Request for Information (RFI)

Enterprise Electronic Disease & Condition Surveillance (EDSS) Solutions

RFI Number: 20307

Issued: March 2, 2023

Designated Contact:

Geraldine Johnson
Office of Public Health Practice
Empire State Plaza
Albany, NY 12237
phdm@health.ny.gov

TABLE OF CONTENTS

(Hyperlinked; click to go directly to desired topic.)

1 CALENDAR OF EVENTS

RFI (20307): Enterprise Electronic Disease & Condition Surveillance (EDSS) Solutions	
Event	**Date**
Issuance of Request for Information	03/02/2023
Deadline for Submission of Written Questions	Questions Due on or Before: 03/13/2023 by 5:00PM ET
Answers to Questions	On or About: 03/23/2023
Deadline for Submission of Responses	04/05/2023

2 INTRODUCTION AND PURPOSE

The COVID-19 global pandemic required a response effort never experienced in the modern public health environment. Response to the national health crisis required urgency and efficiency in extensive disease surveillance/tracking, case investigation, contact tracing, contact investigation, all requiring rapid data collection, data analytics, and access to personal information; demands which occurred at an unprecedented magnitude. This highlighted that more robust contact tracing, data analytics/data modeling, and case linking are mission critical components for decision makers at all levels.

The Centers for Disease Control and Prevention (CDC) further articulated conformity requirements for integrated, interoperable public health Electronic Disease Surveillance System EDSS solutions and their primary source relationships to the National Notifiable Diseases Surveillance System (NNDSS). These requirements are based on the National Electronic Disease Surveillance System (NEDSS) architectural standards.

The current national technology, standards, and regulations used for case surveillance are:

- Electronic case reporting (eCR)
- Electronic laboratory reporting (ELR)
- International event reporting
- Message evaluation and testing Service (METS)
- Message validation, processing, and provisioning system (MVPS)
- Integrated surveillance information systems - National Electronic Disease Surveillance System (NEDSS) is a set of architectural standards for integrated surveillance information systems in reporting jurisdictions. Systems based on these standards are primary data sources for NNDSS.

To be considered NEDSS compatible[1], states must have information systems meeting the following requirements:

- Disease data entry directly through an Internet browser-based system, thereby creating a database accessible by health investigators and public health professionals,
- Electronic laboratory reporting that enables labs to report cases to health departments.

[1] https://www.cdc.gov/nndss/about/nedss.html - CDC (NNDSS) Compatibility for Integrated Systems

- Integration of multiple health information databases into a single repository, and electronic messaging capabilities, enabling states to share information efficiently with CDC and other health agencies.

NYSDOH current surveillance system requirements, based on CDC's conformity requirements for integrated, interoperable public health EDSS solutions, are listed in Table 1.

***Table 1* - NYSDOH Surveillance System Requirements/Features**

NYSDOH SURVEILLANCE SYSTEM REQUIREMENTS/FEATURES	
ID	**DESCRIPTION**
1	System that supports state and national disease surveillance requirements for state and nationally notifiable diseases and supports automated data collection and multi-directional data flows among state, tribal, local, and territorial (STLT) partners and the CDC.
2	Disease and condition data entry through an internet browser-based system, and maintenance of supporting database to be accessible by health investigators and public health officials.
3	Electronic laboratory reporting that enables labs to report cases to health departments.
4	Integration or information sharing of multiple health information databases into a single repository or review platform (interoperability).
5	Content definitions for HL7 compliant transmittals of data (i.e., disease diagnosis, risk factor information, lab confirmation results, patient demographics, etc.).
6	Efficient sharing of information with CDC and other health agencies where mandated or determined as a need.
7	Support and maintain standards as currently defined by the healthcare industry (for example, LOINC as the standard for transmitting laboratory test names, and SNOMED as the standard for transmitting test results).
8	Contact tracing (partner notification) (COVID-19, TB, HIV, sexually transmitted diseases, etc.).

