STATE OF WEST VIRGINIA

WV DEPARTMENT OF EDUCATION AND THE ARTS

GAP ANALYSIS OF EARLY CHILDHOOD DATA SYSTEMS

RESPONDENT: JOHN SNOW, INC.

FEDERAL TAX ID NUMBER: 04-257-8580

JSI DUNS: 09-150-0090

SUBMITTED TO:

WV DEPARTMENT OF EDUCATION AND THE ARTS

STATE CAPITOL COMPLEX BUILDING 5, ROOM 205

ATTENTION: GRETCHEN FRANKENBERRY

1900 KANAWHA BLVD, E

CHARLESTON, WV 25305

Submitted by:

John Snow, Inc.

44 Farnsworth Street

Boston, MA 02210-1211

Contract Manager:

Michael P. Stelmach

Health IT Projects Director

Telephone: 617.385.3764

Fax Number: 617.482.0617

E-Mail: mstelmach@JSI.Com

[Type text]

Table of Contents

1. Executive Summary

1.1 Understanding of the Services and Standard Terms and Conditions

The Early Childhood Advisory Council of West Virginia (ECAC) has identified the need for a comprehensive early childhood data system (ECDS) and seeks to gain more information on what early childhood data is currently being collected within the State and what data needs to be collected in order to answer key early childhood policy questions. The ECDS will provide an integrated resource for collecting and providing information on the State's early learning programs, educators and children receiving services.

To be successful, the ECAC will formalize their policy questions and compare these questions to a defined data set – the Common Education Data Standards (CEDS). After ensuring alignment between the policy questions and CEDS, an assessment will be performed across participating agencies, programs and their data systems to determine the extent to which CEDS compliant early childhood data is being collected. This gap analysis will influence the subsequent strategy for enhancing existing systems and developing new capacity as envisioned through the ECDS.

The likelihood of successfully implementing an integrated information technology system across an extended enterprise environment depends on several critical success factors. First, the ongoing commitment to early learning as demonstrated by the ECAC serves as a foundation for the initiative. Second, a system architecture must be defined that leverages existing technology-based systems while developing more strategic data collection, data management and service-based capabilities. Third, a business model supporting collaboration, communication and accountability must be implemented to ensure that plans are executed effectively and that progress is monitored and communicated to all participating parties. Fourth, human resources and financial commitments must be made to ensure that systems will be successfully developed, implemented and sustained. Finally, a system of monitoring and evaluation must be implemented to ensure that the employed technologies have the desired impact on the agencies, programs and staffs they are designed to support.

Under the leadership of the ECAC, West Virginia has demonstrated a commitment to understanding these critical success factors and prioritizing efforts to improve data collection and implement the ECDS. The ECAC has demonstrated an understanding of the opportunities and challenges associated with the development of integrated information systems or an "enterprise system" in support of collaborating service delivery organizations. This project will address the challenges associated with data

standardization, data quality improvement and the development of a system architecture that will serve as a strategic framework for improved data collection, data analysis and reporting. Specific activities associated with this project will include:

- In collaboration with the ECAC Research and Data Committee, JSI will finalize the State's 10 (or less) essential policy questions.
- Assisting the ECAC Data Committee in creating a comprehensive list of data elements necessary to answer the policy questions that have been compiled by the Early Childhood Advisory Council of West Virginia's Research and Data Committee.
- Conducting a program by program analysis of where the State collects relevant data to answer the policy questions and identify what additional data needs to be collected.
- Mapping of existing and recommended data elements to CEDS.
- Developing recommendations for each agency on how to get existing and recommended data up to CEDS.
- Determining a protocol for addressing conflicting data when multiple agencies collect the same data element.
- Developing recommendations and options on how to best organize/structure the proposed Early Childhood Data System which would combine data from all agencies whose data are necessary to meet CEDS and answer the critical policy questions.
- Submitting a final report to the ECAC documenting all project activities, findings and recommendations.
- Participating in weekly correspondence and communication with the ECAC Executive Manager.

1.2 JSI Qualifications

Over the past ten (10) years, JSI's Health Information Technology staff has been engaged in numerous projects for evaluating healthcare and public health service delivery organizations and their IT infrastructures, formalizing strategic plans for maximizing the use of technology, and supporting implementation efforts to ensure realization of goals and sustained transformation of organization business practices and service delivery. In the past year, JSI has worked in the State of Illinois with the Governor's Office of Early Childhood Development to develop a strategy for the creation of an early childhood data system which is very closely aligned with the plans of the ECAC in West Virginia. . Through

these many projects, JSI has developed a consistent and highly effective approach for organizing collaborating organizations, developing highly effective engagement strategies, conducting information gathering and review efforts, and developing plans for the development and implementation of strategic and highly integrated information systems across extended enterprise environments. A brief overview of JSI's approach to fully support engagements of this type is represented below.

- Engage the client's leadership team representing the needs of the community and form a collaborative business plan, project plan and communications guidelines that will support the project.
- Interview or survey constituents to understand business relationships, business practices, programmatic requirements, current and planned technologies, and long term needs relative to the envisioned system.
- Evaluate relevant in-state, other-state and national initiatives that may offer best practices, lessons learned and resources that will positively impact the project.
- Understand policy influences such as HIPAA, State privacy law, business related policy considerations and other relevant privacy/security mandates.
- Perform gap analysis between existing and planned business practices, data, technology standards and systems.
- Develop functional requirements specifications, system design and technical architecture necessary to support the envisioned system as well as the planned transition from the current to the planned environment.
- Develop RFIs and/or RFPs and associated vendor engagement processes that will ultimately support the delivery of the envisioned system.

1.3 JSI Relevant Experience

JSI has over ten years experience with various nation-wide initiatives promoting interoperability of the nation's healthcare system. These initiatives provide a standards-based framework that can be used as a foundation for planning efforts for integrated data systems such as the ECDS. Similar efforts to develop technology standards and best practices are now underway in the education sector and will also be used to inform this project. Building on our healthcare systems integration experience and our years of experience in early childhood programming, JSI recently ventured into the early

childhood/education sector to assist in planning and evaluating their systems integration initiatives. JSI has significant experience in early childhood program planning, evaluation, coordination of services, and systems building at the federal, state, and local level. JSI is well positioned to leverage experience and expertise in both areas (i.e., systems integration and early childhood) to assist states in their efforts to develop integrated and aligned information systems that will be used to inform early childhood policy, programs, and practice. JSI's involvement with both planning and implementation of state-wide health information exchange networks and planning of a state-wide cross sector integrated information system for the early childhood development and learning environment provides invaluable experience for this project.

JSI understands that planning efforts must be balanced against the practical limitations of the existing information systems infrastructure and business environment. Real world considerations of limited resources, financial constraints, legacy applications and technology infrastructure, policy and political constraints, and competing priorities also play significant roles. All these issues must be taken into consideration when evaluating any business system and setting a strategic direction for the use of information technology. The following is a list of relevant projects that have enabled JSI to develop this perspective and capabilities in support of systems integration projects.

