REQUEST FOR PROPOSAL (RFP) FOR DEVELOPMENT OF ELECTRONIC DISEASE REPORTING INFRASTRUCTURE REPLACEMENT SOLUTION

ISSUE DATE: JUNE 16, 2023

RESPONSE DUE DATE: AUGUST 7, 2023

REPLY TO

NAME: PROCUREMENT

EMAIL: procurement@fphnyc.org

RELEASED BY

Fund for Public Health in New York City

22 Cortlandt Street, 8th Floor, Suite 802 • New York, NY 10007

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SECTION I: SUMMARY OF THE REQUEST FOR PROPOSALS

This Request for Proposals (RFP) is issued by the Fund for Public Health in New York City (FPHNYC), on behalf of the New York City Department of Health and Mental Hygiene (DOHMH), to solicit proposals for professional services to develop a replacement solution for DOHMH-developed Electronic Disease Reporting Infrastructure application (EDRI).

The development of the EDRI includes the provision of all design, build and implementation resources to replace the current state system, as well as retain and expand the data. Programming language utilized is C # on a .NET platform. DOHMH utilizes Selenium Web/GUI open-source framework that automates the testing of web applications across different browsers and platforms. Selenium is a suite of tools that meets different testing needs, using various programming languages like Java, C#, Python, etc. This is an Open-Source tool, built on Java/Eclipse. DOHMH preferred tool for code version control is GitHub enterprise and may be used under the DOHMH account.

In its current state, DDC's EDRI works to transform disparate data sources into a common schema, classify diseases, perform record matching and enrichment, and standardize and route data to disease registries for public health action. DOHMH is seeking an experienced vendor to work with DOHMH informatics, surveillance, and information technology staff to design, develop, and implement a new tool to be hosted and maintained by DOHMH to perform these functions as well as accommodate upcoming surveillance needs that require high volumes of messages and support for document standards such as the HL7 CDA R2 for electronic case reporting and Fast Healthcare Interoperability Resources (FHIR) integrations with DOHMH contributing data sources.

A. RFP Timetable

Request for Proposals (RFP) Release	June 16, 2023
Deadline for Written Questions	July 7, 2023
Q&A Posted	July 19, 2023
Bidder's Conference Call	July 19 – 21, 2023
Bidder's Intent to Bid Email	July 28, 2023
Proposal Package Due	August 7, 2023
Funding Notification	September 5, 2023

RFP Timetable Bidders Conference and Intent to Bid

DOHMH Questions and Answer Responses will be posted on FPHNYC website for review and reference. Should the prospective bidder have additional questions or need further clarifications, there is an opportunity for a half hour Bidders Conference call which may be requested through FPHNYC to schedule July 19-21, 2023. Compiled questions and DOHMH responses from Bidder Conference Calls will be posted the week of July 24, 2023. Prospective bidder is requested to submit an Intent to Bid by July 28, 2023.

B. Applicant Eligibility

Proposers must adhere to the following minimum requirements:

- Be based in the U.S.
- Be available to provide services remotely within the U.S. and visit New York City DOHMH's offices for in-person meetings as needed to accomplish the tasks required under the Scope of Work.
- Have a minimum five (5) years of experience with demonstrated ability of project management and technical development oversight; data integration from multiple contributing data sources, data exchange, systems, services, and APIs: architectural and web design; solution design, development, and implementation; master data management, historical data migration, and FHIR R 4.0 interoperability standards.
- If awarded, agree to enroll as a City of New York approved vendor; and
- Demonstrate that necessary insurance coverage, including Commercial General Liability and Worker's Compensation, is in place from the start of the contract.

In addition, preference will be given to:

- Minority and Women Business Enterprises (M/WBE).

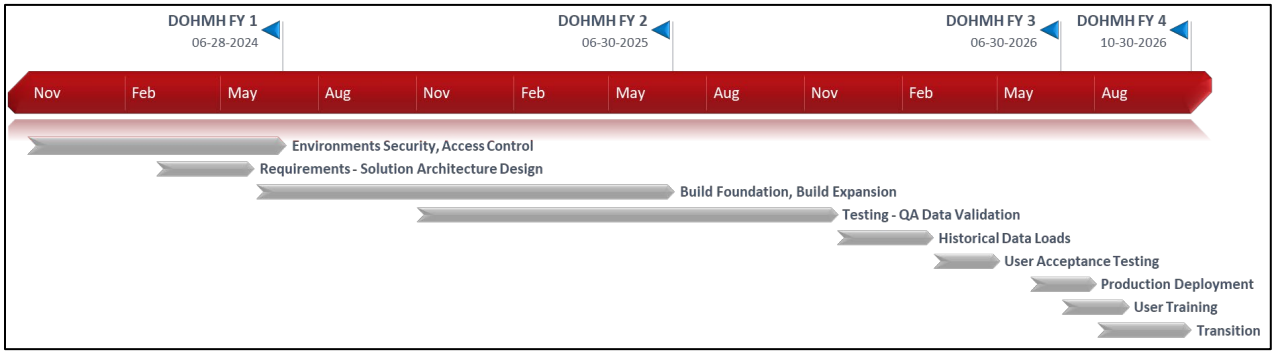
C. Anticipated Funding and Payment Structure

It is anticipated that one applicant will be selected to provide the professional build and implementation services specified in this RFP as a sole vendor. DOHMH will award up to $5,000,000 to professional build and implementation services to the selected contractor.

The payment structure of the contract awarded from this RFP will be one hundred percent (100%) deliverables based. Itis envisioned as a three-year effort. New York City is required to contract on an annual basis using the DOHMH Fiscal Year: DOHMH Fiscal Year is July 1 through June 30. The EDRI Replacement project is anticipated to begin in November 2023 (FY2024) and will span DOHMH Fiscal Years 2024, 2025, 2026 and 2027.

The chart below illustrates the fiscal year contract intervals and anticipated project timeline.

Figure 1. Anticipated Implementation and Support Timeline Over Four Fiscal Year Contract Periods



Include a completed Deliverables Based Milestone Payment Table in the response to proposal reflecting vendor defined milestone payments. The Deliverables Based Milestone Payment Table reflects a short description of the Scope of Work activities and documentation deliverables described in detail in Section II Scope of Services B. Project Scope of Work.

Figure 2. Deliverables Based Milestone Payment Table – Deliverables Described in Detail in Section II Scope of Services B. Project Scope of Work

Deliverable Based Milestone	Milestone Payment
1. Project Management Deliverable Documentation	
2. Define Environment Specifications and Configuration for EDRI Replacement Solution	
3. Infrastructure and Security Deliverable Documentation	
4. Requirements Elicitation and Requirements Deliverable Documentation	
5. Solution Architecture Design Deliverable Documentation	
6. Quality Assurance Deliverable Document for Unit, Integration, System and Quality Assurance Testing	
7. Integration Plan for Data Sources, Systems, Services, and APIs Deliverable Documentation	
8. Build Foundation Database and Web Application	
9. Integration of Data Sources, Systems, Services and APIs	
10. Requirements Traceability Matrix Deliverable Documentation	
11. Build Foundation Performance of Unit, System, Integration, Quality Assurance and Performance Testing	
12. Coordinate, Document and Remediate Subject Matter Expert Quality Assurance Data Validation Activities Build Foundation Data	
13. Build Expansion – Required Features and Functions	
14. Coordinate, Document and Remediate Subject Matter Expert QA Data Validation Activities Integrated Data	

15. Historical Data Loads - Migration Plan Deliverable Documentation	
16. Build Expansion Features and Functions Performance of Unit, System, Integration, Quality Assurance and Performance Testing	
17. Coordinate, Document and Remediate Subject Matter Expert Quality Assurance Data Validation Activities Build Expansion Data	
18. Training Plan and Training Materials Deliverable Documentation	
19. Implementation of EDRI Replacement Solution in Test Environment Similar to Production	
20. Transition Plan Deliverable Documentation	
21. Deployment Plan Deliverable Documentation	
22. Historical Data Loads – Legacy Data Migration	
23. Coordinate, Document and Remediate Subject Matter Expert User Acceptance Testing Activities	
24. Production Deployment	
25. Provision of End User Training per Plan	
26. Post-Production Transition Per Plan	

D. Funding Term

It is anticipated that contract deliverables will be completed in a three-year period with the project beginning in November 2023. However, DOHMH reserves the right, prior to award, to revise the length of the project term. Vendor ongoing managed services, operational support and maintenance will be evaluated with the awarded vendor during the post-production transition period of the project.

E. Submission Instructions

The deadline for submission is August 7, 2023, by 11:59 p.m. Eastern Standard Time (EST). Proposals must be submitted via email to procurement@fphnyc.org and include the title of the solicitation "**EDRI Replacement Solution RFP**" in the subject line. Any proposals received after the due date and time will be considered nonresponsive. A proposal checklist is provided below.

All responses must be in Adobe Acrobat PDF file format.

A. Bidders Conference Call

Requests to schedule a half hour Bidders Conference Call must be submitted by July 7, 2023, in writing to procurement@fphnyc.org with a subject line of "**EDRI Replacement Solution RFP – Bidders Conference Call**." The Bidders Conference Call will be conducted using Microsoft Teams meeting platform to provide an open forum for bidder questions and clarifications after the posting of the Written Questions and Answers. Questions and answers from the Bidder's Conference Calls will be posted the week of July 28, 2023.

B. RFP Inquiries, Written Question and Answers

All questions and requests for clarification about this RFP must be submitted in writing to procurement@fphnyc.org with a subject line of "**EDRI Replacement Solution RFP**." Any questions received after the deadline may not be answered. Phone calls will not be accepted.

The Q&A will be posted at: https://www.fphnyc.org/get-involved/rfps/

C. Bidders Intent to Bid

Intent to Bid is requested by July 28, 2023, in writing to procurement@fphnyc.org with a subject line of "**EDRI Replacement Solution RFP – Intent to Bid.**

D. FPHNYC Procurement

FPHNYC reserves the right to revise any part of the RFP at any time before the submission deadline date if necessary. These revisions will be addendums to the RFP and posted on the FPHNYC website: www.fphnyc.org. Proposers are responsible for checking the website frequently to remain informed about the procurement process. Each Proposer must amend its RFP package as necessary. Failure to acknowledge any addendum will result in disqualification of the proposal.

Proposals selected for review must follow the instructions in this RFP, provide the information required in the response package, and include all the required attachments (signed and dated) by the Proposer's representative with legal authority to submit a proposal on behalf of the entity.

Proposers should utilize **Section III Format and Content of the Proposal. C. Proposal Package Content** section as a "checklist" to assure completeness prior to submitting their proposal.

The successful bidder will be required to agree to the General Terms and Conditions contained in the Fund for Public Health in New York City's contract and comply with all applicable federal and state laws and policies. An **Attestation of Terms and Conditions** is included in the Proposal for bidder review and submission in bidder response to proposal.

SECTION II: SCOPE OF SERVICES

A. Purpose of RFP

The Division of Disease Control (DDC) at the New York City Department of Health and Mental Hygiene (NYC DOHMH) is responsible for the identification, surveillance, treatment, control, and prevention of infectious diseases in NYC. The Division is composed of seven bureaus: Bureau of Communicable Disease (BCD), Bureau of Immunization (BOI), Bureau of Hepatitis, HIV, and Sexually Transmitted Infections (BHHS), Bureau of Tuberculosis Control (BTBC), Bureau of Public Health Clinics, and the Public Health Laboratory (PHL), and Bureau of Division Management and

Systems Coordination (DMSC). Surveillance teams across the DDC bureaus collectively monitor and investigate over 90 reportable infectious diseases to detect, characterize, and respond to public health needs.

DDC continuously updates its systems, databases, and infrastructure to improve the completeness of data and ensure efficient response to emergent infectious agent threats (e.g., COVID-19, Zika virus). DDC is embarking on an initiative to replace its current data standardization and cleaning processes to accommodate future surveillance needs and address existing issues that were highlighted during the COVID-19 and other past communicable disease emergencies. The agency is looking forward to implementing a cloud-based solution to be hosted and maintained by DOHMH as a product that can help modernize the entire technical infrastructure and that is scalable, flexible and meets federal standards on health interoperability.

In its current state, DDC's Electronic Disease Reporting Infrastructure (EDRI) works to transform disparate data sources into a common schema, classify diseases, perform record matching and enrichment, and standardize and route data to disease registries for public health action. DOHMH is seeking an experienced vendor to work with DOHMH informatics, surveillance, and information technology staff to implement a new tool to be hosted and maintained by DOHMH to perform these functions as well as accommodate upcoming surveillance needs that require high volumes of messages and support for document standards such as the HL7v2, CDA R2 for electronic case reporting and Fast Healthcare Interoperability Resources (FHIR).

B. **Descriptive Statistics**

Descriptive statistics were generated to include forecasted patient and message volumes annually and inclusive of averages and estimated highest possible numbers of patients and messages.