In addition to the published CDC requirements, state health agencies have needed to consider a wide array of innovative ideas, tools, evolving regulations, rapidly changing needs for analytics, data management and constraints to deliver quality care and real time data, most notably:

- Disparate disease and condition registries.
- Budget and resource pressures, including those created by the COVID-19 response.
- Emerging uses of social determinants and population health data.
- Health Information Exchanges (HIEs).
- Office of the National Coordinator for Health Information Technology (ONC) standards.
- Fast Healthcare Interoperability Resources (FHIR) standards.
- Need for multi-directional intra and interoperable dataflows among STLT partners and the CDC.
- Protections for the ethical data collection and analysis of vulnerable or high-risk groups[2] [3].

Through this RFI NYSDOH seeks information on solutions that meet the definition of an enterprise public health scaled, systematic, continuous process collection and analytics solution with a person centric

[2] 1. Collier R. WHO guidelines on ethical public health surveillance. CMAJ 2017; 189 (29): E977. [PMC free article] [PubMed] [Google Scholar] [Ref list]

[3] Klingler C, Silva DS, Schuermann C, Reis AA, Saxena A, Strech D. Ethical issues in public health surveillance: a systematic qualitative review. BMC Public Health 2017; 17 (1): 295–303. [PMC free article] [PubMed] [Google Scholar] [Ref list]

framework. Specific capabilities and capacities include pairing a high volume of laboratory and related case records longitudinally needed for communicable disease surveillance and public health action, including timely analysis, dissemination, and programmatic use of public health information in response to public health needs[4]. NYSDOH currently tracks 80+ communicable diseases and 30+ non-communicable conditions[5]. The CDC identifies 122 diseases and conditions as nationally notifiable as of January 2022 with additions and modifications for new emerging conditions since publication[6]. Links to NYSDOH, NYC HHS and the CDC inventory of diseases and conditions can be found in ADDENDUM A: Communicable Disease Reporting Requirements

3 How This RFI is Organized

Section 5.1: - GENERAL ELECTRONIC DISEASE AND CONDITION SURVEILLANCE SOLUTIONS

The first section contains questions designed to gauge a broad understanding of the characteristics, attributes, and effectiveness of a solution. The Department is seeking vendors to include any relevant information on how the solution would be harnessed to address business, functional and technical challenges experienced across public health entities in adapting to rapidly changing needs in electronic disease surveillance.

Section 5.2: - TECHNICAL OVERVIEW (CONFIGURATION, ADAPTABILITY, CUSTOMIZATION, PORTABILITY)

The second section seeks to understand the technical design and configuration of a solution at a high-level, as well as ease of customization, the solution's adaptability to change and change management. Portability is of high value. This section further seeks to understand the capacity for in-the-field use, and any strengths or limitations in portability.

Section 5.3: - INTEROPERABILITY AND INTEGRATION WITH EXISTING SYSTEMS

The third section is dedicated to two specific subjects, interoperability, and the solution's ability to connect and communicate in a coordinated way with current and future systems, devices, applications, or products with little or no intervention from an end user or robust middleware. Integration also incorporates existing reliant systems that could require the intervention of architecture or applications to maintain upstream or downstream dataflow dependencies.

Section 5.4: - ANALYTICS AND DATA VISUALIZATION

The fourth section is comprised of questions specific to the solution's data analytics capabilities and data visualization functionality. Please provide any specific features for reporting, trending, pattern identification, predictive analytics and any other characteristics that add value in the real time analysis of collected health data and the identification of potential public health threats and the management of those threats, if realized.

[4] https://www.cdc.gov/budget/documents/covid-19/COVID-19-Data-Modernization-Initiative-Fact-Sheet.pdf
[5] https://www.health.ny.gov/forms/instructions/doh-389_instructions.pdf
[6] https://ndc.services.cdc.gov/wp-content/uploads/National_Notifiable_Diseases_Surveillance_System_Event_Code_List_2022_v1_2022JAN05.xlsx

Section 5.5: - SECURITY AND COMPLIANCE CONTROLS

The fifth section seeks to understand the solution's capabilities as it relates to adoption into the NYSDOH technical solution portfolio. This section further seeks to understand the solution's capability to adapt to meet the NYS ITS policies and procedures and support evolving practices as standards and practices change.