- **Illinois Unified System Planning Project** - Jn 2012, JSI was contracted by the Illinois Governor's Office of Early Childhood Development to conduct a planning process for the development of an integrated, inter-agency, cross-sector early childhood information system (the Unified System). The intent of the Unified System is to bring together select early childhood-related data collected across State agencies, departments, and programs and their respective information systems in an effort to better understand the early childhood population and the programs and workforce that serve this population, and to address key policy questions that will ultimately inform policy, resource allocation, and practice. The goal is to improve programs, services, opportunities and the well-being of children 0 to 5 in Illinois. Broadly, the scope of work involved in developing a plan for Illinois' Unified System has included: (1) a stakeholder engagement and information gathering process (e.g., key informant interviews and focus group discussions); (2) analyses and recommendations on data standards including a gap analysis of the data currently collected with CEDS and a review of the State's key policy questions and their alignment with CEDS; (3) a review of and recommendations for the use of unique identifiers within the Unified System; (3) development of a system design and technical architecture that considers, coordinates, and links efforts of other systems

integration efforts in the State and to Head Start data; (4) the provision of recommendations for interagency policy, governance, security, and staffing related to the Unified System; and (5) the development of an RFI for a data system design that will inform the creation of an RFP for services to build the Unified System.

- **DHHS Region I, Title X Data Management System Development and Implementation (Boston, MA)** – JSI was contracted by the DHHS Region I Office of Family Planning (OFP) to design, develop, implement, and operate a regional health information exchange and data management system in support of Region I Title X Family Planning grantees. As part of this contract, JSI worked with a Regional Data Committee comprised of grantee and OFP staff to harmonize a set of data requirements to meet both existing Family Planning Annual Report (FPAR) and organization-specific data needs. JSI was responsible for project management for system development and implementation at over 200 sites in the region representing nearly 400,000 annual Title X encounters in just over a 12-month period in 2004/2005.

- **Delaware Health Information Network (DHIN; Dover, DE)**

  JSI served as the Quality Assurance Oversight vendor for this project. The DHIN supports data exchange across the three largest hospitals in the state, their affiliated private practices, and state and private sector laboratories. The network went live in March 2007 and currently supports the exchange of admission, discharge, transfer (ADT) information and laboratory/pathology/radiology orders and results, transcription and a statewide master patient index. JSI's participation with the project in the role of QA Oversight vendor involves providing review of technical and project support documentation, participating in planning and project review sessions, and providing resources to support QA testing cycles.

- **Office of Health Information Technology (OHIT), Health Resources and Services Administration (Rockville, MD)**

  JSI has been engaged with OHIT over the last two years on an initiative to identify the key health information technology needs of program grantees and to develop a strategic roadmap to meet those needs. JSI has provided recommendations and developed triage protocols for the establishment of a *Health Information Technology (HIT) Technical Assistance Center* at HRSA. Technical assistance (TA) efforts are targeted to supporting the data informed decision-making needs of HIV and AIDS, maternal and child health, and primary health care services providers for at-risk, high-poverty populations across all 50 of the United States.

- **Uniform Data System – Bureau of Primary Health Care (Rockville, MD)**

  JSI was contracted by the HRSA Bureau of Primary Health Care to develop and implement an automated system for collecting, validating and disseminating Uniform Data System (UDS) information from all Federally-Qualified Health Centers (FQHCs) and National Health Services Corps sites across the country. The information is collected from 915 reporting organizations, representing thousands of primary care delivery sites ranging from underserved inner-city urban to remote rural and frontier locations. The capacity of these agencies runs the full gamut from having sophisticated electronic practice management systems to being completely reliant on manual data tabulation and reporting.

- **Technical Assistance to Early Childhood Comprehensive Systems (ECCS) Grantees**

  JSI was contracted with HRSA's Maternal and Child Health Bureau to provide technical assistance to State Early Childhood Comprehensive Systems (ECCS) grantees. JSI worked with grantees from 47 states, Puerto Rico, Guam, Palau, the Northern Mariana Islands, and Washington, D.C. to provide strategic planning, collaboration development, and evaluation guidance as states were working to build and coordinate their early childhood systems.

- **Evaluation of Vermont's Early Childhood Professional Development System (Montpelier, VT)**

  JSI's Vermont office contracted with the Building Bright Futures State Advisory Council to assist in the evaluation of Vermont's early childhood professional development system. This evaluation included a comprehensive review of national recommendations on early childhood professional development systems and other state systems and practices; a profile of the system and its offerings; a qualitative analysis of stakeholder perspectives; and a gap analysis of the system. JSI provided recommendations on system data elements and data collection, integration and alignment of the system, and ongoing monitoring and evaluation of the system.

These projects represent recent relevant examples of JSI's consulting services to a variety of clients that range from regional collaboratives, to state-based initiatives, to support for federal health agencies. They epitomize the ongoing, collaborative relationships that JSI strives to build with each of its clients, but are in no way exhaustive. Numerous additional project examples can be found on JSI's Web site at www.jsi.com under the Projects link, as well as in the resumes for the proposed staff members in the attached appendix A.

2. Technical Approach

JSI's technical approach to the project has been developed over the past ten (10) years and is based on the successful completion of many similar information technology projects in both private sector and government sector settings. The following list provides a summary reference to our technical approach that suits this engagement. These activities will be reviewed in more detail in subsequent sections of this proposal.

- **Client Engagement** – This first critical step will ensure that the vendor/client relationship is well defined and productive from the outset of the project.
- **Formalize Communications Plan** – The client and JSI will formalize all collaborative and communications processes to ensure that information is shared and acted upon in a timely and effective manner.
- **Finalize Early Childhood Policy Questions** - In collaboration with the ECAC Research and Data Committee, JSI will finalize the State's 10 (or less) essential policy questions.
- **Formalize Early Childhood Data Standards** – JSI will assist the ECAC Data Committee in the creation of a comprehensive list of data elements necessary to answer the policy questions developed by the ECAC Research and Data Committee.
- **Review Data Collection Practices and Capabilities** – JSI will perform an extensive information gathering and review process of existing early childhood programs, including data collection processes and data collection capabilities of existing data systems.
- **Conduct Assessment and Evaluation** – JSI will review existing data collection capabilities and map these capabilities to recommended data standards (CEDS), culminating in the development of preliminary recommendations that will support system design and technical architecture specifications.
- **Provide Preliminary Recommendations** – JSI will develop recommendations for each agency on how to improve capacity to collect CEDS compliant data. Recommendations will include protocols for addressing conflicting data as well as recommendations for managing identity resolution.
- **Develop General Technical Architecture and System Design** – JSI will develop general technical architecture and system design specifications for the Early Childhood Data Systems including functional requirements specifications, process

flow diagrams, data specifications, technical interface specifications and operational specifications.

- **Produce Final Report** – The activities outlined, their findings, and resulting recommendations will culminate in a final project report developed by JSI. The final report will serve as a reference point and resource to inform subsequent efforts of the ECAC related to the ECDS initiative.

