
43232305			

Extended Description:
PRICING SHALL BE INCLUDED ON ATTACHMENT A COST SHEET

SCHEDULE OF EVENTS		
Line	**Event**	**Event Date**
1	VENDOR QUESTION DEADLINE	2022-08-31

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 4

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[   ]   Modify bid opening date and time

[   ]   Modify specifications of product or service being sought

[   ]   Attachment of vendor questions and responses

[   ]   Attachment of pre-bid sign-in sheet

[   ]   Correction of error

[✓]   Other

Description of Modification to Solicitation:

1. To provide corrected Attachment A Cost Sheet

2. To provide Software as a Service Addendum

No other changes

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

INITIAL, 12 Month Term

Specification	Category		Firm, fixed	Monthly	Months	Hours/ Week	Per Unit	Project Length in Weeks (Assumption for Evaluation Purposes Only)	Total Number of Projects (Assumption for Evaluation Purposes Only)	Totals
4.2.2.1 (includes 4.2.2.1.1 thru 4.2.2.1.4)	TRAINING	Requirement is a firm, fixed price that covers all training material and delivery of training. Vendor to invoice for the training after delivery of training sessions and recordings.	Firm, fixed							
4.2.2.2 (includes 4.2.2.2.1 thru 4.2.2.2.10.3)	DATA REPOSITORY HOSTING FEE	Requirement is a monthly cost to cover hosting, storage, and compute resources meeting the requirements in 4.2.2.2.1 through 4.2.2.2.10.3.		Monthly	12					
		Additional Storage (Per TB) above the required base solution. May be added throughout the life of the contract at the request of the State. The State may elect to move data to off-line storage on a State server and reduce the storage requirements in the same increments throughout the life of the contract.								
		CPU, provide per unit pricing for incremental increases in the processor speed (GHz) available for the solution. CPU may be upgraded throughout the life of the contract at the request of the State.								
		CPU cores, provide per unit pricing for incremental increases in the number of cores available for the solution. Cores may be added throughout the life of the contract at the request of the State.								
		RAM, provide the per unit pricing for incremental increase in RAM available for the solution. RAM may be upgraded throughout the life of the contract at the request of the State.								
4.2.2.3 (includes 4.2.2.3.1 thru 4.2.2.3.6)	DATA MODELING TECHNICAL SUPPORT	Requirement is an hourly rate for the services of data scientists providing support as outlined in the RFP.	Hourly Rate							
	Data Scientists							8	16	18
4.2.2.4	REQUIRED SOFTWARE		Per License (annualized)	Number of Licenses						
	Predictive Analytics SW (full access)									
	Predictive Analytics (view only if applicable)									
	Third Party SW (if applicable)	If third party SW is required to provide all required functionality, enter the name/version of the required SW below. Pricing should be based on a published price or a quote from authorized distributor. Agency reserves the right to procure SW from other sources but verifiable costs are required to calculate total project cost.	Per License (annualized) (each)	Number of Licenses						
	Third Party SW									
	Third Party SW									
	Third Party SW									
	Third Party SW									

Initial 12 Month Term Total Software and Services Costs

OPTION YEAR 1

Specification	Category		Firm, fixed	Monthly	Months	Hours/ Week	Per Unit	Project Length in Weeks (Assumption for Evaluation Purposes Only)	Total Number of Projects (Assumption for Evaluation Purposes Only)	Totals
4.2.2.1 (includes 4.2.2.1.1 thru 4.2.2.1.4)	TRAINING	Requirement is a firm, fixed price that covers all training material and delivery of training. Vendor to invoice for the training after delivery of training sessions and recordings.	Firm, fixed							
4.2.2.2 (includes 4.2.2.2.1 thru 4.2.2.2.10.3)	DATA REPOSITORY HOSTING FEE	Requirement is a monthly cost to cover hosting, storage, and compute resources meeting the requirements in 4.2.2.2.1 through 4.2.2.2.10.3.		Monthly	12					
		Additional Storage (Per TB) above the required base solution. May be added throughout the life of the contract at the request of the State. The State may elect to move data to off-line storage on a State server and reduce the storage requirements in the same increments throughout the life of the contract.								
		CPU, provide per unit pricing for incremental increases in the processor speed (GHz) available for the solution. CPU may be upgraded throughout the life of the contract at the request of the State.								
		CPU cores, provide per unit pricing for incremental increases in the number of cores available for the solution. Cores may be added throughout the life of the contract at the request of the State.								
		RAM, provide the per unit pricing for incremental increase in RAM available for the solution. RAM may be upgraded throughout the life of the contract at the request of the State.								
4.2.2.3 (includes 4.2.2.3.1 thru 4.2.2.3.6)	DATA MODELING TECHNICAL SUPPORT	Requirement is an hourly rate for the services of data scientists providing support as outlined in the RFP.	Hourly Rate							
	Data Scientists							8	16	18
4.2.2.4	REQUIRED SOFTWARE		Per License (annualized)	Number of Licenses						
	Predictive Analytics SW (full access)									
	Predictive Analytics (view only if applicable)									

Addendum 4 REVISED_Attachment A Cost Sheet

	Per License (annualized basis)	Number of Licenses
Third Party SW (if applicable)		
Third Party SW		
Third Party SW		
Third Party SW		
Third Party SW		

If third party SW is required to provide all required functionality, enter the name/version of the required SW below. Pricing should be based on a published price or a quote from authorized distributor. Agency reserves the right to procure SW from other sources but verifiable costs are required to calculate total project cost.

	OPTION YEAR 1 Total Software and Services Cost

OPTION YEAR 2

Specification	Category					Months	Hours/ Week	Per Unit	Project Length in Weeks (Assumption for Evaluation Purposes Only)	Total Number of Projects (Assumption for Evaluation Purposes Only)	Totals
4.2.2.1 (includes 4.2.2.1.1 thru 4.2.2.1.4)	TRAINING	Requirement is a firm, fixed price that covers all training material and delivery of training. Vendor to invoice for the training after delivery of training sessions and recordings.		Firm, fixed							
4.2.2.2 (includes 4.2.2.2.1 thru 4.2.2.2.10.3)	DATA REPOSITORY HOSTING FEE	Requirement is a monthly cost to cover hosting, storage, and compute resources meeting the requirements in 4.2.2.2.1 through 4.2.2.2.10.3.		Monthly		12					
	Additional Storage (Per TB) above the required base solution. May be added throughout the life of the contract at the request of the State. The State may elect to move data to off-line storage on a State server and reduce the storage requirements in the same increments throughout the life of the contract.										
	CPU, provide per unit pricing for incremental increases in the processor speed (GHz) available for the solution. CPU may be upgraded throughout the life of the contract at the request of the State.										
	CPU cores, provide per unit pricing for incremental increases in the number of cores available for the solution. Cores may be added throughout the life of the contract at the request of the State.										
	RAM, provide the per unit pricing for incremental increases in RAM available for the solution. RAM may be upgraded throughout the life of the contract at the request of the State.										
4.2.2.3 (includes 4.2.2.3.1 thru 4.2.2.3.5)	DATA MODELING TECHNICAL SUPPORT	Requirement is an hourly rate for the services of data scientists providing support as outlined in the RFP.		Hourly Rate							
		Data Scientists				5	10	10			

4.2.2.4	REQUIRED SOFTWARE		Per License (annualized basis)	Number of Licenses
		Predictive Analytics SW (full access)		
		Predictive Analytics (view only if applicable)		

If third party SW is required to provide all required functionality, enter the name/version of the required SW below. Pricing should be based on a published price or a quote from authorized distributor. Agency reserves the right to procure SW from other sources but verifiable costs are required to calculate total project cost.

	Per License (annualized basis)	Number of Licenses
Third Party SW (if applicable)		
Third Party SW		
Third Party SW		
Third Party SW		
Third Party SW		

	OPTION YEAR 2 Total Software and Services Cost

OPTION YEAR 3

Specification	Category					Months	Hours/ Week	Per Unit	Project Length in Weeks (Assumption for Evaluation Purposes Only)	Total Number of Projects (Assumption for Evaluation Purposes Only)	Totals
4.2.2.1 (includes 4.2.2.1.1 thru 4.2.2.1.4)	TRAINING	Requirement is a firm, fixed price that covers all training material and delivery of training. Vendor to invoice for the training after delivery of training sessions and recordings.		Firm, fixed							
4.2.2.2 (includes 4.2.2.2.1 thru 4.2.2.2.10.3)	DATA REPOSITORY HOSTING FEE	Requirement is a monthly cost to cover hosting, storage, and compute resources meeting the requirements in 4.2.2.2.1 through 4.2.2.2.10.3.		Monthly		12					
	Additional Storage (Per TB) above the required base solution. May be added throughout the life of the contract at the request of the State. The State may elect to move data to off-line storage on a State server and reduce the storage requirements in the same increments throughout the life of the contract.										
	CPU, provide per unit pricing for incremental increases in the processor speed (GHz) available for the solution. CPU may be upgraded throughout the life of the contract at the request of the State.										
	CPU cores, provide per unit pricing for incremental increases in the number of cores available for the solution. Cores may be added throughout the life of the contract at the request of the State.										
	RAM, provide the per unit pricing for incremental increases in RAM available for the solution. RAM may be upgraded throughout the life of the contract at the request of the State.										