Figure 3. Patient Forecasts

Average High Patient for 10 Year Forecast	
2023	4,037,736
2024	4,037,736
2025	4,037,736
2026	4,037,736
2027	4,037,736
2028	4,037,736
2029	4,037,736
2030	4,037,736
2031	4,037,736
2032	4,037,736

Highest No. of Patients over 10 Years	
2023	13,618,341
2024	13,618,341
2025	13,618,341
2026	13,618,341
2027	13,618,341
2028	13,618,342
2029	13,618,342
2030	13,618,342
2031	13,618,342
2032	13,618,342

Summary Patient Forecast Totals	
Five Year Total from Avg	20,188,680
Ten Year Total from Avg	40,377,361
Five Year Total from Highest Possible	68,091,705
Ten Year Total from Highest Possible	136,183,415

Figure 4. Message Forecasts

Average High Messages for 10 Year Forecast	
2023	11,341,131
2024	11,365,966
2025	11,390,801
2026	11,415,637
2027	11,440,472
2028	11,465,307
2029	11,490,142
2030	11,514,977
2031	11,539,813
2032	11,564,648

Highest No. of Messages over 10 Years	
2023	32,493,015
2024	59,620,150
2025	113,490,284
2026	224,661,810
2027	456,027,933
2028	934,679,856
2029	1,945,287,009
2030	4,042,213,617
2031	8,429,284,448
2032	17,582,043,498

Summary Message Forecast Totals	
Five Year Total from Avg	56,954,008
Ten Year Total from Avg	114,528,897
Five Year Total from Highest Possible	886,293,192
Ten Year Total from Highest Possible	33,829,429,205

EDRI Current State

The current state EDRI was not able to process the overwhelming reporting of COVID 19: the number of patients reflected beginning in 2020 are not representative of unique patients, with matching processes overwhelmed by volume of reports. The EDRI replacement solution must include parallel processing, scalability, and batch matching capability. While the volume experienced in COVID 19 was related to a public health care emergency, current state EDRI does not consume and retain all negative reporting results: Hepatitis negative results are sent through EDRI as the exception. DOHMH desires to process and retain all negative report results and anticipates an expansion of iterative reporting of negative results for such disease conditions such as syphilis, as well as anti-susceptibility results for specific antibiotics. The EDRI Replacement solution design must accommodate new sources of health information to support public health response, including outbreak activities.

Figure 5. EDRI Current State Statistics

Current EDRI Volume Data			
Year	Number of Patients	Number of Messages	Message Per Patient
2013	556,790	1,649,395	2.962328706
2014	395,316	2,025,372	5.12342531
2015	263,043	2,025,281	7.699429371
2016	298,452	2,403,073	8.051790573
2017	311,313	2,300,694	7.390292085
2018	307,342	3,111,940	10.12533269
2019	320,697	2,836,943	8.846178792
2020	12,721,061	17,101,298	1.344329534
2021	20,643,911	26,749,838	1.295773751
2022	4,559,417	8,740,743	1.917074705
2023	574,622	1,259,712	0.45615347

C. Project Scope of Work

The scope of work includes ensuring that all business, security, and audit requirements are met following Division of Information Technology (DIT) project implementation standards, policies, and procedures. The preferred project management approach is a hybrid of waterfall and Agile methodologies.

Build and Implementation Resources

The vendor will be required to provide all build and implementation resources to deliver the scope of services; the vendor proposes the staffing plan for EDRI replacement. These resources will include a dedicated Project Manager who will act as the main liaison with DOHMH and be fully engaged in day-to-day management of the project. The vendor's project team will also include a Technical Manager, Business Analyst(s), Data Modeler(s), Quality Assurance Engineer(s), Software and Data Quality Assurance Architect(s), Software Developer(s), Integration Engineer(s), Solution Architect(s), Systems Engineer(s), Technical Writer(s), Trainer(s), and Web Designer for the duration of the successful development, implementation, and post-production transition period for the EDRI Replacement solution.

Figure 6. Anticipated Design, Build and Implementation Resource Roles and Duties

Technical Expertise	Anticipated Role and Duties
Technical Manager	Assign technical tasks in accordance with solution design, ensure implementation standards, responsible for quality and ownership of technical deliverables, technical communication with stakeholders.
Business Analyst	Identify business areas that can be improved to increase efficiency and strengthen business processes. Communicate findings and support implementation.
Data Modeler	Design, implement and document data architecture and data modeling solutions to support information management, business intelligence, machine learning and other business interests.
QA Engineer	Create tests that identify issues with solution software, develop and run new tests and report results to collaborate with stakeholders to remediate software issues or problems.
Software and Data QA Architect	Design test plans, scenarios, scripts, and procedures. Document software defects, perform defect management, report defects to developers. Identify, analyze, and document problems with program function, output, online screen, or content.
Software Developer	Work with developers to design algorithms and flowcharts; produce clean and efficient code based on specifications; test, verify and deploy programs, systems, and services; troubleshoot and debug software. Incorporate stakeholder findings and execute improvements.
Integration Engineer	Plan, design and implement integration processes. Document integration processes and participate in transfer and solution transition.
Solution Architect	Design the system solution architecture and work with stakeholders to achieve strategic project goals. Provide guidance

	and programming as needed to ensure best practices are followed throughout the project.
System Engineer	Ensure installed systems, services and infrastructure follow DOHMH guidelines and requirements; ensure the stability, integrity, and efficient operation of solution. Document system and participate in knowledge transfer and solution transition.
Technical Writer	Research, outline, write and edit content in collaboration with technical and business stakeholders. Produce procedure manuals, technical specifications, and process documentation.
Trainer	Assess training needs; plan, prepare and develop user based and information technology training materials and solution training program. Coordinate and deliver training.
Web Designer	Create website layout and user interface using standards best practices. Use web specifications to design and develop testable code. Integrate data from back-end services, systems, and databases. and standards. Refine requirements based on stakeholder and technical needs.

A DOHMH Technical Project Manager will be designated to provide direction and oversight in the completion of technical, security and cloud documentation as well as coordinate IT stakeholder meetings internal and external to DOHMH Division of Technology to ensure any risks, issues or blockers are addressed.

A DOHMH Business Project Management Office Project Manager will be designated to synchronize stakeholder reporting, coordinate evaluation of deliverables and ensures any risks, issues or blockers are addressed. DOHMH subject matter expertise will be provided for requirements gathering, data quality review and user acceptance testing.

Figure 7. DOHMH EDRI Replacement Stakeholders and Areas of Subject Matter Expertise

DC	**Disease Control**
eCR	**Electronic Case Reporting**
ECLRS	**Electronic Clinical Laboratory Report System**
Maven	**Maven Disease Surveillance and Outbreak Management System**
VS	**Vital Statistics**
PRISM	**Provider Reporting System**
PHL	**Public Health Laboratory**
WGS	**Whole Genome Sequencing**
HI	**Health Informatics**
DIT	**Division of Information Technology**
DevOps	**Development and Operations (Information Technology)**
OTI	**Office to Technology Innovation (Information Technology)**
MPI	**Disease Control Master Patient Index**

NPD	**National Provider Directory DOHMH Customized Instance**
BCD	**Bureau of Communicable Diseases**
BHHS	**Bureau of Hepatitis, HIV and Sexually Transmitted Infections**
BOI	**Bureau of Immunization**
BTBC	**Bureau of Tuberculosis Control**
RHIO	**Regional Health Information Organization**
CIR	**Citywide Immunization Registry**

Scope of Work

Deliverables- Based Structure and Date Range of Completion

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
1. Project Management Deliverable Documentation	1. Provide professional project planning documentation and project management activities using dedicated resources for DOHMH project team. 2. Complete full life cycle project management. 3. Lead the full solution implementation by initiating, planning, executing, controlling, and closing the project. 4. Ensure that solution success criteria are defined and met to achieve project goals.	1. Project Charter 2. Vendor Staffing Plan 3. Project Roles and Responsibilities, Including RACI Chart 4. Project Schedule, Denotes Milestones 5. Requirements Management Plan 6. Change Management Plan, Including Change Request Form 7. Quality Assurance Plan 8. Risk Management Plan, Including Issue and Action Item Management 9. Communication Plan 10. Weekly Project Status Reports including Risk and Issue Logs	Within 1-2 Months from Project Kick Off
2. Define Environment Specifications and Configuration for EDRI Replacement Solution	1. In collaboration with DIT, Define Specifications and Configuration for EDRI Replacement Solution Environments Including: Development Stage Pre-Production/UAT Production 2. Migrate Internal DOHMH Code and Build Artifacts to EDRI Replacement Development Environment	1. Define EDRI Replacement Environments and Collaborate in DOHMH Build: a. Development b. QA/Test c. Pre-Production d. Production 2. Migrate Internal DOHMH Code and Build Artifacts to EDRI Replacement Environment(s) 3. Define source system data samples and data population for environments commensurate with data use practices.	Within 1-4 Months from Project Kick Off

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
	3. Data Sampling and Data Access Activities.	4. Validate expected data in each environment by source.	
3. Infrastructure and Security Deliverable Documentation	In collaboration with DOHMH Information Technology document infrastructure and security requirements in DOHMH templates. In collaboration with DOHMH Information Technology support and respond to quality assurance review required for infrastructure and security documentation.	1. Application Security Project Scoping Document 2. Software Security Assurance Program (SSAP) Document 3. Topology Build of Materials Workbook Tabs 4. Disaster Recovery and Business Continuity Plan 5. Incident Response Plan	Within 4--8 Months from Project Kick Off
4. Requirements Elicitation and Requirements Deliverable Documentation	1. In collaboration with stakeholders, facilitate requirements definition and documentation of detailed requirements to support the Scope of Services. 2. Utilize requirements gathered in previous vendor engagement; validate requirements and gather additional requirements as needed. 3. Document the requirements, integrations, reports, and regulatory requirements.	1. Project Kick Off Meeting(s) with Stakeholders 2. Coordinate and facilitate requirements elicitation, review, elaboration, and validation in stakeholder tailored workgroup sessions based on previously gathered requirements. 3. Include Requirements from RFP 4. Business Requirements Document 5. Functional Requirements Document 6. Technical Requirements Document 7. Business Rules 8. Integration Requirements Contributing Data Sources, Systems,	Within 1-4 Months from Project Kick Off

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
		Services and APIs. Specific Services include but are Not Limited to: a. Medical Terminology b. Service / API c. Address Service 9. Utilization of Disease Control Master Patient Index Matching 10. Utilization of National Provider Directory Provider and Facility Matching	
5. Solution Architecture Design Deliverable Documentation	1. Coordinate with informatics, surveillance, and DIT, to partner with Microsoft Assist to design solution architecture to meet the Scope of Services. 2. Document a comprehensive Solution Architecture Design which can be updated over the life of the project.	1. Detailed Solution Architecture Design Document Including: Integration Requirements a. Contributing Data Sources, Systems, Services and APIs b. Medical Terminology Service / API c. Address Service d. Utilization of Disease Control Master Patient Index Matching e. Utilization of National Provider Directory Provider and Facility Matching 2. Technical, Security and Infrastructure Configuration Details and Specifications Defines the end-to-end system technical architecture and specifications. 3. Implementation Strategy	Within 5-7 Months from Project Kick Off
6. Quality Assurance Deliverable	1. QA test plan 2. Integration test plan including contributing data	1. Quality Assurance Testing Plan DOHMH Template	Within 7-9 Months from Project Kick Off

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
Document for Unit, Integration, System and Quality Assurance Testing	sources, systems, services, and APIs. 3 Testing for utilization of MPI and Provider Directory. 4. Defect Tracking 5. Test Scripts	2. Testing Strategy with Management of Failed Test Scripts 3. Integration test plan including: a. Contributing Data Sources, Systems, Services and APIs b. Utilization of Disease Control Master Patient Index c. Utilization of National Provider Directory 4. Data Load / Data Migration Testing 5. Performance Testing 6. Defect Tracking Document 7. Defect Log Document 8. Test Scripts	
7. Integration Plan for Data Sources, Systems, Services and APIs Deliverable Document	Detailed Plan for Bridging and Data Synchronization Between Required Data Sources, Systems, Services and APIs	1. Define Integration Scope and Approach to Data, Systems, Services and API Integrations 2. Design and Describe Data Integration Framework 3. Specify Business Processes, Data Quality Rules, and Data Integration Processing 4. Reporting Errors 5. Data Delivery	Within 8-10 Months from Project Kick Off
8. Build Foundation Database and Web Application	1. Build Foundation Database and Web Application 2. Incorporation of DOHMH Proof of Concept Data Cleaning, Rules Engine and User Interface	1. Database a. Normalized b. Performs Queries for QA, Issue Tracking and Trouble Shooting c. Performs Inserts d. Supports Creation of Views e. Performs Joins 2. Web Application	Within 8–14 Months from Project Kick Off

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
		a. Azure Functions b. Azure Service Queues c. Azure Service Bus d. Data Cleaning e. Rules Engine f. User Interface	
9. Integration of Data Sources, Systems, Services and APIs	1. Perform Integration of Data Sources, Systems, Services and APIs 2. Profile Data to Ensure Requirements are Met 3. Test Data Quality Rules and Data Mapping	1. Perform Integrations to Plan for Contributing Data Sources, Systems, Services and APIs. 2. Profile All Data to Ensure Requirements are Met. 3. Test Data Quality Rules and Data Mapping a. Data Validation b. Data Cleaning c. Deduplication d. Consolidation	Within 12-15 Months from Project Kick Off
10. Requirements Traceability Matrix Deliverable Documentation	Matrix to trace approved requirements through design and final testing.	1. Requirements 2. Test Cases Ensuring Coverage of Requirements 3. Defects 4. Status a. Design Status b. Test Status	Within 12-13 Months from Project Kick Off
11. Build Foundation Performance of Unit, Systems, Integration, Quality Assurance and Performance Testing	Performance of Unit, End-to-End Integration, Systems Quality Assurance and Performance Testing	1. Performance of Unit and System Testing 2. Performance of Integration Testing, including End to End Data Quality Review and Validation. 3. Performance of Match Tuning for Cleansed, Deduplicated and Merged Data 4. Performance Testing a. Two Cycles of Data Load and Documented Results b. Data Reconciliation	Within 13-17 Months from Project Kick Off