All respondents should review the National Institute of Standards and Technology (NIST) and NYS ITS information Security Policies and Procedures, including identity management (https://its.ny.gov/ciso/policies/security) and confirm your services can conform to the minimum requirements.

Section 5.6: - IMPLEMENTATION, EVOLUTION AND SUPPORT QUESTIONS

The sixth section focuses on the implementation process of an enterprise system that would serve to replace an existing complex legacy system.

Addendum A – Resources and Links

A. Communicable Disease Reporting Requirements
B. Tracking Communicable Diseases and Electronic Laboratory Data in New York State
C. New York State Department of Health and NYC Department of Health and Human Services
D. New York State Department of Health COVID-19 Response
E. NYS ITS Information Security Policies and Procedures

4 WHO SHOULD RESPOND

This RFI is seeking input from interested parties who:

- Have implemented, or are in the process of implementing enterprise scale, interoperable and CDC (NNDSS/NEDSS compatible) solution for condition and disease surveillance management in the public health sector (**Table 1 - NYSDOH Surveillance System Requirements/Features**), including but not limited to:
    1. Software as a Service (SaaS)
    2. Modifiable off the Shelf (MOTS)
    3. Commercial off the Shelf (COTS)
    4. Open-Source Software (OSS)
    5. Proprietary
- Have experience implementing a solution in a preexisting infrastructure.
- Have experience and knowledge of data migration, data exchange, and data integrity management from and between legacy systems.
- Solution that conforms to the requirements outlined in NIST and NYS ITS information Security Policies and Procedures, including identity management. (https://its.ny.gov/ciso/policies/security)

5 QUESTIONS FOR VENDORS RESPONDENTS

Vendors are invited to include in their submission responses to as many subjects and questions in this section.

5.1 GENERAL ELECTRONIC DISEASE AND CONDITION SURVEILLANCE SOLUTIONS QUESTIONS

RFI ID	RFI QUESTION
5.1.1	What is the technical maturity of your solution? • List any entities that are currently using it. • Where is it currently deployed, or expected to be deployed, and how long has it been in use? • How does your solution manage multi-jurisdictional, inter-state, and intra-state controls?
5.1.2	What is your solution's end-to-end case and event reporting and management workflow capabilities? Please describe, including disease and condition reporting, case actions and assignments of those actions, tasks, status changes, or reassignment for any reason outside of task such as a change in condition status, geographic changes, co-conditions, and notifications to users in the workflow.
5.1.3	What is your solution's contact tracing capabilities? Please describe, including: • The contact tracing process workflow, for example: o Identify o Triage o Assign o Notify o Quarantine o Monitor o Refer o Any other • How contract tracing would be added to a new disease. • How disease and event specific changes would be made.
5.1.4	What is your solution's capability for the following? • Uniquely identifying and linking data sets (patient, case, condition) • Extracting and/or extrapolating large sets of complex data or joins of relational data in a timely manner Please describe.
5.1.5	What is your solution's capability to ingest and screen electronic laboratory test data regardless of the outcome of the screening test? *Example:* Positive, negative, indeterminant result. Please describe.
5.1.6	What is your solution's capability to allow person-centered case management for all conditions across a person's historical timeline (longitudinal case records)? Please describe.