2.1 Client Engagement

Initial client engagement activities have a substantial impact on the likelihood of a successful outcome for the project. JSI will work with the ECAC, the project manager and other assigned staff to ensure that prerequisite relationships, understanding of the goals and objectives of the project and project plans are fully developed. Additional State resources will be engaged, typically through a kickoff meeting, at the discretion of the ECAC and project manager. Specific tasks include:

Task 2.1.1: Meet with the Project Manager

JSI will meet with the Project Manager within seven (7) days of the Effective Date of the Contract (EDOC). The goals of this meeting will be to introduce JSI's key personnel, discuss any administrative issues, and review preliminary plans for execution of the project. To support this discussion, JSI will provide a preliminary project plan as well as a meeting agenda two (2) days prior to the meeting. The Project Manager will provide or will provide reference to any available supporting documentation to assist JSI with ramping up on the project. Within three (3) days following this meeting, JSI will prepare and submit meeting summary notes to the Project Manager for review and approval.

Task 2.1.2: Environmental Scan

Systems integration projects, particularly those involving separate organizations, are fraught with challenges. Participating organizations have differing levels of involvement with, commitment to, and understanding of systems integration projects. Using existing available documentation and focused interviews with key leaders, JSI will validate assumptions and develop a thorough understanding of the current state of systems integration efforts, levels of commitment and involvement of participating agencies, relevant concurrent projects, and the overall expectations of the leadership team. Key considerations may include but are not limited to:

- Understanding the organizational structure and relationships of participating agencies.

- Identifying and engaging key leadership resources that will influence the engagement and can provide access to human and technical resources.
- Understanding the relevant projects that may influence the development of the ECDS.
- Understanding the information systems and associated key contacts within each of the participating agencies and programs.

Task 2.1.3: Develop and Submit Final Work Plan

Within five (5) days after completing the environmental scan, JSI will provide an updated work plan based on feedback received. The updated plan will outline the full scope of activities that will ensure a successful outcome of the project. The work plan will describe major tasks, key milestones, timeframes, resources, and task interdependencies. JSI will submit the refined work plan to the Project Manager for comment. Following receipt of comments from the Project Manager, JSI will update, finalize and deliver the final work plan to the Project Manager within three (3) days for final review and approval.

Task 2.1.4: Kick-off Meeting

At the discretion of the project manager and the ECAC, JSI will commence the public face of the project with a well-planned kick-off or project "launch" meeting. The purpose of the meeting will be to generate excitement for the project, to present stakeholders with a plan for future activities and expected outcomes, and to engage stakeholders in discussion of the project. The meeting will gather as many stakeholders as possible and will introduce the project team, the goals and expected outcomes for the project, the project management approach, and a high-level project plan and timeline.

In advance of the kick-off meeting, JSI will work with the ECAC and Project Manager as required to complete the following tasks:

- Schedule the time and place of the meeting
- Assemble a participant list and invite participants to the meeting
- Develop a complete agenda
- Provide presentations on project overview, project management approach, and a high-level project plan and timeline
- Lead discussion session with participants on goals, critical issues, risks, and concerns

Following the Kick-off Meeting, JSI will distribute minutes and materials provided at the meeting, meet with ECAC staff and the Project Manager to evaluate the meeting and plan next steps for the project.

2.2 Formalize Communications Plan

With input from the Project Manager, JSI will devise the required communications infrastructure to ensure healthy, sustained collaboration among project participants including organizational model, meeting schedules, status reports, and risk assessment and contingency planning. Specific tasks include:

Task 2.2.1: Formalize Meeting Schedules, Participants, and Logistics

Project Status Meetings: Working with the Project Manager, JSI will establish a regular schedule and venue for project status meetings. A list of participants will be formalized and they will be notified of the meeting schedule and expectations. These meetings will provide an opportunity for discussion of project progress, risks, barriers, and associated issues.

Project Status Reports: JSI will prepare a monthly progress report for submission to the ECAC, the Project Manager and other State resources as required. The format of the progress report will be determined in discussions with the Project Manager. Recommended topics will include:

- Progress and accomplishments
- Scheduled work for next reporting period
- Issues or delays with planned resolutions

Stakeholder Interviews: Working with the ECAC and the Project Manager, JSI will establish a thorough inventory of agencies, systems, and personnel who need to be invited to key informant interviews. A work plan specific to the interviews will be developed, as well as a common understanding of expectations and interview outcomes. As part of this process, JSI will develop an interview instrument that will serve as the structure for the interviews. Logistics on meeting locations and methods will also be developed.

Task 2.2.2: Formalize Performance Monitoring Guidelines

JSI is committed to monitoring our work and enabling our clients to monitor our work as well. JSI will work with the ECAC and Project Manager as required to formalize key performance indicators/milestones and to define performance metrics that will signify task completion and authorize subsequent activities including scheduled payments. The principle method will be monitoring of progress against the project plan. Tracking progress

against the project plan will enable JSI's performance to be measured and understood in the context of tasks, resources, milestones, and schedule. To further support performance monitoring, JSI will report progress and problems (with proposed resolutions), provide records of its performance, allow random inspections of its facilities, participate in scheduled meetings and provide management reports as requested by the ECAC.

Task 2.2.3: Formalize Risk Management and Intervention Approach

JSI will develop and implement a project risk management plan in conjunction with the Project Manager and the ECAC. The approach will involve ongoing assessments of task progress, identification of barriers to task completion, implementation of contingency plans, and reorganization of tasks as required to mitigate the negative impact of project risks.

- Risk Identification
  - Naming the risk: The risk will be identified, named, and scope will be delineated
  - Likelihood: The likelihood of the risk occurring will be assessed; typically this is documented as low, medium, and high
  - Impact: The impact on the project will be assessing; typically, this is also documented as low, medium and high
- Prioritization: Based on the assessment of risk likelihood and project impact, risks will be prioritized for attention and intervention
- Interventions: Working with the State, JSI will brainstorm methods for risk mitigation as early in the project as possible and will develop and execute action plans with the approval of the ECAC and Project Manager.

With the risk management and intervention plan in place, JSI will implement a structure to track and respond to emerging project risks. As part of our project reporting and monitoring discussed earlier, we will provide routine updates on risk planning and mitigation. Additionally, we will participate in project management sessions to address escalated risks and developed mitigation strategies.

2.3 Finalize Early Childhood Policy Questions

RFP Requirement: Participate in the finalization of the State's 10 (or less) essential policy questions, in consultation and collaboration with the ECAC Research and Data Committee.

States' policymakers often struggle to obtain answers to basic questions about their states' early childhood population, programs, policies, and workforce due to the siloed and uncoordinated nature of the programs and the information collected. The ECDS will bring together select early childhood-related data collected across State agencies, departments, and programs and their respective information systems in an effort to better understand the early childhood population and the programs and workforce that serve this population.

Key early childhood care and education policy questions intended to help policymakers, program administrators, and practitioners make informed decisions on policy, resource allocation, and practice will serve as the initial framework for the scope of the ECDS. That is, the policy questions will determine the data that will be collected in the ECDS.

