

**COMMONWEALTH OF PENNSYLVANIA
Department of Health**

Request for Expressions of Interest:

***Data Modernization Initiative: CDC Crisis Response Public Health Workforce Development
Supplemental Funding***

Summary

The Commonwealth of Pennsylvania (“Commonwealth”) is interested in receiving expressions of interest from firms with expertise in data strategy, governance, transformation, and integration to support the Department of Health’s (“Department”) Data Modernization Initiative (“DMI”). Leveraging agile practices and continuous improvements, the firm will provide strategic consulting, subject matter experts, and coordinated execution of projects to achieve documented goals, using lean and agile practices to supplement the Department’s efforts to transform legacy systems to a modern architecture, transition to Azure cloud, implement a modern data lake, an enterprise data warehouse, and reporting marts, in addition to implementing mature data governance, master data management (including implementation of an enterprise Master Person / Patient Index), improved data quality and conformed dimensions to improve the accessibility, meaningfulness, reliability, and timeliness of data for internal and external public health decision makers.

Background

The Department has received funding from the “CDC Crisis Response Cooperative Agreement: COVID-19 Public Health Workforce Development Supplemental Funding” grant which ends on June 30, 2023.

The Department seeks a firm with specific expertise in data strategy and transformation that can leverage its existing practices to streamline and increase the progress of our agile projects. Given the progress of transformation and the scope of the project, a qualified contractor will increase the momentum by leveraging a structured, proven playbook of repeatable processes and specific data transformation capabilities.

The Department has identified an urgent need to secure the services of an experienced data strategy, governance, and transformation contractor (“Contractor”) who has experience in establishing data governance within an organization, defining processes and utilizing master data management, including the implementation of a Universal Master Patient / Patient Index, Azure transformation, internal and external data interoperability, addressing data quality issues and making recommendations for continuous improvements. Federal public health grants to assist the endeavor are available and if the Department elects to engage a firm for these services, the Commonwealth may elect to proceed to execute and implement a Contract under the Commonwealth’s procurement procedures. The Department is issuing this Request for Expressions of Interest (“RFEI”) to allow for competition in the Department’s selection of a Contractor for these services.

The Contractor will support the Department's staff, DMI team and Office of Administration Health and Human Services Delivery Center, as represented in the abbreviated organization chart (Appendix A) to deliver goals identified in the DMI Charter (Appendix B).

Issues to Be Addressed

The Department is requesting that experienced firms that have an interest in working on this project send the information requested below. The Department strongly recommends that all responses be no more than 10 pages and must include all the information requested.

1. Experience and Personnel

Qualification/Experience - Provide information about the firm, including prior relevant experience in data strategy, governance, master data management, data quality, data transformation, data integration, and Azure migration.

Specifically include:

- a. Experience in enterprise data governance and master data management
 - i. Specific experience in Azure migration
- b. Experience in data quality and integration of internal and external data to make evidenced-based decisions
- c. Qualification/Personnel – Identify examples of key staff roles that would be providing the services including years and type of experience for each role

2. Project Plan

- a. Timeline – Provide a proposed high-level timeline for the engagement, including key activities to achieve successful completion of the project. Appendix B may be referenced for guidance. The Department desires the engagement to begin on July 15, 2022, or as soon thereafter as is possible, through June 30, 2023.
- b. Program requirements – Please confirm and describe how the potential Firm will be able to meet the following program requirements.