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
		c. Error Logging and Performance Tuning 5. Penetration Testing as Required Under Software Security Assurance Program (SSAP) Document.	
12. Coordinate, Document and Remediate Subject Matter Expert QA Data Validation Activities Build Foundation	1.Provide Data Extracts for QA Data Validation 2.Perform Remediation for Data Quality Findings	1. Provide Data Samples for SME Quality Assurance Validation Activities 2. Performance of Remediation Activities to Address DOHMH User Acceptance Data Quality Findings	Within 17-20 Months from Project Kick Off
13. Build Expansion Required Features and Functions	Build Features and Functions to Approved Requirements for the EDRI Replacement Solution.	1. Disease Classification 2. Program Classification, Reclassification 3. Program(s) Routing 4. External Look Up (CIR) 5. Transformations 6. eCR Quality Assurance 7. eCR Certification 8. Operational Message Processing Dashboard 9. Alerts and Notifications 10. Other Core Functions and Features Identified in the RFP and in Requirements Gathering	Within 15-21 Months
14. Coordinate, Document and Remediate Subject Matter Expert QA Data Validation Integrated Data	1.Provide Data Extracts for QA Data Validation 2.Perform Remediation for Data Quality Findings	1. Provide Data Samples for SME Quality Assurance Validation Activities 2. Performance of Remediation Activities to Address DOHMH User Acceptance Data Quality Findings	Within 17-20 Months from Project Kick Off
15. Historical Data Loads - Migration Plan Deliverable Documentation	1. Detail Plan for Legacy Data Migration – Data Loads	1. Detail Strategies and Approaches for Converting, Migrating and Validating Data.	Within 20-23 Months from Project Kick Off

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
	2. Data Validation Approach 3. Source to Target Mapping 4. Data Quality Report	2. Source to Target Mapping of Data to be Converted, Including Business Rules. 3. Data Quality Improvement and Analysis Reporting 4. Error and Exception Report in Data Load / Data Migration Process 5. Deduplication in the EDRI Replacement Solution	
16. Build Expansion Features and Functions Performance of Unit, Systems, Integration, Quality Assurance and Performance Testing	Performance of Unit, End to End Integration, Systems Quality Assurance and Performance Testing	1. Performance of Unit and System Testing 2. Performance of Integration Testing, including End to End Data Quality Review and Validation. 3. Performance of Match Tuning for Cleansed, Deduplicated and Merged Data 4. Performance Testing a. Two Cycles of Data Load and Documented Results b. Data Reconciliation c. Error Logging and Performance Tuning	Within 20-23 Months from Project Kick Off
17. Coordinate, Document and Remediate Subject Matter Expert QA Data Validation Build Expansion Data	1. Provide Data Extracts for QA Data Validation 2. Perform Remediation for Data Quality Findings	1. Provide Data Samples for SME Quality Assurance Validation Activities 2. Performance of Remediation Activities to Address DOHMH User Acceptance Data Quality Findings	Within 23-25 Months from Project Kick Off
18. Training Plan and Training Materials	1. Training Plan	1. Training Plan a) Business Users b) Technical Users	Within 23-26 Months from Project Kick Off

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
Deliverable Documentation	2. Training Materials Tailored for DOHMH User Community	2. Training Materials Tailored for DOHMH User Community using Workflow and/or Role to Deliver Content 3. Identify Pre-Requisites for Training 4. Identify Topics, Delivery Method, and Duration of Commitment 5. Evaluation Method of User Training 6. Training Video Content 7. Web Based User Manual and Job Aids	
19. Implementation of EDRI Replacement Solution in Test Environment Similar to Production	1. Implementation of EDRI Replacement Solution in Test Environment 2. Test Environment Pilot User Training	1. EDRI Replacement Solution in Test Environment Including: a. Web Application b. Integration of Contributing Data Sources, Systems, Services and APIs c. EDRI Solution Features and Functions d. Role Based Access Control 2. Pilot User Training 3. Release Criteria	Within 24–25 Months from Project Kick Off
20. Transition Plan Deliverable Document	Comprehensive Knowledge Transfer Documentation Including Specifications, Code, Testing and Guidelines for Deployment and Testing	1. Product Overview 2. Knowledge Transfer Project Specifications 3. Code Documentation 4. Automated Testing 5. Asset Transfer Credentials 6. Guidelines for Deployment and Testing Processes	With 25-27 Months from Project Kick Off
21. Deployment Plan Deliverable Documentation	1. Go Live Plan 2. Deployment Run Book - Checklist	1. Deployment Run Book Plan	Within 27-29 Months from Kick Off

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
	3.Code Deployment with Tasks, Resources and Dates	2. Go Live Checklist Document to Track Tasks, Resources, Dates for Deployment. 3. Final Code Drop with Tasks, Resources and Dates for Deployment	
22. Historical Data Loads – Legacy Data Migration	1. Perform Historical Data Loads – Legacy Data Migration Per Plan 2. Provide Load Reports and Remediation for Data Migration Errors 3. Provide Random Inspection Report of Loaded Data that Result in No Identified Errors.	1. Perform Historical Data Loads per Load/Migration Plan 2. Provision of Reports and Analysis of Automated or Manual Data Load / Data Migration 3. Resolve Data Load / Data Migration Errors 4. Provision of Inspection Reports from of Random Inspection of Loaded / Mapped Data that Result in No Identified Data Errors.	Within 26-29 Months from Project Kick Off
23. Coordinate, Document and Remediate Subject Matter Expert User Acceptance Testing Activities	1.User Training for Acceptance Testing 2. Review and Update of User Scenarios and Test Plan 3. Coordination of User Acceptance Testing for Role Based Access 4. Inclusion of Defect Tracking in Status Reports from discovery to resolution.	1. Training for DOHMH User Acceptance Team. 2. Review and Update of SME Test Scenarios to Align Functionality, User Testing Steps and Data Element Field Identification 3. Review UAT Test Plan 4. Coordination of User Acceptance Testing of Master Patient Index Solution Features and Functions 5. Performance of Remediation Activities to Address DOHMH User Acceptance Data Quality Findings. 6. Coordination of User Acceptance Testing of Role Based Access Control	Within 29-31 Months from Project Kick Off

Deliverable	Minimum Required Activities	Required Documentation or Demonstration	Proposed Date Range of Completion
		7. Defect and Data Quality Tracking and Reporting in Weekly Status Report 8. Defect and Data Quality Remediation Retest and Acceptance by DOHMH User Acceptance Team.	
24. Production Deployment	Implementation of Fully Functioning EDRI Replacement Solution Inclusive of Scope of Services in Production Environment	1. Defects identified, corrected, retested and re-accepted production environment with full 2. Deployment/Run-Book Plan 3. Go-Live Document tracking all tasks, resources, and dates for deployment 4. Final code drop, if applicable 5. Solution Data Dictionary	Within 32-33 Months from Project Kick Off
25. Provision of End User Training per Plan	Implementation of Training Plan 1. Schedule Training Sessions 2. Perform Business and Technical Training	1. Training Schedule 2. Training Sessions 3. Train the Trainer Sessions 4. Provide Training Video Content Based on Workflows, Roles, and Functionality 5. Provide Web Based User Manual and Job Aids	Within 33-35 Months from Project Kick Off
26. Post-Production Transition per Plan	Perform EDRI Replacement Solution System Hand Over per Post-Production Transition Plan	1. Manage Transition Handover a. Status of Deployment b. Status of Testing c. Work in Progress 2. Update Access to Code and All Tools 3. Confidential Information Destruction	Within 34–36 Months from Project Kick Off

General Program Assumptions

Contractor Assumptions:

- Contractor will perform the required work both onsite and offsite. For onsite work, Contractor will follow all City-wide, NYC DOITT and NYC DOHMH IT policies, procedures, and standards,
- Contractor will work remotely with the expectation that any onsite meetings would occur at DOHMH's central office, located at 42-09 28th Street, Long Island City, New York. Work schedules will be in accordance with DOHMH's project schedules and deadlines.
- Contractor will not infringe or otherwise violate any patents, copyrights, trade secrets, licenses, or other rights of any third party.
- Prior to using any new or different software and/or equipment to provide the Scope of Work, Contractor will verify that its software and/or equipment (a) are consistent with and interoperate successfully with DOHMH's technology architecture, information technology and information technology standards; (b) have been properly installed; (c) are operating in accordance with its specifications; (d) are performing their intended functions in a reliable manner; and have been properly documented; and time being of the essence, Contractor shall promptly provide such services and materials as may be required to replace, repair or correct any defects or warranty non-conformities in the Scope of Work. Vendor software upgrades and data repository updates should be performed in a timely manner and on an agreed upon schedule.
- Prior to beginning work, the Contractor will provide to DOHMH the names of a dedicated Project Manager who will act as the main liaison with DOHMH and be fully engaged in day-to-day management of the project. The vendor's project team will also include a Technical Manager, Business Analyst(s), Data Modeler(s), Quality Assurance Engineer(s), Software and Data Quality Assurance Architect(s), Software Developer(s), Integration Engineer(s), Solution Architect(s), Systems Engineer(s), Technical Writer(s), Trainer(s), and Web Designer for the duration of the successful development, implementation, and post-production transition period for the EDRI Replacement solution. Any changes to the dedicated resources planned must be agreed to by DOHMH.

DOHMH Assumptions

- DOHMH will be the sole owner of all source code and any software which is developed for use in any application software provided to DOHMH as a part of this contract.
- DOHMH will designate 1 or 2 project sponsors who have authority to make all decisions regarding the project and who can sign off on all deliverables.
- DOHMH stakeholders will participate in project tasks and contribute to project deliverables per the levels of effort documented in the Project Charter to be approved by DOHMH during project initiation.
- The DOHMH project sponsor(s) will review all deliverables within ten (10) business days of submission and accept them or request changes/edits. If changes/edits are requested, the Contractor must resubmit the deliverable with recommended changes within five (5) business days to DOHMH. DOHMH will review the updated deliverables within five (5) business days of resubmission for acceptance or request modifications.

- DOHMH will provide all required access to systems and data to Contractor so long as, Contractor abides by the terms and conditions of the Data Use and Non-Disclosure Agreement, DIT Confidentiality Agreement, and DDC Confidentiality policy. Otherwise, DOHMH will revoke all access to systems and data.

SECTION III: FORMAT AND CONTENT OF THE PROPOSAL

Instructions: The items contained in this section must be included in the Bidder's proposal to meet the minimum requirements for evaluation. The sections must be in the order described and written in a straightforward and concise manner. Proposals will be evaluated based on their content, not length.

Respondents must carefully examine all requirements stipulated in this RFP and respond to each requirement in their proposal.

A. Proposal Format Requirements

- Font: 12 point – Times New Roman Spacing: Optional (single spaced or greater)
- Pages: Numbered (exclusive of title page and table of contents)
- Margins: 1 inch
- Paper: 8 ½ x 11
- File Format: PDF format

B. Proposal Content

In detail, using the guidance outlined below, describe the Proposer's qualifications, capacity, and proposed plan for evaluating DDC's current surveillance workflow and implementing the new infrastructure, as described on the Section II: Scope of Services above.

1. Vendor Proposal Form
   The Vendor Proposal Form (Attachment A) transmits the Proposer's Proposal Package to FPHNYC. An official authorized to bind the proposer must sign the Vendor Proposal Form.

2. Applicant Eligibility Questionnaire
   The Applicant Eligibility Questionnaire (Attachment B) certifies that the Proposer meets the minimum mandatory requirements stated in this RFP.

3. Technical Proposal
   Below is a listing of the technical information to be provided by the Proposer.

   3.1 Proposal Summary: Provide a summary (no more than 1 page) of the important features of the proposal, including the Proposer's understanding of the issues.

   3.2 Table of Contents: Provide a table of contents with page numbers for the materials contained in the Technical Proposal.

3.3 Qualifications and Experience: Describe the successful relevant experience of the Proposer, each proposed subcontractor, if any, and the proposed key staff in providing the work described in Section II: Scope of Services. Specifically address the following:

3.3.1 Demonstrate the Proposer's relevant qualifications and experience in the last five (5) years both for the firm as a whole, for each key staff person and, if applicable, each subcontractor the Proposer intends to assign to the effort required for the proposed services.

3.3.2 Provide a narrative description of the Proposer's experience and demonstrated ability of project management and technical development oversight; data integration from multiple contributing data sources, data exchange, systems, services, and APIs; data exchange, web, architectural design; solution development and implementation, master data management, historical data migration, and FHIR R 4.0 interoperability standards.

Site specific examples and provide a synopsis of five (5) completed projects over the past five (5) years to include the project scope, methodologies employed, and challenges with respect to meeting the project requirements. The Proposer should cite specific examples of services provided for projects of similar scope and complexity.