RFI ID	RFI QUESTION
5.1.7	What is your solution's capability to identify an incomplete, corrupt, or inaccurate record imported from an outside data source? *Example:* Laboratory reporting record imported with a disease code that did not match the disease type. Please describe.
5.1.8	What is your solution's capability to allow a user to individualize experience? *Example:* Can a user create a personal dashboard to view the information most important to their scope of work, save analysis templates, create dynamic workflows? Please describe.
5.1.9	What are your solution's capabilities for data de-duplication and near duplication? • Exact Match • Near Match • Inline or Postprocessing Please describe, including quality control/quality assurance measures (QA/QC) used as it relates to deduplication and systematic reduction of records.
5.1.10	What is a typical rollout of your solution for adoption, including testing and user training?
5.1.11	What is your solution's capability to identify and retrieve information from laboratory reports to identify associated conditions? *Example:* Identifying pregnancy based upon indication of a prenatal panel and/or text field indicating pregnancy. Please describe.
5.1.12	What is your solution's capability to support the collection of social determinants of health (SDOH), health inequities and disparities data and use of these data for analysis? Please describe.
5.1.13	What is your solution's capability to handle reportable events that are not person centric? *Example:* Animal rabies and vector surveillance. Please describe.
5.1.14	What is your solution's capability for a user to submit an invoice of expenses? Please describe.
5.1.15	What are your solution's SMS and messaging capabilities? • Event triggered messaging. • Notifications specific to case(s) • Contact or partner tracing. • Other Please describe.

RFI ID	RFI QUESTION
5.1.16	What is your solution's capability to compare incoming laboratory reports to the existing registry of laboratory results, cases, and/or other incoming labs to do the following? • Determine if a new investigation should be created or if the lab(s) should be paired with an existing case. • Automatically assign for disease investigation. Please describe.
5.1.17	What is your solution's capability to support and maintain standards as currently defined by the Centers for Disease Control and Prevention's (CDC) surveillance system and national coding/sequencing (for example, LOINC as the standard for laboratory test names, and SNOMED as the standard for test results), ICD-International Classification of Diseases? Please describe.

5.2 Technical Overview Questions (Configuration, Adaptability, Customization Portability)

RFI ID	RFI QUESTION
5.2.1	What are you solution capabilities for the following? • Respond to changing data collection requirements including new/existing conditions, surveys, forms, patient disease questionnaires, and supporting CDC NEDSS messaging standards? • Update data input and system for compatibility to evolving HL7 requirements and FHIR messaging schemas? Please describe.
5.2.2	What are your solution's capabilities for the following customizations? • Form/questionnaire changes • Messaging schema changes • Emerging disease codes and tracing, including new data collection forms/questionnaires and data sets • Changes to social determinants • Any other Please describe, including what roles can conduct what enhancements/customizations.
5.2.3	What is your solution's capability to support field based, on-demand access to and reporting of data/case information regardless of location? *Example:* Can data be collected in the field in remote areas where network connections may not be available and be synchronized when connected? Please describe.
5.2.4	What is your solution's capability for users to work on multiple device types or operating systems?

RFI ID	RFI QUESTION
	Please describe, including supported mobile devices, app and browser-based access, and internet connectivity requirements.
5.2.5	What is your solution's capability to adapt to changing data standards or attributes? *Example:* Gender and sex at birth. Please describe.
5.2.6	What is your solution's capability to standardize data entry and mitigate error for the following input sources? • Manual • API or other import • Systematic/Electronic • Other Please describe.
5.2.7	What is your solution's geocoding and mapping capability? Please describe.
5.2.8	For vendor hosted solutions, what are the monitoring, notification, and alerting capabilities? Please describe, including uptime/downtime metrics and triggers.
5.2.9	What are your solution's capabilities for the following: • To ingest hard copy forms • OCR capabilities to promote diminished use of paper though electronic form portability Please describe.
5.2.10	What export formats does your solution provide for data stored in your solution? *Example:* .CSV, .XML, .XLS
5.2.11	What type of systems or software are included in your solution? What solution delivery and housing options do you offer?
5.2.12	What method(s) are used to price your solution? • Fixed/Flat • Per user/license • Usage based model • Tiered • Other? **** DO NOT provide pricing or sample pricing. This question only seeks to understand how pricing is structured.***

5.3 Interoperability and Integration with Existing/Future Systems Questions

RFI ID	RFI QUESTION
5.3.1	What is your solution's capability to integrate with current and future dependent systems? Please describe.
5.3.2	What is your solutions capability to maintain inter-dependent system mapping for all configuration requirements where any field must meet a standard or reporting standard for continuous uniformity? Where or if uniformity cannot be continuously maintained, how would your solution respond to unknown or unrecognized input? Please describe.
5.3.3	What databases and/or data systems are used to support, host, or house your solution? *Example:* An Oracle database that stores JSON objects Please describe.
5.3.4	What is your solution's current ability to connect and communicate in a coordinated way with currently available devices, applications, or products? Please describe, including interoperability or compatibility with the CDC NNDSS/NEDSS minimum requirements.