Task 2.3.1: Finalize the State's Essential Early Childhood Care and Education Policy Questions

JSI will work with the ECAC Research and Data Committee to review and finalize the existing list of essential policy questions. Referring to national recommendations on key early childhood care and education policy questions for states, including those from the Early Childhood Data Collaborative, and our experience working with the Illinois Early Learning Council on a similar initiative, JSI will review the existing set of questions and provide recommendations to revise and prioritize the questions. Considering JSI's recommendations, the ECAC Research and Data Committee will determine and provide a final set of questions allowing JSI to move forward on Task 2.4.

2.4 Formalize Early Childhood Data Standards

RFP Requirement: Assist ECAC Data Committee in creation of comprehensive list of data elements necessary to answer the policy questions that have been compiled by the Early Childhood Advisory Council of WV's Research and Data Committee.

The vision of the ECDS is to serve as a point of data aggregation for multiple early childhood related programs and the data systems they employ (both existing and planned). The formalization of data standards is required to ensure that the participating agencies and programs understand the types of data that must be provided as well as the types of data and information that will be available through the ECDS. Compliance to data standards in and of itself will not ensure that the ECDS serves the needs of the West Virginia early childhood community. The data standards must support a defined set of data analysis and reporting requirements. The ECAC policy questions will be used to ensure that the ECDS meets these requirements. Key tasks include:

Task 2.4.1: Formalize Common Education Data Standards

JSI and ECAC will use CEDS as the standards-based framework to promote consistency in how data collection practices are evaluated relative to early childhood program management, monitoring and evaluation. A summary of CEDS Early Childhood Domain is provided in Table 1. JSI will review the CEDS web site and review current and planned versions and associated efforts for CEDS utilization in the early childhood domain. Using all available information, JSI will document CEDS entities, categories, data elements and code sets.

Table 1 – CEDS Summary Reference Table

CEDS Entities and Categories	Description and Data Elements
Child	
Contact	Where the child lives including street, city, state, zip code, county.
Demographic	Identifying characteristics of the child including DOB, gender, race, ethnicity, homeless status and program eligibility.
Developmental Assessments	Developmental screening status, evaluation finding (disorder type), disability type.
Educational Experiences	Details of early learning services received including current and prior program type, individualized programs, early intervention services received and program participation dates (application, enrollment, entry, and exit).
Health Information	Details of health services received including immunizations, dental/ hearing/ vision screening status, birth data and insurance coverage.
Identity	First name, last name, middle name, generation code or suffix.
Language	Language type and language code.
Family	
Family/Household Information	Family/household size, income and proof of residency.
Organization	
Organization Information	Organization name, address, telephone.
Program Characteristics	Child/staff ratio, hours/days available per week, program option, program

Table 1 – CEDS Summary Reference Table	
CEDS Entities and Categories	**Description and Data Elements**
	setting, QRIS info.
Site level characteristics	Site name, licensing info, ages served.
Staff	
Contact	Where the resource lives including street, city, state, zip code, county.
Demographic	DOB and gender.
Employment	Classification (job type), start date, hire date, employment status.
Identity	First name, last name, middle name, generation code or suffix, title.
Language	Language type and language code.
Staff Education/Training	Degrees, certifications and credentials.
Parent/Guardian	
Education	Education level completed.
Identity	First name, last name, middle name, generation code or suffix, title and relationship to child.

Task 2.4.2: Perform Comparative Analysis of CEDS and ECAC Policy Questions

Following completion of task 2.3.1, JSI will perform an analysis of the ECAC policy questions and the extent to which CEDS supports data analysis and reporting capabilities that will answer these questions. For each policy question, the CEDS entities, categories and data elements that might provide insight to the policy questions will be reviewed. In general, CEDS compliant data will provide policy-makers and early childhood stakeholders with:

- A profile of the children 0 to 5 in the State;
- A profile of the early care and learning programs serving the early childhood population in the State;
- A profile of the early childhood workforce in the State; and
- Information on early childhood assessments and evaluations.

For example, the policy questions potentially seek information to better understand: (1) who are the children age 0 to 5 in the State, where do the live, what are their socio-economic conditions, and what are their needs relevant to early care and educational development; (2) who is the early childhood workforce in the State, what are their qualifications and credentials, and what opportunities are available to grow and sustain a well-qualified workforce throughout the State; and (3) what early care and learning programs are available and where, what services and resources are offered through these programs, and are they meeting the needs of the West Virginia early childhood population?

For each of the ECAC policy questions, JSI will provide a CEDS analysis that reviews the relevant data elements and provides recommended data analysis and reporting capabilities that should be included in the system design of the ECDS. Prior to proceeding to the next step in the project, JSI will seek feedback from the ECAC and other relevant groups to determine if there is alignment between CEDS and the policy questions. The ECAC may decide to make changes to the policy questions as necessary to maximize this alignment and ensure that the ECDS is optimally positioned to support the West Virginia early childhood community.

2.5 Review Data Collection Practices and Capabilities

RFP Requirement: Conduct program by program analysis of where we collect the relevant data to answer the policy questions and identify what additional data needs to be collected.

Through this project, West Virginia is planning to develop the technical specifications of the ECDS which will provide consistent data collection, aggregation, analysis and reporting capabilities to support the many agencies involved with delivery of early childhood services. This phase of the project involves the review of the relevant systems within the WV Department of Education and the WV Department of Health and Human Resources. More specifically, the systems to be reviewed include:

- FACTS (Early Care and Education)
- WV Birth to Three
- WV Home Visiting Program
- WVIES (WV Pre-K)
- Head Start
- WV Chip

Task 2.5.1: Perform Analysis of Legacy Systems Data Collection Capabilities

JSI will review the technical documentation and data extracts of the early childhood data systems identified above and will document the data sets that are captured and more importantly, the data sets that are available for potential use by the ECDS. JSI expects that this analysis will include the following major sections:

- List of each data system: JSI will identify each data system that is part of this analysis. As part of this listing, we will identify the individuals interviewed and references to any documents reviewed.
- Analysis framework: JSI will document the criteria by which the systems will be reviewed. The criteria will include agencies and programs supported, database structure, database tables and supported data elements.
- Data extract capabilities: JSI will document the extent to which existing systems have the capacity to extract and share data with the ECDS. Data extracts must be made available to JSI to complete this task.
- Data quality analysis: JSI will document the consistency of the data collected and the extent to which it may be used to support the ECDS.

Task 2.5.2: Perform Analysis of Unique Identifiers

The ability to consistently and accurately identify individuals is paramount to the effectiveness of the ECDS. Incorrect or incomplete identifying information resulting in errors in finding client records, matching new records with existing records, or comingling data of multiple clients has immediate and severe consequences for any service delivery system.

Ultimately, the ability to consistently identify individuals that are enrolled in or are otherwise participating in the state educational systems will provide tremendous benefits on many levels. Unfortunately, this is no small challenge. The key factors include a) the consistent use of unique identifiers, b) the definition of appropriate person matching algorithms that make sense for multiple programs with differing data available to them, c) the consistent collection of the data required to support the algorithms, and d) the ability to implement and support person matching requirements across multiple systems, and e) the availability of operational and technical support resources to maintain the system.