3.3.3 Provide a synopsis of the scope of any similar project(s) conducted by the firm as a whole and/or in which proposed key personnel participated.

In addition:

3.3.5 Attach an Organizational Chart

3.3.6 Attach resumes and/or qualifications for each proposed key staff person.

3.3.7 subcontractor.

3.3.8 Attach client list with name, address, contact name, and telephone number of all subscribers to similar contracting services. If possible, list clients within the New York metropolitan area.

3.4 Organizational Capability:

Demonstrate the Proposer's organizational capability to perform the work described in Section II Scope of Services. Specifically address the following:

3.4.1 The Proposer's staffing capacity, including: (1) the number of full-time people currently employed by the firm, (2) the projects on which the firm is currently working, (3) future projects to which the firm is committed. All project information shall include the dollar value of the contract, as well as the schedule.

3.4.2 Provide a projection of how this project will affect the Proposer's current workload and standby capability. Specifically cite any ongoing jobs and demonstrate that they would not impact the proposer's capability to successfully implement this project.

3.4.3 Provide a description of the organization and management structure. Identify how the organization carries out mission-essential and other support tasks, define operational procedures, provide a description of how the organization improves its mission, and how decisions are managed.

3.4.4 State whether there are any pending legal proceedings to which the Proposer and any of its subsidiaries are a party to, of which any of their property is subject and any proceedings known to be contemplated by governmental authorities. If so, describe the nature and circumstances of the pending proceeding in detail.

In addition:

3.4.5 Attach a copy of the proposer's latest annual financial report, audit report, or most recent federal tax return with all schedules and sub-schedules.

Note: For submissions not inclusive of the proposer's latest annual financial report, audit report, or most recent federal tax return with all schedules and sub-schedules, a video conference call presentation will be scheduled for the proposer to provide the company's annual financial status, audit report, or most recent federal tax return with appointed members of the EDRI Replacement Solution Evaluation Committee to support their role in financial stability evaluation and scoring.

3.5 Proposed Approach:

Present a detailed description of how the Proposer will accomplish the tasks described in the Scope of Services. Specifically address the following:

3.5.1 Describe the Proposer's approach to solution development and demonstrate that it will effectively meet the scope of services goals and objectives set forth in this RFP by providing:

- A description of the proposed solution to meet the goals set forth in this RFP.
- A narrative overview of the capabilities of the Proposer and key personnel, and of the methodology to be employed in meeting the objectives of the RFP.
- A project description including tasks and proposed time frame for start-up of the operation, and delivery of services.
- A narrative overview of the proposed interaction between the Proposer, FPHNYC and DOHMH with respect to managing projects and technical development of solutions as described herein.
- Specific descriptions of solution design, development, implementation approach and methodologies; description of project and technical management, programming oversight and control procedures; approach to technical documentation as living documentation across the development lifecycle; client facilitation, communications and requirements gathering procedures; professional services resource management controls; project scheduling and status reporting procedures.

3.5.2 Describe and demonstrate the effectiveness of the Proposer's plan for managing and implementing these services.

3.5.3 Describe and demonstrate the effectiveness of the methods of quality control the proposer will utilize. The Proposer should cite specific examples of quality control methods employed on projects of similar scope and complexity.

3.6 Proposer Exceptions:

Define any exceptions taken to the requirements of the RFP, including general provisions for Service Contracts. The exceptions shall be included in a separate section of the Technical Proposal and clearly identified as such.

4. Price Proposal

The Price Proposal Form shall be utilized by the Proposer for the submission of the Price Proposal.

4.1 The Price Proposal Form (Attachment C) shall be signed by an authorized officer of the firm and adhere to the following:

- All fees shall be fully burdened ("Fully Burdened") and shall include, but not be limited to, all management, supervision, labor, material, supplies, consumables, repair parts, and equipment necessary to provide the applicable services. Likewise, the Fully Burdened fees shall include, but not be limited to, all payroll, statutory payments such as Social Security and Worker' Compensation, fringe benefits, Contractor overhead and expenses, travel time, and Contractor profit necessary to complete the services pursuant to the terms of the subsequent Agreement. All documents and reports requested regarding this RFP, including but not limited to contract documents, reports, service reviews, cost estimates, distribution reports, quality control reports, price proposals shall be provided at no additional cost to DOHMH. The Contractor shall be required to keep its submission of pricing data current until the Agreement has been completed. If the Contractor refuses to submit the required data to support price, the ACCO shall not accept the price.
- Funding should be allocated to increase staff capacity/size.
- The Proposer shall submit an all-inclusive Fixed Burdened rate per title hour to furnish all labor and materials required to complete the work.
- Except for Prevailing Wage rates, prices must remain fixed for the term of this contract including optional years.
- Except for Prevailing Wage rates, all prices shall not be subject to any additions, markups, percentage multiplier, or cost of living increases.
- The Proposer shall provide a mark-up rate percentage for subcontracting services. Said mark-up rate shall be Fully Burdened in accordance with the provisions herein.
- Funding will not be allocated for office supplies, rent, or activities outside the scope of this RFP.
- All costs associated with the successful implementation of deliverables and services will be all inclusive and comprehensive; costs will include, but not be limited to, travel, insurance, supplies, etc.
- The selected contractor will provide to DOHMH any component of any Work Product, deliverables, or the materials or methodologies used by the selected contractor in providing the services under the agreement.
- All deliverables under this contract will be "works-for-hire" and will be the sole property of DOHMH.
- The deliverables will not infringe or otherwise violate any patents, copyrights, trade secrets, licenses, or other rights of any third party.

- The build out of additional functionality and services and the renewal of costs including licenses is contingent on the availability of future funds.
- Prior to using any new or different software and/or equipment to provide the Scope of Services, the selected contractor will verify that its software and/or equipment (a) are consistent with and interoperate successfully with DOHMH's technology architecture, security and information technology standards; (b) have been properly installed; (c) are operating in accordance with its specifications; (d) are performing their intended functions in a reliable manner; and (e) have been properly documented; and time being of the essence, the selected contractor shall promptly provide such services and materials as may be required to replace, repair or correct any defects or warranty non-conformities in the Work Product or deliverables.
- Prior to the issuance of a contract, DOHMH may require that, as applicable, additional relevant service delivery requirements not included here must be agreed upon. These requirements may pertain but not be limited to privacy, confidentiality, and data use.

NOTE: No price information should be disclosed in the Technical Proposal; proposals will be evaluated for technical viability before cost is considered.

5. Acknowledgment of Addenda
   The Acknowledgment of Addenda Form (Attachment D) serves as the Proposer's acknowledgment of the receipt of addenda to this RFP, which may have been issued by FPHNYC prior to the proposal due date and time, as set forth in Section I.

C. Proposal Package Contents

The Proposal Package email should contain the following materials. Proposers should utilize this section as a "checklist" to assure responsiveness and completeness of submission prior to submitting their proposal.

☐ Vendor Proposal Form – Attachment A

☐ Applicant Eligibility Questionnaire – Attachment B

☐ Standard Clauses for FPHNY Special Project Contract Attestation

☐ Technical Proposal:
- ☐ Table of Contents
- ☐ Proposal Summary (1 page limit)
- ☐ Qualifications and Experience
- ☐ Organization Chart
- ☐ Resumes and/or Description of Qualifications for each proposed key staff person

- ☐ Client list with name, address, contact name, and telephone number of all subscribers to similar contracting services. If possible, list clients within the New York metropolitan area.
- ☐ Minimum of two client reference contacts with name, address, contact name, email address and telephone number.)
- ☐ Audit report, latest annual financial report, or most recent federal tax return with all schedules and sub-schedules.
- ☐ Proposed Approach
- ☐ Proposer Exceptions

☐ Price Proposals:

☐ Price Proposal Form – Attachment C

☐ Deliverables – Based Milestone Payment Table

☐ Acknowledgement of Addenda – Attachment D

☐ Doing Business Data Form – Attachment E

☐ Notarized Iran Divestment Act Compliance Rider for New York City Contractors – Attachment F

SECTION IV. PROPOSAL EVALUATION AND CONTRACT AWARD PROCEDURES

All proposals accepted by FPHNYC will be reviewed to determine responsiveness and completeness of submission to the requirements of this RFP. Proposals that are determined to be non-responsive will be rejected. The Evaluation Committee will evaluate and rate all remaining proposals based on the Evaluation Criteria prescribed below. DOHMH reserves the right to conduct site visits and/or interviews and/or to request that Proposers make presentations and/or demonstrations as DOHMH deems applicable and appropriate.

Although discussions may be conducted with Proposers submitting acceptable proposals, DOHMH reserves the right to award contracts on the basis of initial proposals received, without discussions; therefore, the Proposer's initial proposal should contain its best technical and price terms.

a. Proposal Evaluation Criteria

The criteria, and the relative weight of each, that will be utilized to evaluate proposals are:

a. The quantity and quality of the Proposer's experience in providing project management and technical development oversight; data integration from multiple contributing data sources, data exchange, systems, services, and APIs; data exchange, web, architectural design; solution development and implementation, master data management, historical data migration, and FHIR R 4.0 interoperability standards.	30%
b. Proposer's demonstrated level of organizational capability and capacity, including financial stability, market presence, proposed project team, references, and ability to deliver scope of services in within the timeline.	20%
c. Proposer's proposed approach, methodology, expertise of resources identified to meet Scope of Services.	30%
d. Proposer's pricing. Inclusive of solution design, build, testing, documentation, and implementation resources to meet the Scope of Service. .	20%

b. Selection Process

1. The Evaluation Committee will evaluate proposals and rank Proposers by technical merit and price according to the criteria listed above.
2. After completion of the technical evaluations, the Evaluation Committee may request oral presentations and/or demonstrations from qualified proposers for further evaluation.
    a. At the sole option of FPHNYC, in coordination with DOHMH, and if the Evaluation Committee deems it necessary, respondents will be invited to present an overview of the solution contained in their technical proposal.
    b. The oral presentation shall be followed by a question-and-answer session. A total maximum of ninety minutes in duration will be set-aside for each oral session.
    c. Oral and/or visual presentations should not include any information that is not included in the written proposal. The purpose of the oral/visual presentation shall be solely to clarify the information contained in the written proposal.
3. As a result of the oral interview, the Evaluation Committee may re-assess the initial evaluation of the technical proposals based on an assessment of:
    a. How well the total proposal meets DOHMH's requirements.
    b. The quantity and knowledge of the Contractor's representatives about project management and technical development oversight; data integration from multiple contributing data sources, data exchange, systems, services, and APIs; data exchange, web, architectural design; solution development and implementation, master data management, historical data migration, and FHIR R 4.0 interoperability standards.

c. Award Process

A contract award will be made to the responsible bidder whose proposal is determined to be the most advantageous to the City, taking into consideration technical merit and price. Contract award shall be subject to the timely completion of contract negotiations between FPHNYC, in collaboration with DOHMH, and the selected Proposer as well as a determination of vendor responsibility. FPHNYC and DOHMH reserve the right to accept or reject the proposals.

DOHMH shall rank proposers by technical merit. DOHMH reserves the right to ask for Best and Final Offers on both technical approach and price and may then further negotiate a fair and reasonable price with the highest technically ranked proposer. In the event that DOHMH has chosen to negotiate a fair and reasonable price with the top-ranked proposer and such fee was not successfully negotiated as determined by DOHMH, FPHNYC and DOHMH may conclude such negotiations and enter into negotiations with the next ranked proposer as necessary.

Each Proposer submitting a proposal will be notified in writing regarding the decision concerning their proposal. Once a selection has been made, the designated vendor will be asked to contract with the Fund for Public Health in New York City. Release of funds and other needs will be incorporated into the contracting process.

d. General Disclosures

1. Right to Reject Proposals
   FPHNYC may reject any or all proposals received and may ask for further clarification or documentation. Submitted information that does not respond to all items in this RFP may be excluded from further consideration and alternative information packages may not be considered.

2. Proposal Costs
   The respondent will be solely responsible for any costs incurred in preparing, delivering, or presenting responses to this RFP. Respondents will not be reimbursed for any costs incurred in preparing proposals.

3. Fulfillment of Requirements
   By submitting an information package, the Proposer acknowledges that the respondent has read and understands this RFP and is capable of fulfilling all requirements.

4. Right to Amend, Cancel, this RFP, or Solicit a New RFP
   FPHNYC may amend or cancel this RFP at any time, without any liability to FPHNYC, and/or DOHMH. FPHNYC or DOHMH may solicit new requests for information and/or proposals regarding the services addressed in this RFP at any time.

5. Amount of Business
   FPHNYC does not guarantee of any specific amount of business or revenue as a result of this RFP.

6. Security and Confidentiality
   Respondents should give specific attention to the identification of those portions of their proposals that they deem to be confidential, proprietary information or trade secrets and provide appropriate justification for why such materials, upon request, should not be disclosed by FPHNYC. Such information must be easily separable from the non-confidential sections of the proposal. All information not so identified may be disclosed by FPHNYC.

7. Proof of Insurance
   The selected contractor will need to demonstrate that necessary insurance coverage, including Commercial General Liability and Worker's Compensation, is in place from the start of the contract.