4.2.2.3 (includes 4.2.2.3.1 thru 4.2.2.3.4)	DATA MODELING TECHNICAL SUPPORT		Requirement is an hourly rate for the services of data scientists providing support as outlined in the RFP.		Hourly Rate				
		Data Scientists				5	10	15	

4.2.2.4	REQUIRED SOFTWARE			Per License (annualized)	Number of Licenses			
		Predictive Analytics SW (full access)						
		Predictive Analytics (view only if applicable)						
		Third Party SW (if applicable)	If third party SW is required to provide all required functionality, enter the name/version of the required SW below. Pricing should be based on a published price or a quote from authorized distributor. Agency reserves the right to procure SW from other sources but verifiable costs are required to calculate total project cost.	Per License (annualized basis)	Number of Licenses			
		Third Party SW						
		Third Party SW						
		Third Party SW						
		Third Party SW						

OPTION YEAR 3
Total Software
and Services Cost

Software as a Service Addendum

Optum's signed Software as a Service Addendum immediately follows this page.

Software as a Service Addendum

1. Definitions:

Acceptable alternative data center location means a country that is identified as providing equivalent or stronger data protection than the United States, in terms of both regulation and enforcement. DLA Piper's Privacy Heatmap shall be utilized for this analysis and may be found at https://www.dlapiperdataprotection.com/index.html?t=world-map&c=US&c2=IN.

Authorized Persons means the service provider's employees, contractors, subcontractors or other agents who have responsibility in protecting or have access to the public jurisdiction's personal data and non-public data to enable the service provider to perform the services required.

Data Breach means the unauthorized access and acquisition of unencrypted and unredacted personal data that compromises the security or confidentiality of a public jurisdiction's personal information and that causes the service provider or public jurisdiction to reasonably believe that the data breach has caused or will cause identity theft or other fraud.

Individually Identifiable Health Information means information that is a subset of health information, including demographic information collected from an individual, and (1) is created or received by a health care provider, health plan, employer or health care clearinghouse; and (2) relates to the past, present or future physical or mental health or condition of an individual; the provision of health care to an individual; or the past, present or future payment for the provision of health care to an individual; and (a) that identifies the individual; or (b) with respect to which there is a reasonable basis to believe the information can be used to identify the individual.

Non-Public Data means data, other than personal data, that is not subject to distribution to the public as public information. It is deemed to be sensitive and confidential by the public jurisdiction because it contains information that is exempt by statute, ordinance or administrative rule from access by the general public as public information.

Personal Data means data that includes information relating to a person that identifies the person by first name or first initial, and last name, and has any of the following personally identifiable information (PII): government-issued identification numbers (e.g., Social Security, driver's license, state identification card); financial account information, including account number, credit or debit card numbers; or protected health information (PHI).

Protected Health Information (PHI) means individually identifiable health information transmitted by electronic media, maintained in electronic media, or transmitted or maintained in any other form or medium. PHI excludes education records covered by the Family Educational Rights and Privacy Act (FERPA), as amended, 20 U.S.C. 1232g, records described at 20 U.S.C. 1232g(a)(4)(B)(iv) and employment records held by a covered entity in its role as employer.

<u>Public Jurisdiction</u> means any government or government agency that uses these terms and conditions. The term is a placeholder for the government or government agency.

<u>Public Jurisdiction Data</u> means all data created or in any way originating with the public jurisdiction, and all data that is the output of computer processing or other electronic manipulation of any data that was created by or in any way originated with the public jurisdiction, whether such data or output is stored on the public jurisdiction's hardware, the service provider's hardware or exists in any system owned, maintained or otherwise controlled by the public jurisdiction or by the service provider.

<u>Public Jurisdiction Identified Contact</u> means the person or persons designated in writing by the public jurisdiction to receive security incident or breach notification.

<u>Restricted data</u> means personal data and non-public data.

<u>Security Incident</u> means the actual unauthorized access to personal data or non-public data the service provider believes could reasonably result in the use, disclosure or theft of a public jurisdiction's unencrypted personal data or non-public data within the possession or control of the service provider. A security incident may or may not turn into a data breach.

<u>Service Provider</u> means the contractor and its employees, subcontractors, agents and affiliates who are providing the services agreed to under the contract.

<u>Software-as-a-Service (SaaS)</u> means the capability provided to the consumer to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through a thin-client interface such as a Web browser (e.g., Web-based email) or a program interface. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.

2. Data Ownership: The public jurisdiction will own all right, title and interest in its data that is related to the services provided by this contract. The service provider shall not access public jurisdiction user accounts or public jurisdiction data, except (1) in the course of data center operations, (2) in response to service or technical issues, (3) as required by the express terms of this contract or (4) at the public jurisdiction's written request.

3. Data Protection and Privacy: Protection of personal privacy and data shall be an integral part of the business activities of the service provider to ensure there is no inappropriate or unauthorized use of public jurisdiction information at any time. To this end, the service provider shall safeguard the confidentiality, integrity and availability of public jurisdiction information and comply with the following conditions:
   a) The service provider shall implement and maintain appropriate administrative, technical and physical security measures to safeguard against unauthorized access, disclosure or theft of personal data and non-public data. In Appendix A,

2

the public jurisdiction shall indicate whether restricted information will be processed by the service provider. Such security measures shall be in accordance with recognized industry practice and not less stringent than the measures the service provider applies to its own personal data and non-public data of similar kind. The service provider shall ensure that all such measures, including the manner in which personal data and non-public data are collected, accessed, used, stored, processed, disposed of and disclosed, comply with applicable data protection and privacy laws, as well as the terms and conditions of this Addendum and shall survive termination of the underlying contract.

b) The service provider represents and warrants that its collection, access, use, storage, disposal and disclosure of personal data and non-public data do and will comply with all applicable federal and state privacy and data protection laws, as well as all other applicable regulations, policies and directives.

c) The service provider shall support third-party multi-factor authentication integration with the public jurisdiction third-party identity provider to safeguard personal data and non-public data.

d) If, in the course of its engagement by the public jurisdiction, the service provider has access to or will collect, access, use, store, process, dispose of or disclose credit, debit or other payment cardholder information, the service provider shall at all times remain in compliance with the Payment Card Industry Data Security Standard ("PCI DSS") requirements, including remaining aware at all times of changes to the PCI DSS and promptly implementing all procedures and practices as may be necessary to remain in compliance with the PCI DSS, in each case, at the service provider's sole cost and expense. All data obtained by the service provider in the performance of this contract shall become and remain the property of the public jurisdiction.

e) All personal data shall be encrypted at rest and in transit with controlled access. Unless otherwise stipulated, the service provider is responsible for encryption of the personal data.

f) Unless otherwise stipulated, the service provider shall encrypt all non-public data at rest and in transit, in accordance with recognized industry practice. The public jurisdiction shall identify data it deems as non-public data to the service provider.

g) At no time shall any data or process – that either belong to or are intended for the use of a public jurisdiction or its officers, agents or employees — be copied, disclosed or retained by the service provider or any party related to the service provider for subsequent use in any transaction that does not include the public jurisdiction.

h) The service provider shall not use or disclose any information collected in connection with the service issued from this proposal for any purpose other than fulfilling the service.

i) Data Location. For non-public data and personal data, the service provider shall provide its data center services to the public jurisdiction and its end users solely from data centers in the U.S. Storage of public jurisdiction data at rest shall be located solely in data centers in the U.S. The service provider shall not allow its personnel or contractors to *store* public jurisdiction data on portable devices, including personal computers, except for devices that are used and kept only at its

U.S. data centers. With agreement from the public jurisdiction, this term may be met by the service provider providing its services from an acceptable alternative data center location, which agreement shall be stated in Appendix A. The Service Provider may also request permission to utilize an acceptable alternative data center location during a procurement's question and answer period by submitting a question to that effect. The service provider shall permit its personnel and contractors to access public jurisdiction data remotely only as required to provide technical support.