Program requirements include:

- a. Provide expert advice, support, and coordination in the creation of a plan for how the Department's program offices identify and prioritize data related projects including defining business requirements and planning for how they manage and interact with the new components related to data modernization, specifically in relation to:
 - i. Enterprise data governance and master data management
 - ii. Utilization of a universal master person/patient ID
 - iii. Leveraging an enterprise data warehouse
 - iv. Accessing and using data marts
 - v. Analytics and reporting

- b. Provide expert advice, support, and coordination in the creation of a plan for how the Department's program offices implement a data governance program that includes defining policies, processes, and procedures for addressing the following:
 - i. Master Data Management
 - ii. Data Sharing, Security and Privacy
 - iii. Data Quality
- c. Provide expert advice, guidance, and assistance to:
 - i. Assess priority health systems to identify quality issues with data submitters submitting data to the Department
 - ii. Support with data cataloging in coordination with IT
- d. Advise best practices to inform strategy to combine internal and external data (data across applications within the Department and data outside of the Department) to improve accessibility, timeliness, reliability, and meaningfulness for internal and external decisions makers to improve public health interventions, prevention, and outcomes.

IT Requirements include:

- a. Provide expert advice and guidance in relation to the data priorities defined by the Department to be implemented into the Azure architecture.
- b. Provide expert advice and guidance on continuous refinement and improvement in the following areas:
 - i. DevOps Continuous Integration/Continuous Deployment stages, testing, approval, and release processes
 - ii. Utilization of Azure data services
 - iii. Data ingestion and processing routines
 - iv. Updates, as necessary, to the Azure technical design
 - v. Provide technical resources to assist with the implementation of priority data projects as needed.
 - vi. Assist with master data management to create an enterprise-wide view of data.

Other Requirements:

- a. Assist in promoting appropriate priorities to achieve the Department's DMI goals.
- b. Provide an agile project management team charged with facilitating the Department's data strategy and integration goals are achieved utilizing lean and agile practices, coordinated execution, and removal of impediments.

- c. Provide advice, support, and coordination on lean agile processes to improve data quality and interoperability across the data ecosystem including transactional and analytic systems to address issues.
- d. Provide advice to enhance the momentum of the Department's existing DMI projects, as detailed in the attached DMI charter (Appendix B).
- e. Work seamlessly with Department staff and the Health and Human Services IT Delivery Center by embedding technical experts and project managers necessary to accomplish DMI objectives, as stated in the DMI charter (Appendix B).
- f. Establish and execute workplans for objectives defined in the DMI charter (Appendix B) with realistic, achievable timelines.
- g. Assist the Department in creating a sustainability plan and documentation to ensure progress can be sustained beyond the end date of the project period with existing Department staff. This includes facilitating the involvement of existing Department staff regarding the strategies deployed by the Contractor throughout the life of the project.

3. Estimated Cost

Provide estimated number of hours and hourly rate for each position included in the RFEI response. Such hourly rates shall be inclusive of all costs, with the exception of subcontractor costs. For subcontractor costs, provide an estimated number of hours and inclusive hourly rate for each subcontractor. Provide a total estimated cost.

4. Suspension/Debarment

Submit a statement certifying that no principal of the firm responding, nor any proposed subcontractor is suspended or debarred from contracting with the Commonwealth of Pennsylvania, the United States Government, or any other state government.

5. Worker Protection and Investment Certification Form (BOP-2201)

Submit a completed Worker Protection and Investment Certification Form (BOP-2201). The form shall be signed by an official authorized to execute the certification on behalf of the respondent and certify that the respondent is compliant with applicable Pennsylvania state labor and workforce safety laws.

Respondents are solely responsible for all expenses associated with responding to this RFEI. Respondents should not provide any confidential or proprietary information in their response. Respondents shall not be deemed to be an advisor or consultant to the Department prior to an executed Contract. The Department will evaluate the information presented and determine any subsequent course of action. This course of action may consist of further contracting for implementation of Department determined work.

Such work may be procured through any lawful method available, and respondents to this request may be considered for selection to perform this work.

Questions

All questions relating to this RFEI will be due by close of business June 14, 2022, and the Department will provide answers to each question to all the applicants.

Presentations

After a review of the submissions, the Department reserves the right to request presentations, regarding the proposed services. At such presentations, respondents should be prepared to address any questions regarding their response to this RFEI.