ATTACHMENT A
VENDOR PROPOSAL FORM

Instructions: Please complete and submit this Vendor Proposal Form with your application signed by the Project Director for the application and the entity's Authorizing Official.

Bidder/Proposer's Legal Entity Name:	
Business Name, if different from above:	
Employer Identification Number:	
Principal Place of Business:	
Authorizing Official	
Name:	**Title:**
Email:	**Phone Number:**
Project Director	
Name:	**Title:**
Mailing Address:	
E-mail:	**Phone Number:**
Certifications	

As Project Director, I certify that all information provided in this application is correct and accurate to the best of my knowledge.

_____

Signature of Project Director Date

As the Authorizing Official for the entity submitting this application, I am supportive of this application and commit my organization to fully engaging in the work plan provided in this application.

_____

Signature of Authorizing Official Date

ATTACHMENT B
APPLICANT ELIGIBILITY QUESTIONNAIRE

INSTRUCTIONS: Proposers must respond to each of the following Minimum Requirements. Failure to submit a response, or selection of the response "No", may disqualify the proposer from further consideration.

Part I:

MANDATORY MINIMUM REQUIREMENTS OF RFP		
☐	A.	Have a minimum five (5) years of experience with demonstrated ability of project management and technical development oversight; data integration from multiple contributing data sources, data exchange, systems, services, and APIs: architectural and web design; solution design, development, and implementation; master data management, historical data migration, and FHIR R 4.0 interoperability.
☐	B.	Be available to provide services within the New York City area (a New York City office is preferred) and for all aspects of service required herein.
☐	C.	Confirm that, if awarded, it will agree to enroll as a City of New York approved vendor.

Part II:

PREFERRED EXPERIENCE		
☐	A.	Knowledge of HL7 standards, Maven, public health surveillance, and experience replacing systems similar in size and scope to this RFP
☐	B.	
☐	C.	
☐	D.	

Part III:

APPLICANT STATUS		
☐ Yes	☐ No	Is the Proposer a Minority and Women Business Enterprise (M/WBE)?

Part IV:

PROPOSER'S CERTIFICATION
By my signature below, I certify that I am an authorized representative of the proposer named below, and that all information provided above is true and complete to the best of my knowledge. _____

Signature of Authorizing Official	Date
Bidder/Proposer (Name of Firm)	

Standard Clauses for FPHNYC Special Project Contract Attestation

Standard Clauses for FPHNY Special Project Contract Attestation

(Name of Contractor) has review the Terms and Conditions identified in Appendix C (Standard Clauses for FPHNY Special Project Contract), with the understanding that this boilerplate language is not negotiable, and the contractor accepts these terms and condition as such.

Name of Contractor

By: _____

Name:

Title:

ATTACHMENT C-1
PRICE PROPOSAL FORM INSTRUCTIONS

Proposers are instructed to offer a maximum, not-to-exceed (NTE) rate for each title. The rate must be inclusive of all costs associated with the performance of work (for example, overhead, administrative fees, etc.). There will be no separate budget lines or payments for expenses other than the items of cost listed here.

Proposers must also attach their rate card, or a comprehensive list of the maximum hourly rates paid to personnel performing these functions. These rates will be provided for informational purposes only. DOHMH will only pay the contractor based on deliverables.

The contract that results from this solicitation will be a requirements contract. There is no minimum guaranteed quantity of work. The quantities estimated here are estimates for evaluation purposes only. The actual quantities may be more or less, depending upon the needs of DOHMH.

ATTACHMENT C-2

PRICE PROPOSAL FORM

Item #	Title / Description	A Quantity for Evaluation Purposes (Hours)	B Proposed Not-To-Exceed Hourly Rate ($)	Extension Total ($) (A x B)
Labor Rates for Staff*				
1				
2				
3				
4				
5				
6				
7				
8				
Subtotal: Labor Rates				
Software/Tools/ Supplies	Title / Description	Quantity for Evaluation Purposes	Estimated Cost	Extension Total (A x B)
9			$	$
Subcontracting Mark-up	Title / Description	Quantity for Evaluation Purposes ($)	Percent Mark-up (%)	Extension Total (A x (1+B))
10		$		$
Subtotal: Other Expenses (Software/Tools + Subcontracting Mark-up)				
TOTAL (Labor Rates + Other Expenses)				

*Note: For any unit item title rate listed above for which subcontracting is required, the Proposer will indicate the applicable rate in the appropriate unit item as well as include the applicable mark-up in unit item 10. The Proposer shall identify separately any unit item title rate that is to be subcontracted.

ATTACHMENT C-3
Deliverables - Based Milestone Payment Table

Include a completed Deliverables - Based Milestone Payment Table in the response to proposal reflecting vendor defined milestone payments.

Deliverable Based Milestone	Milestone Payment
1. Project Management Deliverable Documentation	
2. Define Environment Specifications and Configuration for EDRI Replacement Solution	
3. Infrastructure and Security Deliverable Documentation	
4. Requirements Elicitation and Requirements Deliverable Documentation	
5. Solution Architecture Design Deliverable Documentation	
6. Quality Assurance Deliverable Document for Unit, Integration, System and Quality Assurance Testing	
7. Integration Plan for Data Sources, Systems, Services, and APIs Deliverable Documentation	
8. Build Foundation Database and Web Application	
9. Integration of Data Sources, Systems, Services and APIs	
10. Requirements Traceability Matrix Deliverable Documentation	
11. Build Foundation Performance of Unit, System, Integration, Quality Assurance and Performance Testing	
12. Coordinate, Document and Remediate Subject Matter Expert Quality Assurance Data Validation Activities Build Foundation Data	
13. Build Expansion – Required Features and Functions	
14. Coordinate, Document and Remediate Subject Matter Expert QA Data Validation Activities Integrated Data	
15. Historical Data Loads - Migration Plan Deliverable Documentation	
16. Build Expansion Features and Functions Performance of Unit, System, Integration, Quality Assurance and Performance Testing	
17. Coordinate, Document and Remediate Subject Matter Expert Quality Assurance Data Validation Activities Build Expansion Data	
18. Training Plan and Training Materials Deliverable Documentation	
19. Implementation of EDRI Replacement Solution in Test Environment Similar to Production	
20. Transition Plan Deliverable Documentation	
21. Deployment Plan Deliverable Documentation	
22. Historical Data Loads – Legacy Data Migration	
23. Coordinate, Document and Remediate Subject Matter Expert User Acceptance Testing Activities	
24. Production Deployment	
25. Provision of End User Training per Plan	
26. Post-Production Transition Per Plan	

ATTACHMENT D
ACKNOWLEDGEMENT OF ADDENDA

INSTRUCTIONS: Complete Part I OR Part II as applicable; complete and sign in Part III

Part I – Acknowledgement of Receipt of Addenda

Listed below are the dates of issue for each Addendum received in connection with this RFP:

Addendum #1: Dated _____

Addendum #2: Dated_____

Addendum #3: Dated _____

Addendum #4: Dated_____

Addendum #5: Dated _____

Addendum #6: Dated_____

Addendum #7: Dated _____

Addendum #8: Dated_____

Addendum #9: Dated _____

Part II – Acknowledgment of No Receipt

_____ No Addenda were received in connection with this RFP.

Part III – Signature

_____

Signature of Authorizing Official Date

_____

Bidder/Proposer (Name of Firm)

ATTACHMENT E
DOING BUSINESS DATA FORM

DOING BUSINESS
Data Form Standard

ATTACHMENT F
IRAN DIVESTMENT ACT COMPLIANCE RIDER FOR NEW YORK CITY CONTRACTORS

The Iran Divestment Act of 2012, effective as of April 12, 2012, is codified at State Finance Law ("SFL") §165-a and General Municipal Law ("GML") §103-g. The Iran Divestment Act, with certain exceptions, prohibits municipalities, including the City, from entering into contracts with persons engaged in investment activities in the energy sector of Iran. Pursuant to the terms set forth in SFL §165-a and GML §103-g, a person engages in investment activities in the energy sector of Iran if:

a) The person provides goods or services of twenty million dollars or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran; or

b) The person is a financial institution that extends twenty million dollars or more in credit to another person, for forty-five days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list created pursuant to paragraph (b) of subdivision three of Section 165-a of the State Finance Law and maintained by the Commissioner of the Office of General Services.

A bid or proposal shall not be considered for award, nor shall any award be made where the bidder or proposer fails to submit a signed and verified bidder's certification.

Each bidder or proposer must certify that it is not on the list of entities engaged in investment activities in Iran created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. In any case where the bidder or proposer cannot certify that they are not on such list, the bidder or proposer shall so state and shall furnish with the bid or proposal a signed statement which sets forth in detail the reasons why such statement cannot be made. The City of New York may award a bid to a bidder who cannot make the certification on a case-by-case basis if:

1. The investment activities in Iran were made before the effective date of this section (i.e., April 12, 2012), the investment activities in Iran have not been expanded or renewed after the effective date of this section and the person has adopted, publicized, and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran: or

2. The City makes a determination that the goods or services are necessary for the City to perform its functions and that, absent such an exemption, the City would be unable to obtain the goods or services for which the contract is offered. Such determination shall be made in writing and shall be a public document.

BIDDER'S CERTIFICATION OF COMPLIANCE WITH IRAN DIVESTMENT ACT

Pursuant to General Municipal Law §103-g, which generally prohibits the City from entering into contracts with persons engaged in investment activities in the energy sector of Iran, the bidder/proposer submits the following certification:
[*Please Check One*]

BIDDER'S CERTIFICATION

☐ By submission of this bid or proposal, each bidder/proposer and each person signing on behalf of any bidder/proposer certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief, that each bidder/proposer is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law.

☐ I am unable to certify that my name and the name of the bidder/proposer does not appear on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. I have attached a signed statement setting forth in detail why I cannot so certify.

Dated: _____, New York
_____, 20 __

_____
SIGNATURE

_____
PRINTED NAME

_____
TITLE

Sworn to before me this
_____ day of_____, 20___

_____
Notary Public

APPENDIX A
MINIMUM REQUIREMENTS PER TITLE

Any personnel provided by the Consultant and/or its Subconsultants must satisfy the Minimum Requirements Per Title set forth below:

TITLE	MINIMUM REQUIREMENTS	
	NUMBER OF YEARS OF EXPERIENCE	PROFESSIONAL LICENSE OR CERTIFICATION
ADMINISTRATIVE PERSONNEL		
Project Manager	7	
Technical Manager	7	
Business Analyst	5	
Project Director	10	
TECHNICAL PERSONNEL		
Technical / Data / Solution / Integration Architect	7	
Quality Assurance Engineers	7	
Software and Data Quality Assurance Architects	7	
Technical Writer	7	
Senior Developer/Engineer/Analyst	7	
Web Designer	5	
Trainer	5	
Mid-level Developer/Engineer/Analyst	5	
Junior Developer/Engineer/Analyst	3	