4. Security Incident or Data Breach Notification: The service provider shall inform the public jurisdiction of any confirmed security incident or data breach.

    a) Incident Response: The service provider may need to communicate with outside parties regarding a security incident, which may include contacting law enforcement, fielding media inquiries and seeking external expertise as defined by law or contained in the contract. Discussing security incidents with the public jurisdiction shall be handled on an urgent as-needed basis, as part of service provider communication and mitigation processes defined by law or contained in the contract.

    b) Security Incident Reporting Requirements: The service provider shall report a confirmed Security Incident as soon as practicable, but no later than twenty-four (24) hours after the service provider becomes aware of it, to: (1) the department privacy officer, by email, with a read receipt, identified in Appendix A; and, (2) unless otherwise directed by the public jurisdiction in the underlying contract, the WVOT Online Computer Security and Privacy Incident Reporting System at https://apps.wv.gov/ot/ir/Default.aspx, and (3) the public jurisdiction point of contact for general contract oversight/administration. The following information shall be shared with the public jurisdiction: (1) incident phase (detection and analysis; containment, eradication and recovery; or post-incident activity), (2) projected business impact, and, (3) attack source information.

    c) Breach Reporting Requirements: Upon the discovery of a data breach or unauthorized access to non-public data, the service provider shall immediately report to: (1) the department privacy officer, by email, with a read receipt, identified in Appendix A; and, (2) unless otherwise directed by the public jurisdiction in the underlying contract, the WVOT Online Computer Security and Privacy Incident Reporting System at https://apps.wv.gov/ot/ir/Default.aspx, and the public jurisdiction point of contact for general contract oversight/administration.

5. Breach Responsibilities: This section only applies when a data breach occurs with respect to personal data within the possession or control of the service provider.

    a) Immediately after being awarded a contract, the service provider shall provide the public jurisdiction with the name and contact information for an employee of service provider who shall serve as the public jurisdiction's primary security contact and shall be available to assist the public jurisdiction twenty-four (24) hours per day, seven (7) days per week as a contact in resolving obligations associated with a data breach. The service provider may provide this information in Appendix A.

b) Immediately following the service provider's notification to the public jurisdiction of a data breach, the parties shall coordinate cooperate with each other to investigate the data breach. The service provider agrees to fully cooperate with the public jurisdiction in the public jurisdiction's handling of the matter, including, without limitation, at the public jurisdiction's request, making available all relevant records, logs, files, data reporting and other materials required to comply with applicable law and regulation.

c) Within 72 hours of the discovery, the service provider shall notify the parties listed in 4(c) above, to the extent known: (1) date of discovery; (2) list of data elements and the number of individual records; (3) description of the unauthorized persons known or reasonably believed to have improperly used or disclosed the personal data; (4) description of where the personal data is believed to have been improperly transmitted, sent, or utilized; and, (5) description of the probable causes of the improper use or disclosure.

d) The service provider shall (1) cooperate with the public jurisdiction as reasonably requested by the public jurisdiction to investigate and resolve the data breach, (2) promptly implement necessary remedial measures, if necessary, and prevent any further data breach at the service provider's expense in accordance with applicable privacy rights, laws and regulations and (3) document responsive actions taken related to the data breach, including any post-incident review of events and actions taken to make changes in business practices in providing the services, if necessary.

e) If a data breach is a direct result of the service provider's breach of its contract obligation to encrypt personal data or otherwise prevent its release, the service provider shall bear the costs associated with (1) the investigation and resolution of the data breach; (2) notifications to individuals, regulators or others required by state or federal law; (3) a credit monitoring service (4) a website or a toll-free number and call center for affected individuals required by state law — all not to exceed the average per record per person cost calculated for data breaches in the United States in the most recent Cost of Data Breach Study: Global Analysis published by the Ponemon Institute at the time of the data breach (or other similar publication if the named publication has not issued an updated average per record per cost in the last 5 years at the time of the data breach); and (5) complete all corrective actions as reasonably determined by service provider based on root cause. The service provider agrees that it shall not inform any third party of any data breach without first obtaining the public jurisdiction's prior written consent, other than to inform a complainant that the matter has been forwarded to the public jurisdiction's legal counsel and/or engage a third party with appropriate expertise and confidentiality protections for any reason connected to the data breach. Except with respect to where the service provider has an independent legal obligation to report a data breach, the service provider agrees that the public jurisdiction shall have the sole right to determine: (1) whether notice of the data breach is to be provided to any individuals, regulators, law enforcement agencies, consumer reporting agencies or others, as required by law or regulation, or otherwise in the public jurisdiction's discretion; and (2) the contents of such notice, whether any

type of remediation may be offered to affected persons, and the nature and extent of any such remediation. The service provider retains the right to report activity to law enforcement.

6. Notification of Legal Requests: The service provider shall contact the public jurisdiction upon receipt of any electronic discovery, litigation holds, discovery searches and expert testimonies related to the public jurisdiction's data under this contract, or which in any way might reasonably require access to the data of the public jurisdiction. The service provider shall not respond to subpoenas, service of process and other legal requests related to the public jurisdiction without first notifying the public jurisdiction, unless prohibited by law from providing such notice.

7. Termination and Suspension of Service:
a) In the event of a termination of the contract, the service provider shall implement an orderly return of public jurisdiction data within the time period and format specified in the contract (or in the absence of a specified time and format, a mutually agreeable time and format) and after the data has been successfully returned, securely and permanently dispose of public jurisdiction data.
b) During any period of service suspension, the service provider shall not take any action to intentionally erase any public jurisdiction data.
c) In the event the contract does not specify a time or format for return of the public jurisdiction's data and an agreement has not been reached, in the event of termination of any services or agreement in entirety, the service provider shall not take any action to intentionally erase any public jurisdiction data for a period of:
   - 10 days after the effective date of termination, if the termination is in accordance with the contract period
   - 30 days after the effective date of termination, if the termination is for convenience
   - 60 days after the effective date of termination, if the termination is for cause

   After such period, the service provider shall have no obligation to maintain or provide any public jurisdiction data and shall thereafter, unless legally prohibited, delete all public jurisdiction data in its systems or otherwise in its possession or under its control.
d) The public jurisdiction shall be entitled to any post-termination assistance generally made available with respect to the services, unless a unique data retrieval arrangement has been established as part of the Contract.
e) The service provider shall securely dispose of all requested data in all of its forms, such as disk, CD/ DVD, backup tape and paper, when requested by the public jurisdiction. Data shall be permanently deleted and shall not be recoverable, according to National Institute of Standards and Technology (NIST)-approved methods. Certificates of destruction shall be provided to the public jurisdiction.

8. Background Checks: The service provider shall conduct criminal background checks in compliance with W.Va. Code §15-2D-3 and not utilize any staff to fulfill the obligations

of the contract, including subcontractors, who have been convicted of any crime of dishonesty, including but not limited to criminal fraud, or otherwise convicted of any felony or misdemeanor offense for which incarceration for up to 1 year is an authorized penalty. The service provider shall promote and maintain an awareness of the importance of securing the public jurisdiction's information among the service provider's employees and agents.

9. Oversight of Authorized Persons: During the term of each authorized person's employment or engagement by service provider, service provider shall at all times cause such persons to abide strictly by service provider's obligations under this Agreement and service provider's standard policies and procedures. The service provider further agrees that it shall maintain a disciplinary process to address any unauthorized access, use or disclosure of personal data by any of service provider's officers, partners, principals, employees, agents or contractors.

10. Access to Security Logs and Reports: The service provider shall provide reports to the public jurisdiction in CSV format agreed to by both the service provider and the public jurisdiction. Reports shall include user access (successful and failed attempts), user access IP address, user access history and security logs for all public jurisdiction files and accounts related to this contract.

11. Data Protection Self-Assessment: The service provider shall perform a Cloud Security Alliance STAR Self-Assessment by completing and submitting the "Consensus Assessments Initiative Questionnaire" to the Public Jurisdiction Identified Contact. The service provider shall submit its self-assessment to the public jurisdiction prior to contract award and, upon request, annually thereafter, on the anniversary of the date of contract execution. Any deficiencies identified in the assessment will entitle the public jurisdiction to disqualify the bid or terminate the contract for cause.