Due Dates

To be considered for a potential contract for this project, responses must be received by close of business June 24, 2022. Timing for evaluating responses and optional scheduling of presentations will depend on the quantity and quality of responses received. To be considered, an electronic copy of the complete response must be emailed to the point of contact named below.

Commonwealth Reservation of Rights

The Department reserves the right to consider or reject any and all responses to this Request, to amend and/or reissue this RFEI and to abandon and then recommence at any time, or not recommence, this process. All costs of any response to this Request and participation in any presentations to the Department prior to conclusion of any contract for services with the Department are solely the responsibility of the Respondent and the Department shall not be liable for payment of any such costs.

Point of Contact

All questions concerning this RFEI including submissions and contacts concerning this solicitation must be sent to or made with:

Heather Myers
Executive Advisor to the Deputy Secretary for Health Resources and Services
Pennsylvania Department of Health
Email: heathmyers@pa.gov

This office is the sole point of contact.

Appendix A Organization Chart

Department of Health, Commonwealth of Pennsylvania

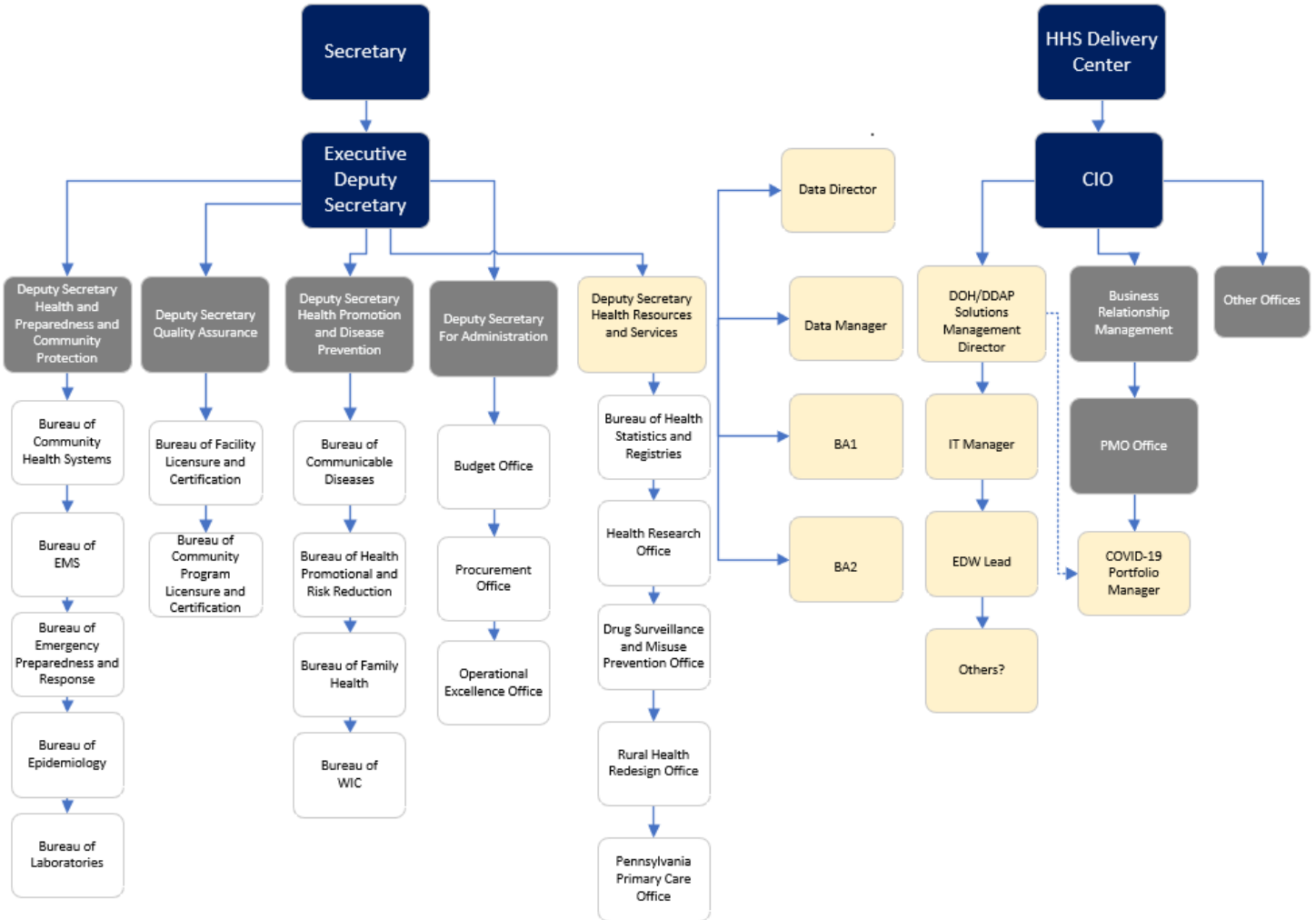
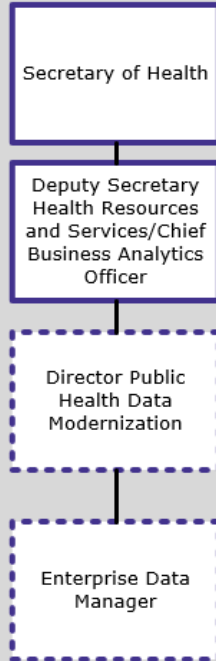