APPENDIX B
DOHMH MASTER PATIENT INDEX SOLUTION

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
Solution 01 *FR-T- 015*	**System is developed using C # programming language in .NET Selenium Web/GUI Open-Source framework for automated testing. GitHub enterprise for code version control.**	To ensure system can be utilized long term. Programming language utilized is C # on a .NET platform. DOHMH utilizes Selenium Web/GUI open-source framework that automates the testing. GitHub enterprise for code version control.	DOHMH is currently deemed as a Microsoft shop and has staff to support solutions and process tools described in the RFP. Any other development or process management components need to be vetted and approved by DOHMH.	Must
Solution 02	**System must process data from all inbound disease surveillance components as well as prioritize messages based on relevant disease or data source (Files and Formats) and parse and display attachments embedded within HL7 messages.**	To ensure that system can support all inbound disease surveillance system file formats and parse and display attachments embedded within HL7 messages.	New solution should have a way to handle all file formats from: Reporting Central/PRISM (XML), HARS (txt), CIR (XML), ECLRS (HL7 v 2.5.1, pipe delimited), Maven (XML), PHB, Feedback Server (web-based surveys) (XML), Vital Records (FHIR HL7), eCR (HL7, including CDA R2 and FHIR), RHIOs (FHIR HL7) Needs to have the ability to parse and display the attachments embedded within the HL7 messages. DDC: Currently, the attachment is stripped from the HL7 message before the message goes into EDRI. EDRI can't handle the attachment.	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-I- 002 *FR-1-004*			Allow the user to view and submit the attachment to Maven if it is deemed necessary. Alert the user that there are attachment files to review Automate the routing of attachments based on rules.	
Solution 03 *FR-T- 004*	**System must follow standard HL7 formats: MSH, PID, OBR, NK1, NTE & SPM Segment (where the source comes in). If the source is coming in another field, this needs to be specified.**	To ensure the system can capture all data elements in the HL7 message that is necessary for informatics and program workflow.	Informatics: can receive files in real time or batch. Most of the clients are on HL7 2.5.1 which has the SPM segment as well as standard MSH, PID, OBR, NK1 & NTE. Former versions of HL7 do not have the SPM segment. Mayo and LabCorp are on HL7 2.3 version and still need to convert. eCR has a separate section for the source in the CDAR2/FHIR formats.	**Must**
Solution 04 *FR-T- 003*	**System must be able to support, receive and capture data in an eCR HL7 CDA R2 XML and HTML and FHIR standard format required by CMS and ONC (version 4).**	To ensure that system support eCR file format.	DDC: We have one provider who is sending raw data in an HL7/CDAR2 (xml) format through AIMS for 6 diseases (2 STIs, 1 vaccine preventable disease, and 3 communicable diseases)- potentially 40 (BCD) diseases. We will have to figure out how we will process the data, i.e., de- duplicate, match, classify/ETL process to be consumed by Maven. eCR: Currently 45% healthcare organization are onboarded reporting data to the pre-production environment for Covid-19 certification. Large	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
			volumes of healthcare organizations are expected to continue onboarding. Reporting will expand to all reportable conditions in the future. Additionally, HL7 standard will continue to expand the data requirements for eCR reporting. System should have ability to support validated HL7 CDA xml files based on current and future versions of the Implementation guide (IG) in parallel.	
Solution 05	**System should include artificial intelligence, machine learning and predictive analysis capabilities.**	Leverage technology to optimize data processing.	Disease Control Division Based Requirement – Includes all Programs	**Must**
Solution 06	**System must be able to handle high volumes of eCR files daily, monthly, and yearly for all eCR locations.**	To account for handling of processing of large volumes of data. Estimated Average Total eCR Messages: 5 Years: 3,086,268 10 Years: 6,793,416 Estimated Highest Possible Total eCR Messages: 5 Years: 5,430,156 10 Years: 13,350,900	eCR Informatics: Currently 45% healthcare organization are onboarded reporting data to the pre-production environment for Covid-19 certification. Large volume of healthcare organizations are expected to continue onboarding. Reporting will expand to all reportable conditions in the future. Additionally, HL7 standard will continue to expand the data requirements for eCR reporting. System should have ability to support	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-T- 014			validated HL7 CDA xml files based on current and future versions of the Implementation guide (IG) in parallel. DDC: Future solution capabilities should take on a lot of volume and allow for scalability and processing of multiple messages at once. STI: 100,000 reportable cases of STI per year and every case should have a corresponding provider report, (baseline). TB: LTBI will now be reported for positive patient for infections, # hard to project. We will be receiving all negatives and positives. BHHS: Acute Hepatitis C is reportable by provider. Less than 200 cases were reported in 2021. It is anticipated that all hepatitis results, both chronic and acute, would be received by eCR to supplement demographics and laboratory results.	
Solution 07	**System must be able to consume all results, both positive, and scale to respond to sudden influx of reporting to support public**	To ensure the system can handle the capture of all negative and positive test results and associated increase in report volume.	DDC: For IFH, we are receiving negatives for Hepatitis RNA and plan to receive all eCR patients' results (positive or negative) for certain conditions TB: Due to an increase in health code changes, TB	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-PW- 023	**health emergencies.**		receives more laboratory reports on QuantiFERON-Negative and Positive results. Also, every negative result within a year of a positive result must be reported. STI: Requiring negative reporting for syphilis VHP: Requiring negative reporting for hepatitis, including B and C, and reporting of all ALT results	
Solution 08 *FR-T- 005*	**System must provide flexibility to review / block messages at the OBX level rather than at the MSH level, so results are moved down to Maven.**	To ensure the system is flexible to handle blocking and looking at messages at the OBX level.	DDC: BCD was looking to block disease code 610 from processing in EDRI. However, upon a closer look at the data, there are non- COVID results which impact the other programs so blocking all disease code 610 isn't an optimal solution. The new system needs to be flexible to deal with blocking at the OBX level rather than at the MSH level, so results are moved down appropriately to Maven.	**Must**
Solution 09 *FR-*	**System must handle Bulk message resends.**	To ensure bulk message resends can be handled by the system.	DDC: System should consider how many messages can be processed at once. System must have a high throughput. Need a way to resend a load of messages. Sometimes users will bypass EDRI. Sometimes vendors will resend messages when there are failures due to missing information: LOINC, Updated Lab Code, Patient	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
PW- 031			demographics, etc. and it slows down the current system.	
Solution 10 FR-PW- 024	**System must ensure that one message should not fail the entire batch of messages.**	To ensure system has a way to handle processing of errors for a single message when sent in a batch.	Informatics checks all reference and hospital laboratories, non- classification work queues daily. There is one scenario where the whole batch of results previously sent may have failed due to one message not being classified due to one of many issues such as missing LOINC or SNOMED code.	**Must**
Solution 11 FR-PW- 033	**System provides addition of new diseases.**	To ensure diseases/conditions can be quickly added to the system.	New diseases added: BCD- maybe once a year, STI- once in last 10 years	**Must**
Solution 12	**System provides ease of mapping new diagnostic and laboratory codes: refer to an external medical terminology service.**	To ensure that new diagnostic and laboratory codes can be efficiently added / available to the system.	Disease Control Division Based Requirement – Includes all Programs	**Must**
Solution 13 *FR-T- 011*	**System must integrate with other surveillance system components, either by talking to other components; or by plugging into other**	To ensure the system can integrate with a surveillance system component.	DDC: We should keep in mind how to integrate with other surveillance system components, either by talking to other components; or by plugging into other components. (Example: Interface Engines)	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
	components.			
Solution 14	**System must integrate with Public Health Laboratory System**	Integration of surveillance system with PHL Laboratory Information Management System for interchange of PHL laboratory results for notifiable diseases, including COVID 19 results and Whole Genome Sequencing (WGS).	Disease Control Division Based Requirement – Includes all Programs	**Must**
Solution 15	**System must integrate accession information from the PHL Laboratory Information System**	Incorporation of accession information from the Public Laboratory Information system into an automated process.	Disease Control Division Based Requirement – Includes all Programs	**Must**
Solution 16	**System must obtain jurisdictional reports electronically with an automated process for inter-jurisdictional bidirectional electronic notifications from Maven**	Inclusion of interjurisdictional reporting and bidirectional processing with Maven.	Disease Control Division Based Requirement – Includes all Programs	**Must**
Solution 17	**System must import data from CIR.**	To ensure the system can pull data from CIR through an API, based on requests initiated	Disease Control Division Based Requirement – Includes all Programs	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-I- 003		by a person or process.		
Solution 18 *FR-PW- 027*	**System must process results received from Wadsworth (Reflex testing).**	To account for system handling of reflex testing performed in any reference laboratory.	Informatics: Should handle reflex testing from any of our reference laboratories.	**Must**
Solution 19 *FR-PW- 035*	**System must provide access to back-end database to view external systems side by side.**	Capabilities of the system to pull data from any external sources such as Maven, EDRI, and view, side by side.	Disease Control Division Based Requirement – Includes all Programs	**Must**
Solution 20 *FR-O- 003*	**System must integrate with Maven to generate XML files and map to the Maven Integration Format (MIF).**	To ensure that the system can integrate with Maven and generate XML file formats.	eCR Informatics: eCR system must integrate with Maven.	**Must**
Solution 21	**Must share data amongst all bureaus.**	To ensure system has a way to allow for sharing of data amongst programs.	STI: In current state all demographic information is shared, and we get to know which program contributed to that demographic information- patient in STI can see a telephone number that the TB registry contributed. This will need further discussion. 4 bureaus: can see data from each other with special permission. Assumption for future solution would be that programs can share data, but programs will need to have special sign off	**Must**

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FR-PW- 011			from the deputy commissioner to see a patient across the board. For now, we have program specific views for data (example: TB can only view TB and cannot see clinical data for BCD). Conversation is going on for consolidation on a division level vs. groups- how can we better share and leverage data across all groups? Hepatitis B is tracked for immunization by BOI and is also tracked by BHHS for reporting.	
Solution 22	**System must include front end for the definition of users, roles, and permissions. Users, roles, and permissions should allow for definition to be set as view only, create, edit, or delete**.	To account for configuration on the front end for all users, roles, and permissions.	Current state user roles: DIIT, Informatics, Program admin (BCD, TB, STI, BOI). TB: Examples of roles: Superusers, only can create rules and do high-level activities. Basic users only have access to view messages or edit/resend messages. STI: Role of program user & application user. Application users: Ability to check/resend messages but to not be able to write rules or delete rules. BCD: Several of us on rotation have the same permissions. All users would have the same kind of permission, but most of us do not write rules. BOI: Would like to see two types of roles: An admin role and a basic user role. Basic user	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-PW- 039			roles would be able to view and search messages, edit/resubmit, but would not want them to go into the hold queue or write rules.	
Solution 23 *FR-DF- 003*	**System must log / audit all user activity**.	To have audit tracking and/or log files for all user activities.	TB: Would like to see audits to user roles for certain activities. Maven has super users and regular users for managing hold queues and having only certain users create rules. BOI: When a resubmit of a message is performed, would be helpful to have a user ID, line of audit on who edit and resent a message.	**Must**
Solution 24	**System must allow for selection of reports for reprocessing in the case of failure or new information or to process reports that are not initially sent to the surveillance system.**	Ensure workflow capability to reprocess reports as identified.	Disease Control Division Based Requirement – Includes all Programs	**Must**
Solution 25	**Diseases must be classified before being captured in the surveillance system.**	To ensure system has a way to handle the classification workflow for eCR.	DDC: For the majority of cases disease classification for eCR will be seen in the reportability response. When the doctor updates the patient record with the LOINC for the test they ordered, a report is automatically generated and	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
			sent to the AIMS platform. There, the report is compared to reporting criteria authored by DOHMH surveillance staff in RCKMS. If the case is determined to be reportable to DOHMH it is routed appropriately. At this point, a Reportability Response document is created and sent to both the reporting provider and DOHMH. Once DOHMH receives the report and the RR, they will be linked by their shared document ID. The condition name contained in the RR will determine where in the agency the case will be routed. For ELR, most reports come from NYS ECLRS with a disease classification assigned. However, some are not classified and should not be sent to the surveillance system/program until they have been reviewed and classified. confirmed data is coming through correctly for disease, then the feed is turned on in production. eCR: eCR would follow a similar process of initial onboarding and then have programs UAT. This will need to be discussed.	