12. Data Center Audit: The service provider shall perform an audit of its data center(s) at least annually at its expense and provide a redacted version of the audit report upon request. The service provider may remove its proprietary information from the redacted version. A Service Organization Control (SOC) 2 audit report or approved equivalent sets the minimum level of a third-party audit. Any deficiencies identified in the report or approved equivalent will entitle the public jurisdiction to disqualify the bid or terminate the contract for cause.

13. Change Control and Advance Notice: The service provider shall give 30 days, advance notice (to the public jurisdiction of any upgrades (e.g., major upgrades, minor upgrades, system changes) that may impact service availability and performance. A major upgrade is a replacement of hardware, software or firmware with a newer or better version in order to bring the system up to date or to improve its characteristics.

14. Security:
   a) At a minimum, the service provider's safeguards for the protection of data shall include: (1) securing business facilities, data centers, paper files, servers, back-up

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systems and computing equipment, including, but not limited to, all mobile devices and other equipment with information storage capability; (2) implementing network, device application, database and platform security; 3) securing information transmission, storage and disposal; (4) implementing authentication and access controls within media, applications, operating systems and equipment; (5) implementing appropriate personnel security and integrity procedures and practices, including, but not limited to, conducting background checks consistent with applicable law; and (6) providing appropriate privacy and information security training to service provider's employees.

b) The service provider shall execute well-defined recurring action steps that identify and monitor vulnerabilities and provide remediation or corrective measures. Where the service provider's technology or the public jurisdiction's required dependence on a third-party application to interface with the technology creates a critical or high risk, the service provider shall remediate the vulnerability as soon as possible. The service provider must ensure that applications used to interface with the service provider's technology remain operationally compatible with software updates.

c) Upon the public jurisdiction's written request, the service provider shall provide a high-level network diagram with respect to connectivity to the public jurisdiction's network that illustrates the service provider's information technology network infrastructure.

15. Non-disclosure and Separation of Duties: The service provider shall enforce separation of job duties, require commercially reasonable non-disclosure agreements, and limit staff knowledge of public jurisdiction data to that which is absolutely necessary to perform job duties.

16. Import and Export of Data: The public jurisdiction shall have the ability to securely import, export or dispose of data in standard format in piecemeal or in entirety at its discretion without interference from the service provider. This includes the ability for the public jurisdiction to import or export data to/from other service providers identified in the contract (or in the absence of an identified format, a mutually agreeable format).

17. Responsibilities: The service provider shall be responsible for the acquisition and operation of all hardware, software and network support related to the cloud services being provided. The technical and professional activities required for establishing, managing and maintaining the environments are the responsibilities of the service provider.

18. Subcontractor Compliance: The service provider shall ensure that any of its subcontractors to whom it provides any of the personal data or non-public data it receives hereunder, or to whom it provides any personal data or non-public data which the service provider creates or receives on behalf of the public jurisdiction, agree to the restrictions, terms and conditions which apply to the service provider hereunder.

19. Right to Remove Individuals: The public jurisdiction shall have the right at any time to require that the service provider remove from interaction with public jurisdiction any

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service provider representative who the public jurisdiction believes is detrimental to its working relationship with the service provider. The public jurisdiction shall provide the service provider with notice of its determination, and the reasons it requests the removal. If the public jurisdiction signifies that a potential security violation exists with respect to the request, the service provider shall immediately remove such individual. The service provider shall not assign the person to any aspect of the contract without the public jurisdiction's consent.

20. Business Continuity and Disaster Recovery: The service provider shall provide a business continuity and disaster recovery plan executive summary upon request. Lack of a plan will entitle the public jurisdiction to terminate this contract for cause.

21. Compliance with Accessibility Standards: The service provider shall comply with and adhere to Accessibility Standards of Section 508 Amendment to the Rehabilitation Act of 1973.

22. Web Services: The service provider shall use web services exclusively to interface with the public jurisdiction's data in near real time when possible.

23. Encryption of Data at Rest: The service provider shall ensure hard drive encryption consistent with validated cryptography standards as referenced in FIPS 140-2, Security Requirements for Cryptographic Modules for all personal data.

24. Subscription Terms: Service provider grants to a public jurisdiction a license to:
   a. Access and use the service for its business purposes;
   b. For SaaS, use underlying software as embodied or used in the service; and
   c. View, copy, upload, download (where applicable), and use service provider's documentation.

25. Equitable Relief: Service provider acknowledges that any breach of its covenants or obligations set forth in Addendum may cause the public jurisdiction irreparable harm for which monetary damages would not be adequate compensation and agrees that, in the event of such breach or threatened breach, the public jurisdiction is entitled to seek equitable relief, including a restraining order, injunctive relief, specific performance and any other relief that may be available from any court, in addition to any other remedy to which the public jurisdiction may be entitled at law or in equity. Such remedies shall not be deemed to be exclusive but shall be in addition to all other remedies available at law or in equity, subject to any express exclusions or limitations in this Addendum to the contrary.

AGREED:

Name of Agency:_____

Signature:_____

Title:_____

Date:_____

Name of Vendor: Optum Government Solutions, Inc.
_____

Signature: *W. Mark Youngman*
W. Mark Youngman (Sep 23, 2022 11:37 EDT)
_____

Title: Associate Finance Director
_____

Date: 9/23/2022
_____

Acknowledgement of RFP Appendix A

Optum's acknowledgement of RFP Appendix A immediately follows this page.

Appendix A

(To be completed by the Agency's Procurement Officer prior to the execution of the Addendum, and shall be made a part of the Addendum. Required information not identified prior to execution of the Addendum may only be added by amending Appendix A and the Addendum, via Change Order.)

Name of Service Provider/Vendor: ___Optum Government Solutions, Inc.___

Name of Agency: ___WV DHHR - Management Information Services___

Agency/public jurisdiction's required information:

1. Will restricted information be processed by the service provider?
   Yes ☐
   No ☒

2. If yes to #1, does the restricted information include personal data?
   Yes ☐
   No ☒

3. If yes to #1, does the restricted information include non-public data?
   Yes ☐
   No ☒

4. If yes to #1, may the service provider store public jurisdiction data in a data center in an acceptable alternative data center location, which is a country that is not the U.S.?
   Yes ☐
   No ☒

5. Provide name and email address for the Department privacy officer:

   Name: ___Chris Snyder___

   Email address: ___Chris.S.Snyder@wv.gov___

Vendor/Service Provider's required information:

6. Provide name and contact information for vendor's employee who shall serve as the public jurisdiction's primary security contact:

   Name: ___Jill Feagans, Senior Principal Engineer___

   Email address: ___jill.feagans@optum.com___

   Phone Number: ___916-288-2556___

Request for Proposal signature form

Optum's signed Request for Proposal signature form immediately follows this page.

REQUEST FOR PROPOSAL
WV Department of Health and Human Resources
CRFP MIS2300000001

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)

W. Mark Youngman
W. Mark Youngman (Sep 23, 2022 11:37 EDT)   Associate Finance Director
(Representative Name, Title)

(763) 797-5882
(Contact Phone/Fax Number)

9/23/2022
(Date)

Appendix A – Resumes

Optum's resumes, as requested, and as described in our response to Qualifications and Experience (4.3), immediately follows this page.

Jeffrey Scott Dunfee
Project Manager

Experience Summary

Scott is a Project Management Institute (PMI) certified Project Management Professional (PMP) with more than 22 years of project management experience. This includes 15 years of program management experience supporting implementations, health care data analytics, infrastructure, database development, and security. As a lifelong West Virginia resident, he has a strong commitment to serving West Virginia agencies. He has more than 15 years of health care experience, including more than four years serving the West Virginia Department of Health and Human Resources.

In his current role at Optum, Scott serves as a program manager for the West Virginia People's Access to Help (WV PATH) project. He leads engagements for next-generation solutions and components with a focus on project performance, transparent collaboration, and tangible results. He demonstrates expertise managing project schedules, issues, risks, status, and communications by applying PMI Project Management Body of Knowledge (PMBOK) practices.

Scott is skilled and knowledgeable in analytic problem resolution and the content of Medicaid and Health and Human Services (HHS) data. Before joining Optum, Scott's career included managing 20 data analysts in a data analytics Center of Excellence where he worked with experts such as epidemiologists, behavioral health data analysts, and data modelers. Scott works effectively with all levels of staff and leadership to manage people, processes, and technology.

Work Experience

Optum, West Virginia, April 2018 – Present

Program Manager/Project Management Office Lead (June 2020 – Present)

Manages teams within the Optum Project Management Office including the project schedule, project deliverables, communication, certification, issues, risks, action items, and decisions.