5.4 Analytics and Data Visualization Questions

RFI ID	RFI QUESTION
5.4.1	What are your solution's capabilities to conduct data audits or reconciliations to ensure data integrity? Please describe.
5.4.2	What are your solution's capabilities to detail and provide nimble data analysis and resulting outputs? Please provide samples of blind data visualization.
5.4.3	What are your solution's reporting capabilities, including tools and techniques? Please describe.
5.4.4	What is your solution's analytics environment and capabilities for predictive and simulation modeling in an operational environment and quickly display results and visualizations (graphics, maps, etc.)? *Example:* Assist end user with determinants, outbreaks, cluster events, etc. Please describe.

5.5 Security and Compliance Controls Questions

RFI ID	RFI QUESTION
5.5.1	What are your solution's current certifications of compliance with established security standards? Please note compliance with any that are specific to NYS standards or policies.

5.5.2	What are your solution's data management capabilities, including auditing of database events, change control, versioning management? Please describe.
5.5.3	What are your solution's capabilities with the following digital identity and access controls? • Access and use of electronic health records and protected data • User role-based controls (RBAC) and role-based provisioning capabilities • RBAC with discretionary access controls (DAC) • User access and information sharing auditing. Please describe.

5.6 Implementation, Evolution and Support Questions

RFI ID	RFI QUESTION
5.6.1	What is your solution's capability to utilize legacy system data? Please describe, including any tools or services needed.
5.6.2	What technical and end user implementation and operational support services are available for your solution? Please describe, including solution maintenance and upgrades.
5.6.3	For vendor hosted solutions, what capabilities or services are available for converting and migrating legacy data? Please describe.

6 Review Process

This RFI is being issued with the intent to obtain information for the purposes of gathering information on available solutions and determining next steps in devising a strategic response to The Department's evolving EDSS needs. Written responses to this RFI will be reviewed carefully and considered by The Department. NYSDOH is under no obligation to use or return any information or material submitted in response to this RFI.

7 Instructions for Responding to this RFI

7.1 RFI Responses/Electronic Submissions

This RFI is for planning purposes only and should not be interpreted as a solicitation for bids on the part of The State. All responses should be limited to the information requested and submitted in the same order in which it is requested. The Department discourages overly lengthy responses. Therefore, marketing brochures, user manuals or other materials, beyond that sufficient to present a complete and effective response are not desired. Your response should contain sufficient information to assure accurate understanding by NYSDOH. While additional data may be presented, material not relevant to this RFI will not be reviewed by The Department.

The following sections include the requested format and information to be provided by each respondent. The RFI responses must be received by the NYSDOH in electronic format no later than the Deadline for Submission of Responses specified in Section 1 (Calendar of Events).

Responses may be submitted by email to phdm@health.ny.gov with subject as "RFI (20307): Enterprise Electronic Disease & Condition Surveillance (EDSS) Solutions – submitted by (Responder's name)." NYSDOH will accept responses in MS-Word or searchable PDF files.

7.2 Cover Letter

Vendor Respondents should provide a cover letter that includes the following corporate information:

- Company Name
- Contact Name
- Contact Title
- Contact Phone #
- Contact E-mail address
- Mailing address

7.3 Vendor Response Template

Vendor responses to the RFI questions outlined in sections 5.1, 5.2, 5.3, 5.4, 5.5, and 5.6 should be submitted using the table format shown below, with each section addressed on a separate page or pages.