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-DF- 004			New system's workflow for testing and UAT should not interfere with the production system.	
Solution 26 *FR-DF- 006*	**System must include the ability to process Classifications that need manual intervention.**	To ensure system has a way to handle messages that do not conform to classification rules.	Informatics: Rules are written to handle classification. If a required data element is missing and a result cannot be classified, these messages will need to be manually reviewed. Informatics will evaluate the unclassified messages. Unclassified would not make it to the program level. STI: For further classification, if there is a case where we can't classify on the reportability response, we look at test type and LOINC to make further classification. ECLRS: Need the ability the batch classify results per message and messages per lab. Labs may send numerous erroneous result messages at a time. Currently each requires individual inspection.	**Must**
Solution 27 *FR-DF- 015*	**System must include a front end to handle unclassified diseases.**	To have a front-end user interface or queue for informatics to handle unclassified diseases/conditions.	Informatics: Any message/result that is not automatically classified is sent to the unclassified queue. Here they are manually assigned a disease by ECLRS Coordinators. Informatics will check unclassified queue as part of their daily workflow.	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
Solution 28 *FR-DF- 008*	**System must process classification with Reportability Response and without Reportability Response.**	To ensure system has a way to handle classification with Reportability Response and without Reportability Response.	DDC: In cases of manual classification, there will be an option for providers to manually initiate a case report and another case when certain classification needs to be added that is not on the priority list of the AIMS team.	**Must**
Solution 29 *FR-PW- 025*	**System must provide ability to set some results that are not classified as non-reportable or create a rule.**	To account for informatics writing rules to DND or set results to non-reportable for results that are not classified.	When a result comes through to work queue as non-classified: Informatics will work with the client to fix the issue on their side or create a rule to resolve or set to non-reportable. Informatics will also search NYS web portal (Health Commerce) for additional classification data.	**Must**
Solution 30 *FR-DF- 007*	**System must provide ability to clear and/or reclassify any erroneously sent information.**	To ensure system has functionality to clear and/or reclassify any erroneously sent information.	Currently if a message is routed to the wrong program/queue, the user can't reclassify the message.	**Must**
Solution 31	**System will have a way to allow for the definition of multiple data fields for classification of conditions/diseases on the front end with reportability response and without reportability**	To have a front-end user interface for classification of diseases/conditions with and without Reportability Response.	Every time an electronic case report (eCR) is triggered from the patient record in the EHR system, it is sent to the AIMS platform to evaluate if it is a reportable condition to any jurisdictions. The AIMS platform creates a second corresponding document called the reportability response (RR), which is the only document that contains the condition name and is the	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-DF- 013	**response.**		primary method of disease classification for eCR. However, we may not always be able to rely on the RR for disease classification. For eCR, we will have situations where we need to perform additional/multiple classifications based on other test results, test codes and rules that will look at the reportability response sent from AIMS. We can also map certain laboratory tests and diagnosis codes to certain conditions. Reports may have to be reviewed and manually classified. Certain fields help to identify classification: test, results, order fields as well as MD notes.	
Solution 32	**System must reduce manual data cleaning and rules creation in utilizing natural language processing and large language models.**	Ensure optimization of system with available tools to reduce manual data processing.	Disease Control Division Based Requirement – Includes all Programs	**Must**
Solution 33	**System must include ability to clean messages that are missing SNOMED, LOINC, specimen source, Pregnancy**	To ensure system has a way to handle messages that are missing required data for message processing.	STI/TB/BCD/BOI: Programs will write rules to handle processing of messages, and when a message is missing required fields, these messages go to a hold queue for further evaluation. The programs analyze the messages in the	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-DF- 011	**status, DND, HOLD as well as other eCR errors**.		hold queue, and will check for missing specimen source, LOINC code (Test Type), SNOMED (test results), and PREGNANCY STATUS. If test results contain a numeric value, then a Standard Quant should be populated. There are times when a result needs to be corrected due to an error and resubmitted or marked as "DND". (Do not distribute)- These DND errors do not transmit to Maven. DDC: Would like to incorporate natural language processing/large language models and refer to medical terminology databases to reduce need for manual review	
Solution 34 *FR-DF- 016*	**System must provide a front end for users to view results that do not conform to standards and see the details of failure points. (HOLD QUEUE)**	To have a front-end user interface or queue for programs to handle messages that do not conform to standards.	Each program has their hold queue sectioned based on their workflows. Hold rule allows programs to put reports that do not conform to standards and those that require additional review in a "Hold queue".	**Must**
Solution 35	**System should provide ability to clean facilities according to CDC facility type.**	To have a way to handle cleaning of facilities to set facility type.	STI: Overmatch facilities, big issue for STI. Certain # of cases reported to the CDC say they were diagnosed at a TB clinic but was really at an STI clinic. In this case looking at the same address, but not looking at the suite/room number. STI also analyzes and cleans the facilities for facility type- the	**Should**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-DF- 024			CDC needs facility type information. (This may not be needed if we have a comprehensive and well-defined facility table)	
Solution 36 *FR-PW- 018*	System must have the ability to support facility onboarding and stop data flows by facility, disease, and/or program in the event of data quality concerns or change in facility reporting status; this may require integration with other DOHMH applications used for facility onboarding, compliance, and data quality assurance.	To ensure system has a way to maintain flow of high-quality data reported from laboratories, facilities, and providers, and seamlessly integrate with other DOHMH applications to reconcile facility reporting status and onboard new facilities into the system to allow for rules creation and facility management.	Informatics: For ELR & eCR, we need a way to stop the flow when bad data is coming in or when the facility is not yet certified for the production flow. We also need to integrate the system with other DOHMH applications, such as a customer relationship management (CRM) tool, to trigger the update to the facility reporting status to allow data flow to begin or resume. For ELR, we need to able to add new laboratories that reported via ECLRS to the master laboratory list in the system and reconcile this list with our CRM tool and synchronize across all systems.	**Must**
Solution 37 *FR-PW- 012*	**System must allow for configuration to support eCR onboarding / Certification process and generate eCR reports for data completeness and validity.**	To ensure the system can support the configuration of the onboarding and certification process.	Informatics: Current state is done in a QA environment. A test file is generated in QA in an HL7 format and then UAT with the programs. eCR Informatics: Current state eCR data is coming through in the Pre-Prod environment and QA is performed for certification	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
			which supports DOHMH validated production reporting requirements. The solution must have the ability to generate eCR Reports for data completeness and validity.	
Solution 38 *FR-DF- 023*	**System should have ability to set up alerts and notifications.**	To have a front-end user interface for user setup of alerts and notifications.	STI: Currently gets the notification emails in the morning- once a day. BCD: Add disease of interest as a possibility for alerts and notifications. Informatics: Sets threshold and alerts for each sender and checks for file frequency of the sender. Since that is not currently a part of rhapsody, a new application will need to be able to identify what facility hasn't sent us data in a certain timeframe.	**Should**
Solution 39 *FR-PW- 032*	**System must capture: Medications, Immunizations, Travel History, Reason for visit, Diagnosis, pregnancy, status-and additional data sent from EHR.**	To account for capturing all information applicable to the patients' medical history in the system.	When DOHMH receives laboratory reporting information that is positive- there is a need to find out additional information: i.e., medications, follow up, initial screening, pregnancy results, ordering facility information, immunization records as well as other test results that can aid in how diseases are treated. eCR now captures all this information: Medications, Immunizations, Travel History, Reason for visit, Diagnosis,	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
			pregnancy status.	
Solution 40 *FR-DF- 019*	**System should include a front end to add/ edit / update patient demographics.**	To have a front-end user interface for updates to patient demographics on certain fields like race and ethnicity or patient address and access to this function is limited by user, roles, and permissions.	STI: Continue current practice of populating missing demographic information from EDRI sources if missing from STI report. BCD: All demographic changes are done in Maven. STI: We should have the option to for items such as race or ethnicity. TB: Would like to keep the option to update address if the address is being sent incorrectly.	**Should**
Solution 41 *FR-PW- 004*	**System must track and indicate patient pregnancy status.**	To ensure system has a way to track and indicate pregnancy status of patients.	STI: Currently being sent as free text for ELR. DDC: For eCR will need to figure out how this will work since this can come in numerous ways: diagnosis, flag, lab test, doctor's notes. BOI: Women of childbearing age, BOI will track pregnancy status. All programs need this, especially BOI and STI. Also look for probable pregnancy. Also, if pregnancy is sent over with eCR for Hep B- this will determine if this goes to Perinatal Hep B team (BOI) or Hep B team (BCD).	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
Solution 42 *FR-PW- 005*	**System must track infants born to Hepatitis positive mothers.**	To ensure system has a way to track patients based on certain criteria.	BOI: will track a mother who has Hepatitis B throughout her birth history, single or multiple births. Therefore, mother's patient history will be tracked for many years and can be lengthy. The child is also tracked- up to 2 years from birth. Informatics: System must be able to track other information for a patient as well.	**Must**
Solution 43 *FR-PW- 006*	**System should provide ability to create web-based user surveys (STI).**	To allow setup of web forms for surveys.	STI: Nice to have in the web form. The only function current state serves are it provides the initial login for the patient. Need to capture data from Feedback Server software application that allows users to create web-based surveys (STI)	**Should**
Solution 44 *FR-PW- 007* *FR-PW- 026*	**System must include advanced searching of messages.**	To ensure system has advanced searching of messages for program workflow. To account for advanced searching of patient information to troubleshoot issues for informatics.	TB: When searching for a patient by accession or order number, the search will only bring up the first message. The user must do additional searching in the current system or other systems for additional information. Informatics writes SQL queries to search for additional results in database if unable to find out why the result failed initially. Currently, they have no way to do advanced searching and therefore need to write SQL	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
			queries.	
Solution 45 *FR-PW- 009*	**System must store numerous contacts sent by the EHR.**	To ensure system can capture and store multiple patient contacts associated with the patient record.	Contacts coming in from an eCR message – if an eCR message has x number of patient contacts, we should be able to store all and send to Maven. Mother/baby relationship, Father-mother, etc. as well as additional information sent with the contacts such as phone number.	**Must**
Solution 46 *FR-PW- 010*	**System must have ability to store all providers for each patient contact.**	To ensure the system can capture and store all providers associated with the patient contacts and capture provider type.	For eCR multiple providers are coming in with the results: Consulting, Attending, Ordering.	**Must**
Solution 47 *FR-DF- 020*	**System must provide a front end for programs to configure to add/edit/update facilities and laboratories.**	To have a front-end user interface configurable by the program for Facility definition.	Each program uses the facility in different ways, and some have their own facility list. The minimum data set for a definition of facilities includes Facility Name, Address, Suite number, Phone number, Hospital/Laboratory affiliate, Type of facility.	**Must**
Solution 48 *FR-DF- 021*	**System must provide a front end to add/edit/update providers.**	To have a front-end user interface configurable by Informatics provider definition.	Informatics: Definition for eCR will be handled by informatics and defined like laboratories. Example: NPI number, Provider Name, Specialty. Programs deal mostly with Facility and not providers since Providers' information often changes.	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
			DDC: Provider information is coming through as free text - dirty data in current state. BOI: Specialty would be valuable for providers.	
Solution 49 *FR-PW- 029*	**System must support testing of rules at point of creation.**	To account for testing of rules, once a user creates a rule, users can then test out the rule to see the impact.	In current state users can create new rules and test rules in Pre-Production environment (holds the same data as Prod).	**Must**
Solution 50 *FR-DF- 014*	**System must provide a front end for Rules Management: System should have a robust rules management function in which one can configure**.	To have a robust front-end user interface for rules management.	Rules Management front end input from Programs: Create a basic, complex rule (have logic to support complex rules creation), Sort rules by type of rule, creator of the rule, Security features for who creates a rule (See User, Roles and Permissions), Choose which rules should be applied first to a message, Allow for comparison between the rules, Show how rules are related to each other (see other rules on specimen source) See what the rules were applied to messages.	**Must**
Solution 51	**System must support complex rule creation by program end users**.	To ensure rules function has the capability for users to create complex rules and system should have logic to support this.	TB: Gave use cases of complex rules. Current state cannot handle complex rules, therefore there is a constant need to create new rules to handle each scenario that comes into the hold queue. Rules are one to one. Being able to create complex rules-	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-DF- 033			take one result and write a rule against another result record. STI: Complex rules for probable pregnancy. Does not think it will be a problem for eCR. Pregnancy in ELR comes in a text field and each lab sends different so rules are often written to handle this.	
Solution 52 *FR-DF- 035*	**System must support the creation of simple rules to apply immediately to messages with correct user, roles, and permissions**.	To have more governance over rules. When rules are simple, rules can be applied immediately. More complex rules will require a second review.	TB: Security features on who has the option to create rules. In current state users do not need approval to create a rule.	**Must**
Solution 53 *FR-DF- 036*	**System must allow for users to:** **Create Rule – to create a new rule in the cleaning application.** **View All Rules – to search and view cleaning rules.** **Hold Rules – to hold messages temporarily until programs.** **Share rules – share cleaning rules across programs. Show**	To ensure the rules function has the capability of creating rules, viewing rules, holding rules, sharing of rules, deactivate of rules, as well as other rules functions.	TB: TB and BCD share a rule where they will filter out negative results. Users can use existing program rules and are shared. BCD: There are times when a rule is broken and no longer fires due to changes in the sending Laboratory Information System. Therefore, BCD will create a new rule to handle these changes. (Acquisition of lab, New Laboratory Information System, Update in Lab codes). STI: Particularly important feature that needs to be improved upon. When creating certain rules, we should be	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
	deactivated rules, date, time, and user.		able to have more rule options available and be able to create a complex rule. BOI: Should allow for deletion of old or not used rules or deactivation of a rule. See what rules are impacted by other rules. Allow for searching of existing rules, search on the rules that a user created, filter on who created it.	
Solution 54 *FR-DF- 032*	**System must provide ability to create user defined rules: DND, HOLD, SNOMED, LOINC etc.**	To ensure rules function has the capability for users to create DND, HOLD, SNOMED, LOINC and other rules related to eCR workflow.	STI: Creates rules to DND negative gonorrhea. Cleaning a message when the spelling of a specimen is wrong. There are rules for checking for specimen source and gender. There are common hold rules. Each program can write a rule for individual labs. There are rules that can be agreed on and rules only applicable to certain programs. BCD: Having specimen source cleaned and standardized up front is an especially important feature. BCD receives a large volume of conditions and depending on what the source is, it will dictate if it's a report they want to route to their system.	**Must**
Solution 55	**System must support for comparison between the**	To ensure rules function can do a comparison between the rules.	BOI: Allow for comparison between the rules. (Global and user level or user rules to user rules)	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-DF- 042	**rules.**			
Solution 56 *FR-DF- 039*	**System must reflect the original sources of data for data processing activities and rules application across multiple systems.**	To have a way to identify data sources for patients in multiple data sources and process rules across multiple systems.	DDC: We must keep in mind a person can be in multiple data sources, Reporting Central, eCR, & ELR all at once and some of those reports may have already gone to Maven.	**Must**
Solution 57 *FR-*	**System will have business rules/rules engine to learn how to deal with classification of diseases and route to one program or multiple programs.**	To ensure there is a way to handle classification of diseases/conditions and route to one program or multiple programs.	STI: eCR data is far more complex. A lot of time should be spent on order of operations, complex rules, outside rules engine can assist us. Important to know- all programs have quite different needs when writing of rules. BOI: Age criteria on pneumococcal is a case where further classification needs to happen, a rule is set up based on age criteria. For classification, if there are two or more conditions reported in one patient message for two different programs, the message would have to be duplicated and sent to the individual programs. In the case where the two conditions	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
DF- 037			are for the same program the; message will need to be duplicated and split to the different conditions in the same program. Also, if pregnancy is sent over with eCR for Hep B- this will determine if this goes to Perinatal Hep B team (BOI) or Hep B team (BCD).	
Solution 58 *FR-DF- 012*	**System must determine the correct order of when rules fire.**	To ensure system has a way to determine the order that rules will fire when multiple rules are applied to a message.	STI: Currently there is no determination in what order the rules will fire. So, this affects messages in different ways. Some of the data gets contradictory. (See use case) BCD: Order of when rules fire is especially important. There are times when multiple rules are applied to a message and BCD does not know what rule worked or which one fired. BCD does not know if the rule fired or if it was done correctly and why it went to a certain bureau and are not able to trace it. TB: We should consider the downstream impacts of when order of rules will fire. This is not an issue for TB.	Must
Solution 59 *FR-DR-041*	**System must incorporate and optimize current state special processing rules into routine data processing.**	To ensure system has functionality to compare incoming reports to historical reports for completeness of information and	STI: Customization that is used to Hold a message without an address until a new report is received. Each disease has a different number of days to Hold to match the address. An order of operations or rules	Must