JSI will review these considerations within the context of the participating agencies, the capabilities of their systems and the vision of the ECDS. Following this review, JSI will

provide recommendations for an approach to person matching across the integrated environment that will consider current best practices.

2.6 *Conduct Assessment and Evaluation*

RFP Requirement: Map existing and recommended data elements to the Common Education Data Standards (CEDS).

The Assessment and Evaluation approach, as represented in the following subsections is one of the more critical phases of the project. Today, the early childhood environment in West Virginia is supported by data systems that have been developed and operate in isolation relative to the other systems that support early childhood programs. The ECAC has made a commitment to the Common Education Data Standards (CEDS) that serve as the benchmark for data sharing and interoperability. CEDS provide a common set of standards and specifications for data content and quality necessary to support an integrated systems environment as envisioned by the ECAC.

It is important to understand that CEDS were not even contemplated when many of these systems were developed and therefore, CEDS standards are not fully implemented within these systems. This limitation however, should not restrict planning and systems development efforts that have data standardization, data sharing, and interoperability as their goals. By establishing a commitment to data standards as well as a commitment to a strategic approach to systems integration and enterprise-wide systems design, the ECAC will ensure that interoperable systems will evolve as old systems are retired and new systems are designed, implemented and integrated into the broader systems environment.

This phase of the project will review compare the data collection and data sharing capabilities of existing early childhood systems and compare those capabilities with CEDS. Through this analysis, JSI will provide key findings and preliminary recommendations describing the extent to which the systems are CEDS compliant. The report will also describe the gaps between existing capabilities and CEDS compliance. To accomplish this, the following tasks will be performed:

Task 2.6.1: Perform Analysis of Legacy Systems CEDS Compliance

JSI will review the technical documentation and data extracts of the early childhood data systems identified above and will perform a gap analysis of these systems and their capacities to support CEDS. JSI expects that this gap analysis will include the following major sections:

- List of each data system: JSI will identify each data system that is part of this analysis. As part of this listing, we will identify the individuals interviewed and references to any documents reviewed.
- Analysis framework: JSI will document the criteria by which the systems will be reviewed. The criteria will focus on the CEDS framework including entities, categories, data elements and code sets and the data extract capabilities reviewed in task 2.4.1.
- Gap analysis: JSI will perform a gap analysis of the data available from legacy systems and the extent to which the data is CEDS compliant.
- Mapping requirements: JSI will document the extent to which the data extracts may require data mapping and other data quality related efforts in order to maximize CEDS compliance.

2.7 Provide Preliminary Recommendations

RFP Requirement: Develop recommendations for each agency on how to get existing and recommended data up to the CEDS.

Determine protocol for addressing conflicting data when multiple agencies collect the same data element.

While the CEDS review provided in section 2.4 describes the extent to which CEDS supports the ECAC policy questions, that analysis is, for the most part, an academic exercise. A much more practical perspective is obtained when comparing CEDS to the data collection and reporting capabilities of the existing systems within the West Virginia early childhood environment. That analysis will be performed as described in section 2.6.

Through task 2.6.1, the existing West Virginia early learning systems will be reviewed and as part of those reviews, system compliance with the CEDS early learning standards will be evaluated. The results of those evaluations will be provided in a summary table on a system-by-system basis. The table will provide an "at-a-glance" snapshot of CEDS compliance of the entire early childhood-related systems environment. In simple terms, it will show issues associated with data quality and more importantly, data availability within these systems. Examples of the recommendations that will be provided include:

- Level of compliance with CEDS standards.

- The extent to which an ECDS data translator may allow non-compliant data sets to be supported.
- The extent to which demographic data may support identity resolution requirements within the ECDS.
- Recommendations for data quality improvements that will improve potential of data sharing with the ECDS.
- Recommendations for the use of unique identifier(s) and other identifying information.
- Recommendations for identifying and resolving data conflicts among participating systems.

2.8 Develop General Technical Architecture and System Design

RFP Requirement: Develop recommendations and options on how to best organize/structure the proposed Early Childhood Data System which would combine data from all agencies whose data are necessary to meet CEDS and answer the critical policy questions.

West Virginia has conceptualized an Early Childhood Data System (ECDS) that will provide data analysis and reporting capabilities that address the ECAC policy questions. Existing State systems will be incorporated into the system design to the degree practical. Critical requirements of the ECDS will include:

- Complies with the Common Education Data Standards and Common Early Childhood Data Standards
- Enables uniform data collection and easy entry of data by participating programs and state agencies;
- Facilitates data exchange among participating state agencies;
- Provides operational, auditing and other accountabilities to ensure the security and accuracy of data;
- Provides consistent and timely person identifier capabilities for EC workforce and children.
- Captures workforce and student data as required to support early childhood birth to five agencies and programs.

Using the information collected in prior tasks as represented in this proposal, JSI will perform a structured technical architecture and general system design process as described in the following sections. This process will result in the delivery of a "Technical Architecture and System Design Specification".

2.8.1 Develop System Architecture

The technical architecture for a system is a high level description of system features and capabilities. The technical architecture can be described as a series of building blocks or modules, each with its own features and functions. It is important to note that the technical architecture does not contain elements of system design. System design describes the internal working of the architectural components and will be developed as part of the next task. The technical architecture will be described in modular fashion so that the overall complexity of the system can be simplified. The modular approach provides benefits in other areas as well. A modular approach supports the evolving nature of the system. Modules that are more relevant to immediate needs can be built sooner than other modules. Also, varying solutions and technologies can be used for different modules, ensuring the use of the least costly and most effective technologies. Finally, as the system evolves and new requirements are identified, modules can be added in a seamless fashion, thereby reducing or even eliminating the need for existing modules to be updated or replaced. The system architecture will consist of the following features:

- **Overarching Themes:** A series of technology-based best practices as well as a set of business related considerations must be understood and agreed upon prior to formalizing the technical architecture.
- **Conceptual Framework:** A broad-based conceptual framework will be provided to represent the system at the highest level.
- **Modular Components:** The conceptual framework will be reviewed in more detail as a series of functional modules that collectively represent all system functionality.
- **Module Core Functions:** Each module provides specific functionality that is not duplicated within the other components.
- **Architectural Views:** The system will be described within the context of specific system functions that typically require interaction between two or more modules. These capabilities will be described in the context of specific business processes.