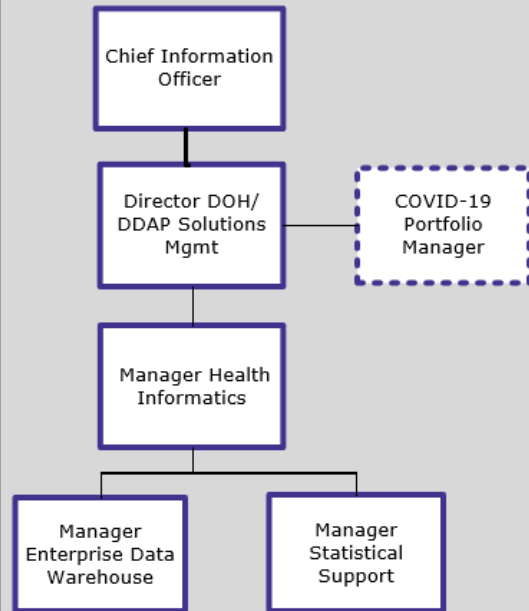
Figure 1

Strategic Partnership – Data Modernization Initiative

Department of Health



Health & Human Services IT Delivery Center



Dotted – Contracted Staff

Figure 2

Appendix B
Data Modernization Initiative Charter

Agency: Department of Health
Office or Bureau: Deputy Secretary - Health Resources & Services
Program Name: Data Modernization Initiative

Business Opportunity

In response to COVID-19, the Federal government has provided significant limited time funding to support states in the development of public health infrastructure, including data infrastructure.

Program Background/Description

The Department of Health’s Data Modernization Initiative seeks to seize the rare opportunity to invest in public health data infrastructure at an enterprise level by upgrading outdated systems, eliminating silos that exist between the different health databases, and promoting internal and external data exchange, surveillance, research, and reporting for all diseases and conditions in a more meaningful and real-time fashion.

Vision and Mission

Vision

All public health policies and interventions are driven by data.

Mission

To provide all internal and external public health decision makers with **accessible, timely, reliable,** and **meaningful** data to drive policies and interventions.