- West Virginia Department of Health and Human Resources; Optum contact: Matt Arrowood, Ronald.Arrowood@optum.com
- Leads a team of 13 project management staff overseeing project schedules, issues, risks, decisions, deliverables, certification, and reporting
- Meets with the client on project performance, maintaining relationships with functional managers and stakeholders throughout the organization for project success
- Works closely with the client project manager as the Optum single point-of-contact responsible for the success of the project; serves as the senior leader responsible for day-to-day support for the portal; manages oversight of the scope of work under the contract
- Responsible for issue resolution/decision making; quality gate reviews (daily); detailed schedule and planning activities; and managing specifications, requirements, and requirements tracing (through ALM)
- Manages the deliverable management process for producing and completing defined deliverables, making sure resources are available within estimated timeframes; defines and negotiates acceptance criteria through entrance and exit criteria; optimizes the format of more than 84 deliverables for each major release; provides oversight of each deliverable's quality reviews
- Coordinates training program activities including establishing and maintaining the training environment; responsible for training roles and security; conducts meetings for planning and delivering training; aligns training schedules; reviews training materials throughout the project
- Provides oversight of subcontractors; manages tasks for Optum and subcontractor resources and nurtures effective project teams and organizational relationships
- Arranges, directs, and manages project meetings; leads project implementation coordination; establishes and maintains communications between the State, Optum, and other stakeholders

- Initiates and manages regularly scheduled and ad hoc project reviews
- Analyzes daily burndown charts and dashboards
- Collaborates with other State agencies in support of child enforcement, welfare, and eligibility

Program Manager/Project Management Office Lead, (April 2018 – June 2020)

Provided schedule management support for the WV Integrated Eligibility Solution project and delivery of the Client/Public Portal project.

- Leveraged PMBOK practices to develop, manage, control, and execute the Microsoft Project schedule
- Responsible for monitoring project team progress on critical path tasks and milestones
- Provided status reporting of project percent complete, resource assignments, and schedule updates
- Mentored release managers on use of the project management methodology and tools; performed master schedule audits to identify integrity issues and implemented corrective actions as necessary
- Assisted senior management with presentations on project progress; developed dashboards and other tools to provide additional reporting views and presentations of project timelines; provided input into other vendor performance
- Directed the daily activities of the project schedule team
- Managed public portal implementation; the portal project included a unified public portal that incorporates child support, alongside heath care and family assistance programs
  - Dawn Hawkins, Lucinda.hawkins@optum.com
  - West Virginia Department of Health and Human Resources; Optum contact: Matt Arrowood, Ronald.Arrowood@optum.com

Sr. Support Manager/Resource Manager, Cerner Healthcare, Missouri, February 2015 – April 2018

- Hired/managed a cross-team of more than 40 analysts in the specialty areas of Radiology/Picture Archiving and Communication System (PACS), Electronic Medical Record (EMR), Integration (OpenLink), DSS/Healthcare Intelligence, Lab and Pharmacy/Medication Administration Check (MAK)
- Served to integrate practice offices into clinical information system; practices include optometry, behavioral health, sleep lab, dental, and urgent care facilities; gained understanding of the various workflows of these practices to assure successful integration into the Clinical Information System
- Served as team lead for best practices initiative that included the development and gathering of processes, identification of best practices, assembly of the collection of best practices, communication of best practices, and customer distribution process
- Responsible for establishing strategic direction of team and training of project management methodology
- Coordinated workload of global support analysts in Bangalore, India
- Assured quality across team for support and projects; developed quality measures procedures for tracking and reporting

Siemens (now Cerner Healthcare), September 2005 – February 2015

Senior Resource Manager of Ancillary Resources, Pennsylvania, (September 2011 – February 2015)

- Hired/managed a cross-team of more than 40 analysts in the specialty areas of Radiology/PACS, EMR, data analytics, and clinical training
- Developed testing/quality procedures for projects across the organization using waterfall methodology; established subject matter expert testing/quality group
- Developed global support initiative with analyst group in Bangalore, India

Senior Manager of Project Management Office/Charleston Area Medical Center/Information System Director, West Virginia, (September 2005 – September 2011)

- Developed and improved the information technology aspects of Charleston Area Medical Center, the largest teaching hospital in the State of West Virginia
- Managed 20 data analysts in the data analytics Center of Excellence; worked with epidemiologists, behavioral health data analysts, and clinical practices
- Provided oversight of data modeling activities in the transition from paper chart to clinical data for the data mart and Enterprise Document Management (EDM) system
- Trained analytics team on use of reporting and dashboards
- Client facing responsibilities such as status meetings, status reporting, workflow discussions, workflow optimization
- Provided direction to project managers in proactively initiating, planning, controlling, executing, testing and closing project tasks in order to produce the requested solutions
- Established new development processes based on PMI PMBOK
- Developed a project management office to manage the available resources more effectively
- Increased project satisfaction ranking based on timely completion and under budget from 48 percent in 2005 to 96 percent in 2007

Senior IT Project Manager, Applied Card Systems, West Virginia, October 1998 – August 2005

- Developed a project team and the necessary project plans to satisfy business and technological requirements for payment and call center environment for Cross Country Bank Credit Card; responsible for project deliverables, with an emphasis on quality and the timely completion of tasks
- Developed stress testing tool used in determining traffic limits to web sites; managed ongoing projects to improve data center environment, infrastructure, and customer projects; implemented and upgraded human resource applications including Ultipro, eRecruitment, Kronos and Great Plains; interfaced with and managed vendors and contractors

Education

- Master of Arts, History Graduate School, Marshall University, Huntington, West Virginia
- Bachelor of Arts, Liberal Arts Specialization, Marshall University, Huntington, West Virginia

Technologies, Certifications, and Training

Technologies	• Microsoft Project, eProject, Primavera, SSi Tools, Microsoft Office Suite (Work, Excel, PowerPoint, Outlook), Microsoft Teams, SharePoint, Lotus Notes, Visio, Application Lifecycle Management, Power BI, Tableau
Certifications	• Project Management Professional (PMP), Project Management Institute (PMI) • Six Sigma Yellow Belt Training and Certification
Training/ Memberships	• Executrain/Brainbench Project Management Certification; • Executrain Fundamentals of Project Management • Strictly Business' Microsoft Project 2000 • Applied Card Systems' Management Trainee Program • Associate Member Board of Governors Lexington Shriners Hospital • Scottish Rite/Marshall University Speech Pathology Foundation Board Member • Member of HiMSS Virginia Chapter • Member of the Project Management Institute

P **Project**
Management
Institute.

THIS IS TO CERTIFY THAT

Jeffrey S Dunfee

HAS BEEN FORMALLY EVALUATED FOR DEMONSTRATED EXPERIENCE, KNOWLEDGE AND PERFORMANCE
IN ACHIEVING AN ORGANIZATIONAL OBJECTIVE THROUGH DEFINING AND OVERSEEING PROJECTS AND
RESOURCES AND IS HEREBY BESTOWED THE GLOBAL CREDENTIAL

Project Management Professional (PMP)®

IN TESTIMONY WHEREOF, WE HAVE SUBSCRIBED OUR SIGNATURES UNDER THE SEAL OF THE INSTITUTE

Jennifer Tharp | Chair, Board of Directors

Pierre Le Manh | President & CEO

PMP® Number: ■■■■   PMP® Original Grant Date: 04 March 2005   PMP® Expiration Date: 04 March 2024

Marshall University

The University of West Virginia Board of Trustees
upon the recommendation of the faculty of the

Graduate College

has conferred upon

Jeffrey Scott Dunfee

the degree of

Master of Arts

History

In Testimony Whereof, the signatures of the duly authorized officers of the University of West Virginia Board of Trustees and the Faculty of the University and the seal of the University have been affixed.

Given at Huntington, West Virginia, this eighth day of May, 1999.

The University of
West Virginia Board of Trustees

David H. Todd
Chairman

_____
Chancellor

J. Wade Gilley
President of the University

Leonard J. Deutsch
Dean, Graduate College

Marshall University

The University of West Virginia Board of Trustees
upon the recommendation of the faculty of the

College of Liberal Arts

has conferred upon

Jeffrey Scott Dunfee

the degree of

Bachelor of Arts

In Testimony Whereof, the signatures of the duly authorized officers of the University of West Virginia Board of Trustees and the Faculty of the University and the seal of the University have been affixed.