2.8.2 Develop System Design

JSI will use the information collected in the prior tasks to document the system design specifications of the ECDS. JSI will use standard approaches for the development of concise and objective system-level functional requirements. The functional requirements will be categorized as follows:

- **System Users:** System users represent the entire community of program administrators, early childhood workforce, program support, researchers and system support staff that are authorized to use the ECDS. The ECDS will be accessed via a web services interface that will provide structured and secure access to all ECDS business and administrative services.
- **Business Services:** are an expanding set of value-added software services that provide system users with the ability to share data as well as a set of tools that provide access to early childhood data stored in the system. Business services also include capabilities such as dashboard, query, data analysis, reporting and other business functions.
- **Core Services:** To support the continued operation of the system, a set of system operational and administrative capabilities will be developed. These tools allow technical support and system operations staff to monitor, operate and manage the system in an ongoing manner. These tools enable management of organizational and role-based hierarchies, directory services for managing users and providers, master client index and identity resolution utilities for managing person identities across multiple data sets, and other administrative services such as report processing, auditing and control functions.
- **Data Stores:** A set of operational data stores will support data collection, data analysis, data reporting, data security and system operations. Data stores used for program data associated with children, families, workforce and programs will be structured to comply with Common Education Data Standards (CEDS). Other data stores will be designed to support administrative functions.
- **Data Exchange:** A set of modules will support data collection, data normalization and data management between the ECDS, legacy early childhood systems and other systems that share data with the ECDS. Key features of this module include vocabulary service for normalizing disparate data, messaging and translation service for exchanging data between systems, record locator service to support federated data sharing, and a batch file exchange service.
- **Legacy Systems:** Early childhood and administrative data systems will be "integrated" (federated model) or "affiliated" (centralized model) with the ECDS depending on system capabilities and the business requirements of the ECDS.

2.9 Submit Final Report

RFP Requirement: Submit final report.

Relevant information gathered, findings, and recommendations from tasks 2.1 through 2.8 will be documented in a final project report. This report will serve as a resource for the ECAC and other stakeholders to inform subsequent efforts related to the ECDS initiative. Specifically, the final report will include the following:

- Comprehensive list of data elements necessary to answer critical policy questions.
- Program by program analysis of where WV does and doesn't collect the data necessary to answer the required policy questions.
- Recommendations for new data elements to be collected by each agency in order to answer the required policy questions.
- Map of existing and recommended data elements to the CEDS.
- Recommendations to each agency on how to get data up to CEDS.
- Define process/standards to figure out whose data when data conflicts.
- Recommendations on how to best structure and organize proposed Early Childhood Data System.
- The final project report will be submitted to the ECAC and Project Manager five days prior to the end of the contract to allow for review, feedback, and final revisions.

3. Personnel

All staff resumes are included in Appendix A.

Michael Stelmach, MBA is the Health Information Technology Projects Director at JSI and will serve as the Project Director. As the project director, he will be responsible for ensuring the timely completion of all deliverables and that the JSI project follows the proposed timeline and work plan. Michael has spent 30 years providing Information Systems expertise in various technical and managerial roles with a variety of service organizations in the private sector. Over the past ten (10) years, Michael has applied his experience to the Health Information Technology (HIT) and health information exchange (HIE) arena and has served in a variety of technical and managerial leadership roles in this domain.

Fonda Ripley, MHS is a Staff Consultant at JSI and will serve as Early Childhood Development Program Leader. In this role, Fonda will provide program area expertise to support the review, information gathering and analysis activities associated with this

project. Fonda has eight years of professional public health experience involving project planning and management; research analysis and writing; monitoring and evaluation; and data management and analysis. As a Consultant with JSI, Fonda's work is multifaceted, fulfilling several roles including Project Manager and Task Lead as well as applying a diverse skill set for various public health projects. Recently, Fonda led a review and evaluation of Vermont's early childhood professional development system. As Project Manager, she established and facilitated an Advisory Workgroup of key early childhood stakeholders to conduct a utilization-focused evaluation, employing both qualitative and quantitative methodologies (environmental scan, data inventory, key stakeholder interviews, focus groups, gap and SWOT analyses) to profile the system, including system components, system policies, and system data collection mechanisms, data sources and data elements. A comprehensive review of the national recommendations for early childhood professional development systems, other state models and project evaluation findings were integrated into a final report on the system offerings, the data currently collected, recommendations for additional data collection, and recommended mechanisms for aligning and integrating the system offerings and data.

Appendix A – Resumes

MICHAEL STELMACH

JSI, 44 Farnsworth Street, Boston, Massachusetts 02210 (617) 482-9485 mstelmach@jsi.com

Education

CLARK UNIVERSITY, WORCESTER, MASSACHUSETTS

MBA, Focus in Operations Management, 1994

WORCESTER STATE COLLEGE, WORCESTER, MASSACHUSETTS

B.S., Major in Business Administration and Computer Science, 1989

Experience

JOHN SNOW INC., BOSTON, MA

Health Information Technology Projects Director, October 2001 to present

Provide health IT consulting services to public and private health sector organizations specifically focused on implementing technology and integrating systems in order to improve quality of care, patient safety, the cost effectiveness of care delivery, as well as the general availability and accessibility of health and social services to clients.

Selected projects:

Illinois Unified Early Childhood Data System, *2012 to present*
Project Manager: Provide leadership and project management responsibilities for the overall project. Project tasks include stakeholder engagement, research and system analyses, and early childhood program review to inform the development of a statewide early childhood unified data system. This project involves extensive stakeholder engagement, information gathering, and analysis of a variety of early childhood programs and information systems across Illinois state agencies and organizations to develop a plan for a system that brings together key data across early childhood programs throughout the state. The system will align data standards; enhance the ability to track child, family, and provider outcomes; and improve data informed decision making around early childhood policy and resource allocation.

Title X Region I Family Planning; October 2001 to present
Technical analyst and project manager responsible for the development, implementation and ongoing management of the Region I Title X System. The internet-based health information exchange and program registry provides client intake, data collection, analysis and reporting capabilities in support of the Title X program for over 250 Family Planning sites across New England. Responsibilities include system management, vendor management, bi-monthly reviews with Executive Committee, and operational, customer service and technical support for the data system on an ongoing basis.

California Family Health Council; January 2005 to present

Technical analyst and project manager responsible for the implementation and technical support of the Centralized Family Planning Data System. The internet-based health information exchange and program registry provides data collection, aggregation, analysis, and reporting capabilities in support of the Title X program for over 60 delegate agencies across the state. Responsibilities include organizational assessment, site surveys, requirements gathering, system development, implementation and technical support.

Try to Stop Quitline; March 2010 to present
Provide technical support for the development and implementation of an eReferral data exchange system. The internet-based system provides data capture, translation, routing and quality control for processing eReferrals between healthcare providers and the centralized Quitline system. Responsibilities include data analysis, system configuration, system operations and quality control.

AHRQ Health IT Project Monitoring and Reporting; January 2010 to May 2010
Serve as technical resource for reporting and monitoring of the AHRQ Health IT grantees. The project aims to promote and enable information sharing and synergy across projects; disseminate information about the projects themselves (e.g., project focus, types of health IT applications used, challenges and innovations), findings, tools and other 'outputs' (e.g., publications, surveys) with the health IT community at large; and enable the annual evaluation of the effectiveness of the AHRQ Health IT portfolio's activities.

Connecticut State Health Information Technology Plan; June 2008 to June 2009
Serve as project director for the development of a statewide strategic plan supporting the creation of a statewide regional health information organization (RHIO) and the development of a statewide health information exchange network. The project involves stakeholder interviews, focus groups, legislative engagement, RHIO formation and the development of plans for 2-4 health information technology pilot projects.