Audience

Decision Makers

1. Internal decision makers
 - a. Department Executive Office
 - b. Department directors and program managers
2. External decision makers
 - a. Governor’s Office
 - b. Commonwealth agencies, including Department of Human Services, Department of Drug and Alcohol, Department of Agriculture, and public interest disclosures.
 - c. Legislators
 - d. Local health departments

- e. Healthcare providers
- f. Health systems
- g. Community based organizations

Influencers (those who influence decision makers)

1. Department workforce: Epidemiologists/Statisticians/Analysts/Data visualization specialists/Program administrators
2. Department data owners
3. External researchers
4. Media
5. Data submitters: hospitals, health Systems, laboratories, etc.
6. Legal

Supporters (those who in some way impact or influence primary and secondary audience)

1. IT staff
2. Public (Interest in data, outcomes, and research)

Program Goals

Accessible Data

1. The process for sharing data internally and externally is standardized, efficient, and centrally tracked.
2. Data is collected from the system of record or reliable system of truth with laws of succession to resolve differences
3. Available in a reliable and easy to access centralized location
4. Each dataset has defined levels of access for public, interagency, intra-agency and healthcare providers, with streamlined and secure mechanisms for sharing.
 - a. Intra-agency data sharing is permitted to the maximum amount allowable by law, with minimum barriers to retrieving the data.
5. Datasets can be combined across data sources in a consistent governed manner utilizing an enterprise unique identifier.
6. Data that are necessary for public health decision making are collected from the applicable sources

Timely Data

1. Electronic interoperability with healthcare IT systems that provide data to the Department. Healthcare IT systems include but are not limited to electronic health records, laboratory systems, coroner case management systems, and pharmacy management systems. Examples include PA-NEDSS (electronic reportable disease surveillance system), SIRS (the vaccination registry), and syndromic surveillance.
2. Data are collected in a sufficiently recent timeframe to be relevant for the public health decisions being made

3. The process for producing or updating analyses, reports, and dashboards for priority areas is automated to the extent possible to improve timeliness while minimizing staff burden.

Reliable Data

1. Decision makers feel they can trust the data. For prepared data (dashboards, reports, etc.), there exists transparency about the data source, analysis methods, the data analyst and the reviewer.
2. Quality improvement processes are in place for all data systems
 - a. Systems for identifying quality issues and errors and allowing data submitters to make corrections
3. To the extent feasible, fields and definitions are standardized across datasets

Meaningful Data

1. Data are enhanced by consistently geocoding location information and capturing demographic information
2. Data are presented such that it is easy to comprehend for a decision maker, with visualizations where appropriate
3. Data are presented in such a way that they are relevant to the intended audience, for instance, using dashboards that permit drilling down to the county level
4. Data dictionaries exist for all datasets and are regularly maintained and readily available

Program Objectives Statement

OBJECTIVE 1: Create a Departmental policy that specifies the expectations and the Department-wide process for internal and external data sharing, which includes:

- a. templates for data sharing agreements and criteria for when they are necessary
- b. approval processes and expected timelines for approvals
- c. the creation of a centralized approval and tracking mechanism, such as a SharePoint workflow
- d. the approved mechanisms for the secure transmission of the data or secure access to the data
- e. the expectation that intra-agency data sharing is permitted to the maximum amount allowable by law, with minimum barriers to retrieving the data.

OBJECTIVE 2: Establish an enterprise data governance body and hold kick off meeting. Achieve alignment between epidemiologists, statisticians, and program leadership on agency's data strategy.

OBJECTIVE 3: Create effective standards, practices, and procedures on the data governance process for the entire agency. Implement data governance in an agile fashion, by domain, e.g., patient/person.

OBJECTIVE 4: Establish a centrally located enterprise-wide data inventory with appropriate descriptive information about the datasets that are useful for public health decision making external to the program area. Create a procedure to ensure the data inventory is updated periodically.

OBJECTIVE 5: Create or obtain data dictionaries for all priority datasets that are useful for public health decision making external to the program area, store them centrally, and create a process to ensure they are regularly updated and easily accessible. Evaluate utilization of Informatica for data cataloging.