Given at Huntington, West Virginia, this fifteenth day of December, 1992.

The University of
West Virginia Board of Trustees

T. Michael Perry
Chairman

Charles W. Manning
Chancellor

SIGILLUM UNIVERSITATIS MARSHALLIENSIS · 1837 ·

J. Wade Gilley
President of the University

Deryl R. Leaming
Dean

International Institute for Learning, Inc.

is pleased to present this certificate for the successful completion of
all requirements to obtain

Lean Six Sigma Yellow Belt Certification

Awarded to

Jeffrey Dunfee

June 18, 2012

E. LaVerne Johnson

E. LaVerne Johnson
President and Chief Executive Officer
International Institute for Learning, Inc.

Suman Challagulla, MBA, MS
Data Scientist

Experience Summary

Suman is a health care consulting manager and seasoned business intelligence professional with more than 17 years of experience. He is skilled in analytical tools, predictive analytics, machine learning, and quality measures. Suman manages Optum's data warehouse and analytical solutions for state and federal government clients. He leads the development of analytical tools to support payment redesign, quality improvement, program evaluation, all payer databases, and Medicaid Management Information Systems. He actively leads predictive analytics projects for multiple clients, applying his expertise in statistical modeling, data mining, machine learning, and programming in R.

Suman's career encompasses extensive work on government projects, including state projects in Indiana, New Jersey, South Dakota, and New York. Before joining Optum, Suman managed Mercer's health care analytics portfolio for Fortune 500 commercial clients such as Boeing, Northrop Grumman, and Citigroup, with annual revenue of $50M+, and for state government clients such as Pennsylvania and New Jersey with annual revenue of $21M+.

Suman closely monitors federal regulations to stay informed on Medicaid and HHS standards and legislation. He participates in and presents at analytics industry conferences to address legislative and regulatory developments that affect HHS policy and programs. He presented at the National Association of Health Data Organizations 2020 conference. Suman's certifications include Microsoft Certified Professional and the Johns Hopkins University Data Science Specialization certification.

Work Experience

Managing Consultant, Virginia, Optum, May 2015 – Present

Manages Optum's analytics, data warehousing, payment reform, and quality incentives for federal and state government clients including:

- **Community Health Access and Rural Transformation (CHART):** Currently developing quality measures and computing hospital incentive payments using data from the CMS Integrated Data Repository (IDR) for the CHART model. CMS' intent is to use this model to address health care disparities in rural communities by leveraging innovative financial arrangements with participating hospitals, communities, and state Medicaid organizations.

  – Centers for Medicare & Medicaid Services (CMS) Innovation Center; Tanya Williams, Tanya.Williams@cms.hhs.gov

- **New Jersey Quality Improvement Program:** Leading the development of pregnancy and behavioral health quality measures for the State of New Jersey using the State's all payer claims database for 65 participating hospitals. Hospitals will receive incentive payments based on demonstrated performance improvements in these quality measures.

  – Public Consulting Group (PCG); Patricia Perazzelli, pperazzelli@pcgus.com

- **COVID-19 Tracker and Hospital Surveillance Tool:** Developed a visual tool to track daily testing rates, including confirmed and new case rates, hospitalizations, and ICU bed needs. The tool identifies emerging at-risk counties using predictive analytics, and models the Area Vulnerability Index using population density, morbidity, chronic conditions, and supply of facilities and practitioners per capita.

  – Moushumi Sinha; moushumi.sinha@lewin.com

  – Optum; Corey Coleman, corey.coleman@optum.com

- **Indiana Substance Use Disorder (SUD) Provider Capacity Planning:** Led the development of analytical tools to analyze provider capacity SUD in Indiana. Analytical tools include visualizations that depict treatment prevalence, provider characteristics (such as demographics, specialty), treatment recipients along the continuum of care using Indiana's Enterprise Data Warehouse.

— Jennifer Weil; Jennifer.weil@lewin.com

— Indiana Family and Social Services Administration; Amy Lewis Gilbert, JD, MPH, Amy.Gilbert@fssa.IN.gov

- **Predicting Opioid Related Adverse Events:** Developed machine learning models built in R that use demographics, claims, opioid key performance indicators, and other covariates that identify new opioid users who are most likely susceptible to adverse events (death, long-term use, addiction). Each person is assigned a predicted probability for the occurrence of an adverse event by each model.

  — Dave Schafer; dave.schafer@lewin.com

  — Bureau for Medical Services, West Virginia Department of Health and Human Resources, Optum contact: dave.schafer@lewin.com

- **Veterans Administration Suicide Prevention:** Delivered a Suicide Prevention Data Warehouse and Analytics to the Veterans Administration (VA) to identify the at-risk veterans. The analytics employ visual analytic tools to inform and predict suicide risk at the individual and population level. These visualizations enable the VA to reach out to the at-risk veterans and provide support to prevent suicides. SQL Server, SQL Server Integration Services (SSIS), SQL Server Reporting Services (SSRS), SharePoint, and Microsoft.NET were used to develop the solution. SharePoint was used to host the reports securely, administer the solution, and as a document management tool. Documented the solution, trained the stakeholders to use the reports, and to maintain, update, and redeploy the solution, hosted office hours to clarify any questions regarding the solution.

  — Todd Ruppel; todd.ruppel@lewin.com

  — Office of Mental Health and Suicide Prevention; Terrance Hubert, Terrence.Hubert@va.gov

- **New Jersey Delivery System Reform Incentive Payment (DSRIP) Program:** Led the development of 50 standard national quality measures that are used to calculate incentive payments to 46 participating hospitals in the State; led the claims and electronic health record data consumption, validation and data warehousing processes to support quality measure adherence computations and calculate the final incentive payments. Microsoft.NET and SSIS were used to develop the solution.

  — Kai Wong; kai.wong@lewin.com

  — PCG; Patricia Perazzelli, pperazzelli@pcgus.com

- **Optum Labs Qualified Entity Certification Program (QECP):** Worked with Optum Labs and led the development of 22 national quality measures on commercial and Medicare data in order to achieve Qualified Entity certification. Quality adherence for individuals transitioning from commercial to Medicare coverage was compared before and after the transition, to analyze if there were any gaps in care related to a transition between payers.

  — Kai Wong; kai.wong@lewin.com

  — Optum Labs, Peter Gorski, Peter.Gorski@optum.com

- **South Dakota Medicaid Data Analytics:** Developed a Data Warehouse and Medicaid Data Analytics Solution for the State of South Dakota. The solution encompasses financial reporting, program management support, and operations management ad hoc reporting though a number of flexible and interactive visualizations. Microsoft.NET, SSIS, and Tableau were used as the primary development platforms.

  — Katrina Drager; katrina.drager@lewin.com

  — Department of Social Services Division of Economic Assistance, State of South Dakota; Scott Johnson, scott.johnson@state.sd.us

Mercer, Arizona, May 2003 – May 2015

Consulting Manager (Principal), (March 2014 – May 2015)

- Strategic Responsibilities:

- Responsible for concept and evolution of customized health care information systems that differentiate Mercer from the competition
- Drove new product development and increase business efficiency by applying data warehousing and machine learning principles, using big data technologies

- Client Management:
  - Led planning sessions, presentations, and budget allocations for new products
  - Defined and managed product roadmaps for clients with $70M+ total annual revenue
  - Validated client success through continuous engagement and delivery on time and within budget
- Product Portfolio Management:
  - Developed a health care data warehouse and visual analytics solution for Boeing with $1M budget resulting in 20 percent productivity increase and $350K savings annually; secured additional funding of $1.5M to develop streamlined workflows and automated analytics solutions. Microsoft.NET, SQL Server, and SharePoint were the primary development platforms used to build the solution
  - Developed an ensemble model that predicts extreme high-cost patients five months before they trigger the high-cost threshold; through prescriptive analytics, the model facilitates targeted risk adjustment, managed care organization benchmarking and focused wellness programs, significantly reducing client health care expenses
  - Developed a sequence cluster model that predicts the transition of mental health Medicare patients and their associated costs of $340M across various stages of treatment; the model opens new consulting opportunities by benchmarking insurers' and providers' treatment methods based on their re-admissions and expense statistics

Product Development Manager (Senior Associate), (February 2009 – March 2014)