Rhode Island DPH Ryan White HAP Client Level Data Collection System; March 2008 to Jun 2009

Serve as technical consultant for the development of a data collection and reporting system supporting Ryan White HIV/AIDS Program service providers across the State. The project involves review of guidance from the HIV/AIDS Bureau (HAB), engagement with service providers to review their organizational and technical capacity to meet project requirements, ongoing project meetings with RI DPH leadership, and the development of business and functional requirements of the system. The project also involves the design, development, and implementation of a data exchange utility to support the sharing of personal health information between participating service providers and the Rhode Island Department of Health.

Delaware Health Information Network; September 2006 to June 2009

Serve as quality assurance technical analyst for the system development and implementation of the Delaware Health Information Network (DHIN). The project involves the design, development, and implementation of a data exchange utility to support the sharing of personal health information between participating healthcare organizations. Responsibilities include review and acceptance of all project related documentation, provision of technical assistance to member healthcare organizations, participation in all project meetings, and QA testing of software applications.

Wyoming Electronic Health Record Study; December 2004 to December 2005
Serve as technical analyst for the Wyoming Electronic Health Record Study. This project is reviewing electronic health record projects at national, regional, and local levels; is reviewing government perspectives on the strategy for developing a national health information network; and is reviewing perspectives of Wyoming healthcare constituents as well as current and planned health information technology (HIT) projects in the State of Wyoming. The goal of the project is the development of a strategic plan that will enable the state to develop a statewide electronic health record.

Maine Bureau of Health; October 2003 to April 2005

Serve as technical analyst for the implementation of the Integrated Public Health Information System (IPHIS). The project involves requirements gathering, technical and business systems assessment, RFP development, vendor review and selection, and vendor oversight throughout the systems development, integration, and implementation process. The system utilizes Public Health Information Network (PHIN) standards and the CDC sponsored National Electronic Disease Surveillance System (NEDSS) as the foundation for the project.

Lighthouse Health Access Alliance; October 2002 to September 2004
Serve as Information Systems Consultant with project management responsibility for the development and implementation of an Integrated Information Systems environment serving Lighthouse members. The members of the Lighthouse collaborative include all of Cape Cod's community based health centers, all the hospitals in the region (4), and a broad array of social service organizations totaling over eighty (80) sites. The project involved technology assessment, strategic plan development, RFP development, vendor engagement and selection, and phased implementation (ongoing) of a series of IT related initiatives in support of the strategic plan.

Belknap-Merrimack Community Action Alliance; April 2002 to March 2004
Quality Assurance Testing Manager responsibility for the implementation of an Internet based Electric Assistance Program/Fuel Assistance Program application. Responsible for convening, facilitating and documenting meetings between system users/testers and the software vendor. Coordinated all testing activities throughout the testing cycle. Following acceptance and resolution of all submissions to the vendor, managed the completion of the quality assurance cycle through implementation of the system in the production environment.

Health Insurance Portability and Accountability Act; October 2001 to present
Corporate resource for HIPAA. Provide on site consulting for HIPAA compliance efforts and training sessions as required to meet client needs.

YMCA of Greater Boston, Boston, Massachusetts
Information Systems Consultant, May 2001 to October 2001
Project management responsibility for the design and implementation of Application Service Provider based information system supporting the YMCA of Greater Boston. This initiative provides membership management, program management, general ledger, and desktop services to subscriber YMCAs across New England.

OrderTrust, Lowell, Massachusetts
Vice President, Operations, November 1995 to December 2000
Provided executive leadership, vision, and strategy for the build out, maintenance, and enhancement of information systems, (desktop, servers, network and database) computer operations (24x7 data center), and customer service functions. OrderTrust provides supply chain management services connecting Internet web merchants to their outsourced sources of supply.

Medical Center of Central Massachusetts, Worcester, Massachusetts
Manager, Computer Services, April 1991 to November 1995
Responsible for all aspects of the development and continued operation of a dynamic, multi-site, multi-system technical services/computer operations department. Assisted in the development and implementation of an Information Systems five year strategic plan. Project coordinator for all IS related projects (Microsoft Project). Responsible for AS/400 systems administration including save/restore strategy, licensed program installation and upgrades, performance tuning, and system configuration Coordinated the development, testing, and maintenance of the Corporate Disaster Recovery Plan.

FONDA (KINGSLEY) RIPLEY

JSI, 47 Maple Street, Burlington, Vermont 05401 (802) 651.7408
fripley@jsi.com

Education

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH, BALTIMORE, MARYLAND

Master of Health Science, Population and Family Health Sciences, May 2005

Track: Reproductive, Perinatal and Women's Health

Certificate in Maternal and Child Health

STATE UNIVERSITY OF NEW YORK AT PLATTSBURGH, PLATTSBURGH, NEW YORK

Bachelor of Arts, Biology/Pre-Medicine, 2001

Experience

JSI, Burlington, Vermont

Consultant, 2011 to present

Projects:

Illinois Unified Early Childhood Data System, *2012 to present*
Early Childhood Systems Analyst. Provide stakeholder engagement, research and system analyses, and early childhood program review to inform the development of a statewide early childhood unified data system. This project involves extensive stakeholder engagement, information gathering, and analysis of a variety of early childhood programs and information systems across Illinois state agencies and organizations to develop a plan for a system that brings together key data across early childhood programs throughout the state. The system will align data standards; enhance the ability to track child, family, and provider outcomes; and improve data informed decision-making around early childhood policy and resource allocation.

Centers for Disease Control and Prevention (CDC), Teenage Pregnancy Prevention: Integrating Services, Programs and Strategies through Community-Wide Initiatives Program, *2012 to present*
Tool Developer. Conceptualize and develop tools to assist CDC grantees in addressing teen pregnancy in their communities. Tools include communicating and messaging to stakeholders on social determinants of health and teen pregnancy, and presenting data and facts to decision-makers.

Vermont Department of Health, Oral Health Coalition, *2012 to present*

Analyst and co-facilitator for strategic planning of the Vermont Oral Health Coalition and update to the State Oral Health Plan. Assist with the strategic planning process for the Coalition, including development of bylaws, co-facilitating Coalition meetings, and drafting a business plan and market analysis. A

comprehensive literature review and key informant interviews will guide the update of the Plan; and revised goals, objectives, and strategies will be developed.

Health Information Technology Project Monitoring and Reporting, National Resource Center (NRC), Agency for Healthcare Research and Quality Health IT Portfolio, *2011 to present*

Grantee Analyst for the Agency for Healthcare Research and Quality (AHRQ) National Resource Center (NRC). Responsibilities include reviewing quarterly reports submitted by grantees; conducting quarterly discussions with grantees to ensure project progress and clarify any issues found in quarterly reports; reviewing and categorizing new health IT grants and contracts; generating project profiles for new grants and contracts; and updating current project profiles with outputs as they are produced. Perform technical writing and editing for annual project summaries and grantee success stories.