OBJECTIVE 6: All relevant priority public health data collected by the Department will be stored in the data lake or the electronic data warehouse (EDW) that meets the confidentiality and security requirements as defined by the department and data owners. Identify priority public health data that are useful for public health decision making external to the program area. All data stored in the data lake or the EDW are refreshed in a timely manner (determined by data source), and the refresh frequency for each data source will be documented and centrally available.

OBJECTIVE 7: Each data source stored in the EDW will have defined levels of access for inter-agency, intra-agency, and the public, with streamlined and secure mechanisms for sharing. Levels of access must align with the department data sharing policy created in objective 1.

OBJECTIVE 8: Establish an enterprise Master Person Index that can tie together internal and external internal information across all bureaus. Onboard NEDSS and SIRS to utilize the enterprise service to facilitate analytics and reporting as part of phase 1. Complete onboarding of additional priority systems in subsequent phases.

OBJECTIVE 9: Create a plan for expanding the Master Person Index to other Commonwealth agencies, with emphasis on the health hub and the Pennsylvania Health Care Cost Containment Council.

OBJECTIVE 10: Identify the gaps and develop a roadmap for interoperability with healthcare IT systems that provide data to the Department for each of the public health surveillance systems. This roadmap will define the systems in scope and the timeframe for discovery and target timeline for integration.

OBJECTIVE 11: Identify ongoing analysis and reporting priorities, both internal and external, and automate the process for updating the dashboards/reports on an ongoing basis. Create initial roadmap and update quarterly on an ongoing basis. OpenData and Enterprise Data Dissemination Informatics Exchange (EDDIE) should be assessed as part of this process.

OBJECTIVE 12: To improve transparency and trustworthiness, develop a centralized, digital approval process for dashboards and prepared datasets that are made available external to the program areas that ensure the data source, analysis methods, primary point of contact, and last update date, and frequency of updates are documented and readily available to the users of the data. This process should apply standards across all dashboards and prepared datasets, such as conformance with the Department’s style guide.

OBJECTIVE 13: Establish internal data visualization subject matter experts and utilize them in the creation or review of data dashboards and reports to ensure they are easy to comprehend for the intended audience, with appropriate visualizations and relevance to the intended audience.

OBJECTIVE 14: Assess each priority public health data system to determine if it has a streamlined process or mechanism for identifying quality issues and errors and allowing data submitters to make corrections and create a plan for each as necessary to address gaps identified. Establish list of systems in scope during Q1 2022.

OBJECTIVE 15: Establish an enterprise service for enriching patient/person data with demographic information and geocodes. Where possible, work on this concurrently with the Verato Universal Master Patient Person ID service.

OBJECTIVE 16: Identify and prioritize relevant data gaps for evaluation and evidence needs and develop a roadmap for addressing those gaps.

OBJECTIVE 17: Participate in national discussions regarding the creation of a single point of entry for public health data exchange (FHIR accelerator – Helios) with the aim of implementing this in Pennsylvania if deemed prudent.

Data Modernization Program Approach

The Program will be divided into four phases:

- 1) Program Planning
- 2) Program Development
- 3) Program Implementation
- 4) Program Evaluation and Sustainability

Barriers to Successful Implementation (actual or potential)

Barriers include:

- 1) No overarching data governance across all data systems
- 2) Lack of standard Department wide data sharing process
- 3) Siloed data systems
- 4) No overarching data governance across all data systems

Addendum to RFEI for
Data Modernization Initiative: CDC Crisis Response Public Health
Workforce Development Supplemental Funding

Date: June 22nd, 2022

This addendum is to inform all interested applicants that the due date for this RFEI has been extended from close of business June 24, 2022, to close of business June 27, 2022.

Please submit all applications no later than **close of business June 27, 2022**.

Deadline for submitting questions was June 14, 2022, and thus no further questions will be accepted. As a reminder, it is strongly recommended that all responses be no more than 10 pages.