- Conducted business needs and product competitive analysis; supervised a team of nine onshore and offshore engineers and analysts to manage product development from inception to operational support
- Developed a data warehouse and business intelligence solution for the Asia Pacific business, resulting in projected savings of $1.2M and differentiating Mercer through advanced claims analytics capabilities
- Created a new revenue stream of $1M per year by developing data warehousing solutions, analytics and financial data management solutions for New Jersey and Pennsylvania
- Developed a data warehouse and analytics solution for the Commonwealth of Pennsylvania, with overall consulting revenue of $17M, to monitor its mental and behavioral health programs
- Transformed underperforming offshore team to a valued corporate contributor while reducing overall development costs by 50 percent
- Published case studies on problem solving through the application of product management methodologies and on component reuse in enterprise applications

Solutions Architect (Associate), (February 2006 – February 2009)

- Designed reusable software components. Mentored employees on design patterns; software as a service model (SaaS), service-oriented architecture (SOA) and Agile methodologies; served as final escalation point for production support. Microsoft.NET was the primary development platform, customer support systems were built using SharePoint with custom web parts for reporting purposes
- Managed the development and support of Mercer's health and benefits decision support system that supports 300+ clients worldwide with $30M+ in overall consulting revenue
- Managed the software development life cycle of customizable data analysis and reporting solutions, enabling clients to manage benefit programs, generating revenue of $2.5M

- Led the development of an organization-wide single sign-on solution, resulting in development cost savings of $200K in its first year of adoption
- Successfully used open source frameworks to develop enterprise applications resulting in cost savings of $250K in the first year of implementation

Solutions Engineer (Analyst), (June 2004 – February 2006)

- Planned disaster recovery systems; architected enterprise applications, planned quality assurance, and reviewed acceptance criteria; Microsoft.NET, Oracle, and SQL Server were used to build the applications; customer support systems were built using SharePoint
- Developed and implemented disaster recovery plans for health care procurement applications with a budget of $1.5M per year
- Developed a rule-based Health Insurance Portability and Accountability Act (HIPAA) compliancy reporting engine, generating over $1M per year in sales and consulting revenue

Systems Engineer (Contractor), (May 2003 – June 2004)

- Implemented processes that reduced errors in procurement data Extract, Transform, Load processes by 90 percent
- Established policies and procedures that reduced root cause diagnosis and resolution time for enterprise health care procurement applications by 25 percent

Information Systems Contractor, TRW Vehicle Safety Systems Inc., Queen Creek, Arizona, February 2001 – December 2001

- Developed downtime tracking and production scheduling systems, which reduced issue resolution time by more than 20 percent

Education

- Master of Business Administration, Kelley School of Business, Indiana University, Bloomington, Indiana
- Master of Science, Technology, Arizona State University, Tempe, Arizona
- Master of Science, Industrial Engineering, Information Systems, Arizona State University, Tempe, Arizona
- Bachelor of Engineering, Mechanical Engineering, Gandhi Institute of Technology and Management, Visakhapatnam, Andhra Pradesh, India

Technologies, Certifications, and Industry Presentations

Technologies	- Software: Microsoft .NET Stack, SharePoint, DotNetNuke - Business Intelligence: SSRS, SSIS, Cognos, MicroStrategy, Tableau - Analytics: Data architecture, data warehousing, statistical modeling, data mining, machine learning, R - Business Process Management/Workflow: Cordys - Databases: SQL Server, Oracle, NoSQL (HBase)
Certifications	- Certifications: Microsoft Certified Professional, Microsoft Certified Application Developer .NET, Microsoft Certified Solutions Developer .NET - Data Science Specialization, Johns Hopkins University, Baltimore, Maryland
Industry Presentations	Notable Analytics Conference Participation: - Presented Optum's analytical capabilities related to COVID-19, Opioids, and Emergency Department Utilization in the Preparedness Summit in April

Optum

	2021. The conference focused on the topic "When Crisis is Commonplace: Transforming Your Community's Public Health Preparedness Practices." • Presented the following topics in the National Association of Health Data Organizations (NAHDO) 2020 conference: Actionable Opioid Analytics for the State Medicaid Programs, Improving Health Plan Operational Efficiency through Business Intelligence, Ensure Claims and Provider Data Quality for Analytics

10 Courses

The Data Scientist's Toolbox

R Programming

Getting and Cleaning Data

Exploratory Data Analysis

Reproducible Research

Statistical Inference

Regression Models

Practical Machine Learning

Developing Data Products

Data Science Capstone

JOHNS HOPKINS
BLOOMBERG SCHOOL
of PUBLIC HEALTH

05/04/2015

Suman Challagulla

has successfully completed the online, non-credit Specialization

Data Science

A sequence of nine 4-week courses followed by a culminating 8-week project.

The Data Science Specialization covers the concepts and tools for an entire data science pipeline. Successful participants learn how to use the tools of the trade, think analytically about complex problems, manage large data sets, deploy statistical principles, create visualizations, build and evaluate machine learning algorithms, publish reproducible analyses, and develop data products.

Roger D. Peng, PhD
Department of
Biostatistics
Johns Hopkins
Bloomberg School of
Public Health

Brian Caffo, PhD, MS
Department of
Biostatistics
Johns Hopkins
Bloomberg School of
Public Health

Jeffrey Leek, PhD
Department of
Biostatistics
Johns Hopkins
Bloomberg School of
Public Health

Verify this certificate at:

Arizona State University

The Arizona Board of Regents
by virtue of the authority vested in it by law and
on recommendation of the University Faculty does hereby confer on

Suman Challagulla

who has satisfactorily completed the Studies prescribed therefor
the Degree of

Master of Science in Technology

in the

College of Technology and Applied Sciences

with all the Rights, Privileges and Honors thereunto appertaining

Awarded at the Main Campus, this thirteenth day of May, two thousand and four.

_____
Governor of Arizona

_____
President of the Board

_____
President of the University

_____
Sr. Vice President and Provost

ARIZONA STATE UNIVERSITY · 1885 ·

Arizona State University

Greeting to all to whom these Letters shall come

The Arizona Board of Regents

by virtue of the authority vested in it by law and

on recommendation of the University Faculty does hereby confer on

Suman Challagulla

who has satisfactorily completed the Studies prescribed therefor

the Degree of

Master of Science in Engineering
Industrial Engineering

with all the Rights, Privileges and Honors thereunto appertaining

In Witness whereof the Seal of the University is hereto affixed

Awarded at the Main Campus

this second day of August, two thousand and two.

Governor of Arizona

President of the University

President of the Board

Sr. Vice President and Provost

ARIZONA STATE UNIVERSITY · 1885 ·

Sl. No.: 01192

Register No. 97742

ANDHRA UNIVERSITY

FACULTY OF ENGINEERING

This is to certify that

Suman Challagulla

Son of N M Rao C

has been duly admitted to the

Degree of Bachelor of Engineering

in the Mechanical Branch

in this University, *he* having been declared to have

passed in *First Class,* the Examination

prescribed therefor held in *April 2000.*

Given under the seal of the University

Visakhapatnam
The 9th January 2001

_____
Controller of Examinations

Indiana University

Kelley School of Business

To all who may read these letters, Greeting:

hereby it is certified that upon the recommendation of the Faculty,
the Trustees of Indiana University have conferred upon

Suman Challagulla

the degree of

Master of Business Administration

in recognition of the fulfillment of the requirements for this degree.
In Witness Whereof, this diploma is given at
Bloomington, Indiana, March 31, 2010.

Daniel C. Smith
Dean

Attest: _Robin Ray Gress_
Secretary of The Trustees

Michael A. McRobbie
President

Karen Hanson
Provost

Certificate of Excellence

Microsoft® CERTIFIED
Professional

SUMAN CHALLAGULLA

Has **successfully** completed the **requirements**

to be recognized as a **Microsoft Certified Professional**

Signed by *Bill Gates*

Certificate of Excellence

Microsoft®
CERTIFIED
Solution Developer

SUMAN CHALLAGULLA

has **successfully** completed the **requirements**

to be recognized as a **Microsoft Certified** Solution Developer

Signed by *Bill Gates*

Certificate of
Excellence

Microsoft®
CERTIFIED
Application Developer

SUMAN CHALLAGULLA

Has **successfully** completed the **requirements** to be recognized

as a **Microsoft Certified Application Developer** for **Microsoft..NET**

Signed by *Bill Gates*

Certificate of Excellence

Microsoft®
CERTIFIED
Solution Developer

SUMAN CHALLAGULLA

has **successfully** completed the **requirements**

to be recognized as a **Microsoft Certified Solution Developer for Microsoft .NET**

Signed by *Bill Gates*

Kalu Onuma
Power BI Reporting Lead

Experience Summary

Kalu is an IT professional with more than 11 years' of health care and finance experience in analysis and reporting. He has experience working with client databases and systems to maintain the strategic vision of the client's organization. In his current position as a senior consultant at Optum, Kalu provides reports, data analysis, data manipulation, data extraction, and research for federal and state government clients using tools that include Power BI. His activities include business analysis, project or program management, and functional leadership for commercial, state government, and federal programs. Kalu is skilled in providing interactive reporting and dashboard solutions, predictive and descriptive analytics, data modeling, and data mining. He has extensive experience in data migration, data analysis, data manipulation, data extraction, and research.