Table 2, Response Template

RFI SUBJECT	RFI ID	RESPONSE

8 RFI Schedule and Response Plan Due Date

8.1 Question Submission

Vendors should submit questions and/or requests for clarifications regarding this RFI via e-mail by the specified date and time listed in Section 1, Calendar of Events. Questions should be submitted via e-mail to phdm@health.ny.gov with the subject line "RFI (20307): EDSS Solutions RFI Questions Submission."

The following should be included in the e-mail inquiry:

- Vendor name, contact person, telephone number and e-mail address as part of the sender's contact information.
- A description of the issue in question, or discrepancy found in the RFI.
- RFI section, page number, and/or other information to support identification of the specific problem or issue in question; and,
- The vendor's question(s).

At its discretion NYSDOH may contact vendors to seek clarification on any inquiry received. The Department will respond to questions and/or requests for clarification via addendum on or before the date listed in Section 1, Calendar of Events.

8.2 Responses

The complete response must be received by the NYS DOH, no later than the Deadline for Submission of Responses specified in Section 1, Calendar of Events.

Responses may be submitted by email to phdm@health.ny.gov with subject as "RFI (20307): Enterprise Electronic Disease & Condition Surveillance (EDSS) Solutions – submitted by (Responder's name)." NYSDOH will accept responses in MS-Word or searchable PDF files.

The Department requests that all organizations responding to this RFI designate a single contact within their organization for receipt of all subsequent information pertaining to this RFI.

9 General Terms

9.1 Reimbursement

NYSDOH will not be responsible for expenses incurred in preparing and submitting responses to this RFI, including, but not limited to, attendance at potential meetings.

9.2 Freedom of Information Law ("FOIL")

All responses may be disclosed or used by NYSDOH to the extent permitted by law. NYSDOH may disclose a response to any person for the purpose of assisting in evaluating the response or for any other lawful purpose. All responses will become State agency records, which will be available to the public in accordance with the Freedom of Information Law. Any portion of the response that a vendor believes constitutes proprietary information entitled to confidential handling, as an exception to the Freedom of Information Law, must be clearly and specifically designated in the response. If NYSDOH agrees with the proprietary claim, the designated portion of the response will be withheld from public disclosure. Blanket assertions of proprietary material will not be accepted, and failure to specifically designate proprietary material may be deemed a waiver of any right to confidential handling of such material.

9.3 NYSDOH Reserved Rights

The Department of Health reserves the right to:

1. Reject any or all responses received in response to the RFI
2. Withdraw the RFI at any time, at the agency's sole discretion
3. Seek clarifications of responses
4. Change any of the scheduled dates
5. Utilize any or all ideas submitted in the responses received
6. Request to meet with vendors

9.4 General Information

NYSDOH may ask vendors to clarify the contents of their responses. Other than to provide such information as may be requested by NYSDOH, vendors are asked to refrain from seeking to alter response or add information after the Deadline for Submission of Responses listed in Section 1 (Calendar of Events).

Addendum A

References and Links

Communicable Disease Reporting Requirements

1. NYSDOH Communicable Disease Reporting Requirements
2. New York City Condition and Disease Reporting Requirements
3. CDC National Notifiable Disease Event Codes 2022

Tracking Communicable Diseases and Electronic Laboratory Data in New York State

1. Tracking Communicable Disease Electronic Laboratory Data in New York State
2. Electronic Clinical Laboratory Reporting System (ECLRS)
3. Wadsworth Center Laboratory Information Management System-CLIMS
4. New York State Electronic Case Reporting

New York State Department of Health and NYC Department of Health and Human Services

1. https://www.health.ny.gov/
2. https://www1.nyc.gov/site/doh/index.page

New York State Department of Health COVID-19 Response

1. https://www.nysacho.org/news/new-york-state-local-health-department-preparedness-for-and-response-to-covid-19-an-in-progress-review/
2. IPR-report-FINAL.pdf (nysacho.org)
3. https://coronavirus.health.ny.gov/home

NYS ITS Information Security Policies and Procedures

1. https://its.ny.gov/ciso/policies/security