Evaluation of Vermont's Early Childhood Professional Development System, *2011–2012*

Program Manager and Evaluator for the evaluation of the of Vermont's Early Childhood Professional Development System (ECPDS). Established and facilitated an Advisory Workgroup of key stakeholders to conduct a collaborative evaluation process, yielding a final report on the offerings of the system and the data currently collected; as well as an evaluation plan, recommended data points, data collection mechanisms, and evaluation tools for continuing with future monitoring and evaluation efforts. Evaluation methods included: an environmental scan of recommendations, best practices and other state models for ECPDS; a comprehensive review of Vermont's ECPDS including a data inventory; key informant interviews and focus groups; identification of performance measures; and a Gap analysis.

Vermont Department of Health, Vermont Asthma Evaluation, *2011–2012*

Evaluator for the evaluation of the State Asthma Program. Assisted with evaluation efforts related to implementing a comprehensive, five-year evaluation plan, as well as the development of evaluation plans for specific program initiatives. Using a participatory approach with the State Asthma Program and a community coalition, an evaluation plan and associated data collection tools were developed for an in-home pediatric asthma control pilot program.

Comprehensive Health Care Workforce Assessment, University of Vermont Area Health Education Center Program (UVM AHEC), *2011*

Analyst. Assisted in the quantitative and qualitative analysis of 50 health care professions and integrating results into in a comprehensive health care workforce assessment in collaboration with a statewide stakeholder group.

Johns Hopkins Bloomberg School of Public Health Center for Communication Programs, Baltimore, Maryland

Editorial Consultant, Knowledge for Health Project, (casual/on-call basis) 2009 to present

Provide editorial support as needed for the K4Health project's eToolkit initiative (electronic libraries of resources on a particular health topic that are designed for health program managers, service providers, and policy makers). Responsibilities include: research analysis; technical writing and review; identification, compilation and synthesis of data, evidence, lessons learned and recommendations for K4Health Toolkits focused on family

planning/reproductive health topics. Toolkits I've collaborated on include: Injectables, Implants, IUD, Community Based Family Planning, Elements of Family Planning Success, Permanent Contraceptive Methods, and Prevention of Mother to Child Transmission of HIV.

University of Vermont College of Medicine, Burlington, Vermont

Program Coordinator High Risk Breast Program of Vermont, 2007–2011

Responsible for program coordination and project management of clinical research focused on breast cancer prevention and screening in women at increased risk for developing breast cancer. Responsibilities included: project management for clinical research studies (institutional and multi-institutional); data collection, management and statistical analysis; clinical research design, development and implementation; grant proposal development, writing and administration; budget development and tracking; manuscript and abstract development; database development and management (using MS Access and Excel); website management; small-scale development efforts for programmatic support; plan, run and coordinate team meetings.

Johns Hopkins Bloomberg School of Public Health Center for Communication Programs, Baltimore, Maryland

Research Analyst, INFO Project, 2004–2006

Provide research analysis and technical writing support for INFO Project publications for public health audiences (topic areas centered on family planning and reproductive health related issues), including the *Population Reports* issue, "Better Breastfeeding, Healthier Lives", and the World Health Organization's "Family Planning: A Global Handbook for Providers". Specific responsibilities included conducting literature reviews; analyzing, evaluating and summarizing data; compiling data from Demographic Health Surveys; assisted in the development and management of International Planned Parenthood's *Contraceptive Myths and Counseling Messages Database*.

Beechwood Midwifery, Rutland, Vermont

Midwife Apprentice, 2003

Participated in over 50 pre-natal care visits providing support and counseling to clients; attended 10 home births providing support and care.

Wyeth Research, Chazy, New York

Research Technician, Department of Investigative Pathology, 2002

Developed a screening technique for Helicobacter pylori in Cynomologus monkeys using immunohistochemistry and DNA analysis via polymerase chain reaction.

Awards

- Maternal and Child Health Training Grant (half tuition scholarship) from Johns Hopkins Bloomberg School of Public Health Department of Population and Family Health Sciences, *2003–2005*

Sigma Xi Grant of $800 to fund undergraduate research, *April 2000*

Contract Manager: MICHAEL STELMACH
Telephone Number: (617) 385-3764
Fax Number: (617) 482-0617
Email Address: MSTELMACH@JSI.COM

RFQ No. E&A201301

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: John Snow, Inc

Authorized Signature: Stewart Sanders Date: 5/8/13

State of Massachusetts

County of Suffolk, to-wit:

Taken, subscribed, and sworn to before me this 5th day of May, 2013.

My Commission expires October 24, 2014.

AFFIX SEAL HERE

NOTARY PUBLIC Raymond J Pelletier

Raymond J. Pelletier
Notary Public
Commonwealth of Massachusetts
My Commission Expires Oct 24, 2014

CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or 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.

JOHN SNOW, INC.
(Company)

Stewart Landers
(Authorized Signature)

STEWART LANDERS, DIRECTOR, HEALTH SERVICES, BOSTON OFFICE
(Representative Name, Title)

(617) 482-9485 (617) 482-0617
(Phone Number) (Fax Number)

MAY 8, 2013
(Date)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: E&A201301

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)

[ ] Addendum No. 1	[ ] Addendum No. 6
[ ] Addendum No. 2	[ ] Addendum No. 7
[ ] Addendum No. 3	[ ] Addendum No. 8
[ ] 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.

JOHN SNOW, INC.
Company

Stewart Sanders
Authorized Signature

MAY 8, 2013
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Table of Contents

Budget

Requirement	Unit Price	Amount
In collaboration with the ECAC Research and Data Committee, JSI will finalize the State's 10 (or less) essential policy questions.	$8,000	$8,000
Assist ECAC Data Committee in creation of comprehensive list of data elements necessary to answer the policy questions that have been compiled by the Early Childhood Advisory Council of WV's Research and Data Committee.	$13,000	$13,000
Conduct program by program analysis of where we collect the relevant data to answer the policy questions and identify what additional data needs to be collected.	$22,000	$22,000
Map existing and recommended data elements to the Common Education Data Standards (CEDS).	$12,000	$12,000
Develop recommendations for each agency on how to get existing and recommended data up to the CEDS.	$10,000	$10,000
Determine protocol for addressing conflicting data when multiple agencies collect the same data element.	$6,000	$6,000
Develop recommendations and options on how to best organize/structure the proposed Early Childhood Data System which would combine data from all agencies whose data are necessary to meet CEDS and answer the critical policy questions.	$16,000	$16,000
Submit Final Report	$10,000	$10,000
TOTAL COST		$97,000

Pricing Page

E&A201301 Early Childhood Data System Analysis and Recommendation Development

Description	Quantity
Early Childhood Data System Analysis and Recommendation Development including: participation in finalization of policy questions, development of list of comprehensive data elements, program by program analysis, data mapping, recommendation development, and drafting of final report.	1
Total	
GRAND TOTAL	$97,000.00

Company Name John Snow, Inc.

Authorized Signature Stewart Sanders

Representative Name, Title Director, Health Services, Boston Office

Address 44 Farnsworth Street, Boston, MA 02210

Phone (617) 482-9485

Fax (617) 482-0617

Date May 8, 2013