Before joining Optum, Kalu served as a Tableau developer and analyst, working with physicians, schedulers, and ambulatory departments developing intuitive, visual analytics and dashboards to improve efficiencies for patients and physicians. Kalu has a deep understanding of software development life cycle methodologies such as waterfall, Scrum, and the Agile framework. Kalu is knowledgeable in health care information systems and has experience with practice management software and HIPAA guidelines to support health services projects.

Work Experience

Senior Consultant, Optum, Maryland, October 2021 – Present

Serves as a reporting expert providing reports, data analysis, data manipulation, data extraction, and research for federal and state government clients including:

- **OptumServe Consulting Priority-Identification-Vaccine-Operating-Tool (PIVOT):** Developed Power BI version of PIVOT, which gives states and local government agencies the data analytics needed to optimize their COVID-19 distribution plan.

  – Optum, PIVOT product; Steve Johnson, PhD, steve.johnson@lewin.com (Optum contact)

- **FedEx COVID-19 Project:** Developed a Tableau summary dashboard that provided customized resources to support data-informed decision-making processes by integrating real-time data on community spread and positive case rates and vaccination with measures to prioritize communities for targeted intervention.

  – Dave Schafer, dave.schafer@lewin.com (Optum contact)

  – FedEx; Ellen Kennedy, ekennedy@optumserve.com (Optum contact)

- **Indiana OptumServe and LHI COVID-19 Task:** LHI and OptumServe led a testing/vaccine initiative for the State of Indiana. Served as the lead data visualization developer for the LHI COVID-19 Testing Dashboard, building dashboards in Tableau to look at the COVID-19 daily testing and information, including county, site profiles, and volumes. Provided the daily dashboard refresh; responsible for publishing the daily dashboard to the Indiana Family and Social Services Administration (FSSA) Tableau server.

  – Indiana Family and Social Services Administration; Steve Johnson, PhD, steve.johnson@lewin.com (Optum contact)

- **Head Start Monitoring Project:** The Head Start federal project monitors grantees' compliance and adherence to the conditions for grants from the Office of Head Start, United States Department of Health and Human Services. Performs data manipulation and query optimization in SQL and works as a Tableau dashboard developer, building the Family and Community Engagement (FCE) Content Area dashboard.

  – DLH Danya (prime contractor); LaToia Frayer, Project Director, LaToia.Frayer@dlhcorp.com; Bert Sorongon, bert.sorongon@lewin.com (Optum contact)

- **Indiana Substance Use Disorder (SUD) Indiana FSSA SUD Support:** Developed an Annual SUD Prevalence dashboard in Tableau which looked at SUD prevalence rates among the different SUD categories such as opioid, cocaine, cannabis, benzodiazepines among rural or urban counties, as well as by other SUD population stratifications. Interfaced with behavioral health data.
  - Jennifer Weil; Jennifer.weil@lewin.com (Optum contact)
  - Indiana Family and Social Services Administration; Amy Gilbert, Chief Science Officer, Indiana Family and Social Services Administration, amy.gilbert@fssa.in.gov

- **South Dakota Data Analytics:** Work as part of the data analytics team performing weekly dashboard refreshes and uploads to the client's Tableau Server.
  - Katrina Drager; katrina.drager@lewin.com (Optum contact)
  - Department of Social Services Division of Economic Assistance, State of South Dakota; Scott Johnson, scott.johnson@state.sd.us

- **Sigma/Optum Veterans Health Administration (VHA) Suicide Prevention Data Hub:** The project objective was to create an integrated and innovative data analytic platform capable of generating multiple dashboards and reports to serve the needs of the VA and the broader public health community. Developed dashboards for separations, issue briefs, and surveillance navigator in Microsoft's SQL Server Reporting Services (SSRS).
  - Todd Ruppel; todd.ruppel@lewin.com (Optum contact)
  - Office of Mental Health and Suicide Prevention; Todd Ruppel, todd.ruppel@lewin.com (Optum contact)

- **West Virginia Opioid Analytics:** Developed various Tableau reports, dashboard updates, maintenance, and quarterly refreshes on the West Virginia Opioid Module. Applied health care business knowledge and key concepts in data analysis to develop routine and ad hoc analysis. Researched and identified new approaches and methods to facilitate operational efficiencies. Compiled the latest quarterly MCO data, added the data to the existing CSV files, updated Tableau extracts within the dashboard, conducted quality review/testing, and delivered the latest version to the client.
  - Dave Schafer; dave.schafer@lewin.com (Optum contact)
  - West Virginia Bureau for Medical Services; Dave Schafer, dave.schafer@lewin.com (Optum contact)

- **New Jersey Delivery System Reform Incentive Payment (DSRIP) Program:** The program is designed to provide incentives to hospitals for implementing quality initiatives within their community and achieving measurable, incremental clinical outcome results demonstrating the initiatives' impact on improving the State's health care system. Executed and validated quarterly quality measure codes in SQL.
  - Kai Wong; kai.wong@lewin.com (Optum contact)
  - PCG (prime contractor); Patricia Perazzelli, pperazzelli@pcgus.com

Tableau Developer and Analyst, Mercy Hospital, Missouri, 2015 – 2018

Mercy Hospital operations included a big data project to continuously collect data such as lab tests, prescriptions, and payments through its Epic health system. The project developed a data management infrastructure that allowed leveraging all the information to improve the quality and efficiency of the health care services delivered.

- Developed visual analytics and dashboards to allow the physician and scheduling team information on procedure times in order to reduce patient wait time, and readmission information to deliver the most efficient services and reduce patient readmission rates
- Designed reports according to client requirements and created the reports using Microsoft Excel files, SQL servers, and Oracle databases

- Created, organized, and customized analysis and visualized projects and dashboards; created demos in Tableau Desktop and published them on the Tableau Server
- Provided ad hoc reporting, tables and listings, and graphs for clinical trials data, regulatory submissions, risk-based monitoring, and publications using SAS, and other software
- Completed extraction, transformation, and loading of data directly from different source systems like flat files, Excel, Oracle, and SQL Server

Tableau Developer, Data Analyst, Fort Sill National Bank, Oklahoma, 2011 – August 2015

The bank embarked on an initiative to change from a product-centric to customer-centric business by examining the data from their enterprise data warehouse and data marts to improve growth and the customer base.

- Analyzed the enterprise data warehouse and data marts data to identify trends in business growth and increase the customer base using visualization through Tableau Desktop
- Conducted data validation by writing several complex SQL queries
- Created views and database triggers, stored procedures, and functions using SQL so information entered by a certain work manager could make appropriate changes to the respective tables
- Performed ad hoc reporting analysis and manipulated complex data on MS SQL server

Education

- Bachelor of Science, Accounting and Information Science, University of Lagos, Akoka, Lagos, Nigeria

Technologies or Software

Technologies or Software	
Technologies or Software	- Databases: MS SQL Server 2005/2008/2012, MySQL 5.2, 5.7, Oracle 9i, 10g, 11g, DB2
	- Extract, Transform, Load/Other Tools: SSIS (Visual Studio), erwin Data Modeler, Epic Healthcare System
	- Querying Tools: SQL Management Studio 2008/2012, SQL Plus, SQL Developer, SAS
	- Querying language: SQL, PL/SQL, TSQL
	- Business Intelligence Tools: Tableau 9.3, 10.5, 2020.1, Power BI, MicroStrategy, Excel, SSRS
	- Operating Systems: Win XP, Vista, 7, Windows Server 2003, 2008(X32, X64), Unix
	- SharePoint, Microsoft Office Suite (Word, Excel, PowerPoint, Access, and Visio)

UNIVERSITY OF LAGOS

Kalu Kalu Onuma

of

The Faculty of Business Administration

having completed the course of study approved by the University and
satisfied all requirements for the award of a degree has on

30th March, 2005 been admitted by the Senate

to the degree of

Bachelor of Science
Accounting

with Second Class Honours (Lower Division)

_____
Registrar

_____
Vice-Chancellor