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
		evaluate the appropriate routing for reports.	hierarchy is needed. Special processing rules currently used run from 2-3 hours at night. BCD: For Hepatitis, preliminary and non-diagnostic results are held until a confirmatory diagnostic result is received. BCD special processing takes 8-9 hours at night.	
Solution 60 *FR-DF- 030*	**System must integrate and perform matching between ELR & ECR using the DDC MPI**	To have a way to perform matching and deduplication between electronic lab reporting and electronic case reporting.	DDC: Introducing eCR data to DOHMH surveillance eco-system, we will now have to consider multiple data sources with the same patient in multiple sources at once: Reporting Central, PHB, eCR, ELR. Potentially have 2 sets of same lab data at different times. There will also be duplicate clinical information as we onboard facilities off Reporting Central to eCR. In these cases, matching and deduplication will have to take place to compare records from these data sources for patient, provider, and facility to know how to handle the result.	**Must**
Solution 61	**System facility algorithm must take into consideration granularity of facility matching – Facility name,**	To have a way to handle facility matching at its most granular level	TB: mentioned, when it comes to facility matching, the granularity of matching needs to be considered for the individual needs of the programs. That could potentially affect at what level	Must

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-DF- 026	**address, phone, suite, room # etc. The DOHMH National Provider Directory should be integrated and incorporated into the algorithm**.		we are matching. Gave example, STI- likes facility data at a more granular level than TB does. It's important for them to know, where a test was done and what dept. in a hospital. TB does not necessarily care about what floor or office. If we are to centralize the matching, it must be at the most granular level of the program's needs. BOI: For facility matching, mentioned each instance of Maven chooses which facilities to add and what they would like to see in their instances. BOI adds to the Maven list if it is a regular reporter. BCD: Has a different facility list that they follow. STI: For facilities, they are being over matched. Overmatch facilities, big issue for STI. Certain number of cases reported to the CDC say they are diagnosed at a TB clinic but really was at an STI clinic. In this case looking at the same address but not looking at the suite/room number.	
Solution 62	**System must have a standardized facility table and eliminate duplicate entries**	To have a comprehensive and standardized facility table that allows for duplicate checking. (A global rule for	Facility requirements captured for each program. TB: Current state -there are many facility locations that are duplicated, unknown or no longer exist. We will need to look at the	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-DF- 028	**as much as possible. System should be integrated with DOHMH Provider Directory to reduce duplicates and improve matching.**	matching of facilities would help in standardization)	facility table and standardize. For facility list, addresses sent by the laboratories are not standard, therefore there may be the same lab defined twice in the facility mapping table, creating duplicates. A global rule for matching of facilities would help in standardization.	
Solution 63 *FR-DF- 027*	**System patient algorithm must include the following considerations: Maven matching and the DDC Master Patient Index. Undermatching is preferable but not a gross level of undermatching. Should have a human review queue for fuzzy matches. Patient algorithm should look at disease level information and take advantage of additional information available in the eCR system.**	To have a way to handle patient matching and workflow for fuzzy matching.	TB: mentioned for configuration of patient match in Maven, we can add additional fields to it, we can write rules on age, address, parse out common addresses for a stronger match. There is also a human review queue for fuzzy match es that fall between a certain threshold. In general, likes the undermatching approach, but does not want a gross level of undermatching. Easier to merge than to unmerge in Maven. There are challenges for deduplication in Maven. If we are working on a new matching algorithm outside of Maven- we must be cognizant of how Maven matches to avoid duplicate efforts. BOI: For patient matching prefers undermatch and then human review. Likes the writeback capability. STI: Current state only looks at	Must

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
			patient level information and does not consider the disease information. Maven looks at disease level. Agreed, the human review queue is good, but not good use of individual program time to do the same activity. Key piece to consider is the quality of actual data coming in for eCR- algorithms must use the data received as its baseline. BCD: For patient matching – prefers under matching, but not grossly under matching.	
Solution 64 *FR-DF- 002*	**System must show all connections Audits (Interfaces, Services, Messages Sent, Messages coming in, Logging user audits)**	To have audit tracking on all data and messages from inbound and outbound connections.	Informatics: Would like to see connection points or failures. A flag on a certain process and more specifically to the stopped process. As part of workflow examine to see if the client has sent data. Audits if an interface is connected, idle, stopped, errors or queued. Would like to know who stopped or started an interface or service. STI: Audits should be able to tell us if there is a system issue and where the issue occurred.	**Must**
Solution 65	**System must provide reporting capabilities and data analytics**	A dashboard with reporting capabilities will allow users to visually see data that are applicable to their	TB: Statistics and reporting are handled in Maven. SQL and SAS code are written off the BI tables in Maven. BOI: A nice snapshot of how	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-D 001 *FR-D- 002*	**with the ability to add new diseases to reports that are monitored and tracked.**	program needs. Dashboards with reporting capabilities can be configured based on different metrics, i.e., users can select certain criteria such as a disease or condition based on a timeframe or select data from a specific provider or facility as well as monitor real-time metrics. For new diseases or conditions being defined, monitored, and tracked, users should be able to easily add to report criteria for rapid turnaround on reporting needs.	many reports we have received by diseases within the past 24 hours. YTD reports would be nice broken down by time periods and diseases. Last 24 hours would make sense for a dashboard but if there was some reporting functionality then we can use that for YTD. BCD: Would like to see a total of diseases, broken up by disease and date range. STI: Would like to see an option for all diseases, not just one disease in a 24-hour period. Programs agreed they are open to see what other data and statistics are available.	
Solution 66	**System must include a dashboard that is configurable for data elements that reflect system performance, daily workflow, troubleshooting activities and disease reporting of the programs.**	To have a configurable dashboard for program and informatics workflow needs. If the dashboard cannot refresh in real time every 15 to 20 minutes is acceptable.	STI: mentioned, dashboards are for telling us about the health of our system and what to expect each day. Are things working as expected? BCD: would be helpful to see a breakdown of diseases (Likes the current hold queue set-up). Look at recent activity of messages and see if messages are flowing through correctly. STI: Would like to see hold queue data elements for	Must

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
FR-D- 003 *FR-D 004*	**Dashboard should refresh in real time.**		troubleshooting. Informatics: would like to see connection points and where a connection failed. TB: Would like to see a dashboard that is tailored to TB and does not impact the other programs: Example: one variable change for a program should not impact the other programs. DDC: Dashboard can inform us operationally, where data are queued or backlogged	
Solution 67 *FR-DF- 022*	**System must have visibility to all connection points and identify identify each facility that is sending data.**	To have a front-end user interface to view all connection points and visually see which facility is sending data.	BOI: System should have a way to identify each facility that is sending data. Informatics: Would like to know connection points or failures- if something is stopped. A flag on a certain process and more specifically the stopped process, when notifications are sent to the group. Need to be able to quickly identify from each facility that is sending data- what status they are at in the cert process, once they are in production and continuing to report to us: We need to follow up directly with the site and check if they haven't sent data to us in a day	**Must**

Req #	Requirement	Objective / Rationale	Program / Core Team Feedback	Priority
			or a month, etc.	
Solution 68 *FR-DF- 017*	**System must monitor all messages to view messages that have been processed - recent activity.**	To have a front-end user interface for programs to see all messages that have been processed and show recent activity for messages.	BCD: Would like to see recent activity of messages and if messages are flowing through correctly.	**Must**
Solution 69 *FR-DF- 018*	**System must monitor data processing errors and provide visibility to errors. (Error queues)**	To have a front-end user interface to show all IT errors for messages.	IT error queues: All messages that error that are not in the hold queue or unclassified queue, show the type of error and where the failure occurred, a step to re- submit the message and error on if a message can't get transformed.	**Must**
Solution 70	**eCR QA and HL7 conformance changes available for development and testing in lower environment.**	Ensure validation prior to promotion to production environment.	eCR Informatic: eCR QA and HL7 Conformance: To support HL7 changes lower environments must be available for development and to test changes to comply with conformance standards prior to promotion to production environment	**Must**
Solution 71	**Rules development and testing across all data types available in lower environment.**	Ensure validation prior to promotion to production environment.	To support rules development and testing across all data types, lower environments must be available to comply with standards prior to promotion to production environment.	**Must**

APPENDIX C
Use Cases by Theme

Use Case 1: Connections		
Use Case Name	View connections to interfaces, services, and processes	
Purpose	To allow informatics users to see connection points	
Business Requirement	# FR-DF-022	
Primary Actor(s)	Informatics	
Stakeholder Interests	Stakeholder	Interest
	Informatics	View connections, monitor and troubleshooting
	Bureaus	View connections
System:	System must have a way to show all connections from senders, files, services, processes, and interfaces	
System Downstream Impact	None	
Success Guarantees	User can view all or single connections and act on the connections if needed	
Preconditions	User has valid login username for the system and user has access to view and act on connections	
Trigger	User selects connection and can view or stop, start, or drill down further to message level	
Use Case Steps	User logs into system and would like to see if IFH has sent data for today. User goes to the connection function and clicks on the connection for IFH. User checks to see if the connection is stopped, queued, started and when the last message was sent.	

Use Case 2: Classification		
Use Case Name	Classification with a reportability response	
Purpose	System should classify the disease/condition using the reportability response and triage to the correct bureau	
Business Requirement	# FR-DF-004, FR-DF-008, FR-DF-013	
Primary Actor(s)	Bureaus, Informatics	
Stakeholder Interests	Stakeholder	Interest
	Bureaus	Follow up- patient care
	Informatics	Classification
System:	System must have a way to look at the reportability response in the message for classification. System must have a defined classification table with Bureau associated to disease/ condition to know where to route the message.	
System / Downstream Impact	Maven receives data to the correct Bureau	
Success Guarantees	System matches to a disease or condition based on the Reportability Response	
Preconditions	Classification/Reportability Response must be associated to the correct Bureau on a table	
Trigger	System receives a transaction with a reportability response	

Use Case Steps	A child is seen at a doctor's office in the city and is exhibiting a whooping cough. The doctor suspects pertussis and orders a laboratory test. When the doctor updates the patient record with the LOINC for the test they ordered, a report is automatically generated and sent to the AIMS platform. There, the report is compared to reporting criteria authored by DOHMH surveillance staff in RCKMS. The case is determined to be reportable to DOHMH and is routed appropriately. At this point, a Reportability Response document is created and sent to both the reporting provider and DOHMH. Once DOHMH receives the report and the RR, they will be linked by their shared document ID. The condition name contained in the RR will determine where in the agency the case will be routed. The RR is checked against a disease/condition table within the system and in this case, it would go to BOI.

Use Case 3: Classification		
Use Case Name	Classification without a reportability response	
Purpose	System should be able to handle classification when a reportability response is not present on the transaction.	
Business Requirement	# FR-DF-013, FR-DF-006, FR-DF-008	
Primary Actor(s)	Bureaus, Informatics	
Stakeholders Interests	Stakeholder	Interest
	Bureaus	Follow up- Patient care
	Informatics	Handling of Unclassified
System	System must have a mechanism to look at additional information sent in the patient's transaction to determine classification when there is no reportability response. Or system must send to a queue to initiate human review.	
System / Downstream Impact	Maven receives data to the correct bureau upon classification	
Success Guarantees	System should send to a human review queue or look at additional information in the patients' previous results or within the same result message with same accession number, collection date, and sending facility to classify the disease/condition and triage to the correct bureau	
Preconditions	Classification/Reportability Response must be associated to correct Bureau on a table	
Trigger	System receives a transaction without a reportability response	
Use Case Steps	New condition of interest for DOHMH: There is an outbreak of legionnaires in NYC this summer. DOHMH is very interested in receiving reports for these cases, but the rest of the country is not having issues with legionnaires', and the AIMS team is busy keeping up with new developments for their COVID criteria. Instead of waiting for the AIMS team's schedule to clear up, DOHMH asks our onboarded providers to manually send a report whenever they see a case of legionnaires'. This will bypass RCKMS, so it would be up to our data classification workflow to	

	identify those cases when they come in. Classification would likely still be based on lab and diagnostic information since we may not want to rely on the one "reason for manual initiation" free text field.

Use Case 4: Classification		
Use Case Name:	Classification without a reportability response	
Purpose:	System should be able to handle classification when a reportability response is not present on the transaction.	
Business Requirement:	# FR-DF-013, FR-DF-006, FR-DF-008	
Primary Actor(s):	Bureaus, Informatics	
Stakeholder Interests	Stakeholder	Interest
	Bureaus	Follow up- Patient care
	Informatics	Handling of Unclassified
System:	System must have a mechanism to look at additional information sent in the patient's transaction to determine classification when there is no reportability response. Or system must send to a queue to initiate human review.	
System/ Downstream Impact:	Maven receives data to the correct Bureau upon classification	
Success Guarantees:	System should send to a human review queue or look at additional information in the patients' previous results or within the same result message with same accession number, collection date, and sending facility to classify the disease/condition and triage to the correct bureau	
Precondition	Classification/Reportability Response must be associated to correct bureau on a table	
Trigger:	System receives a transaction without a reportability response	

Use Case Steps:	Provider-initiated case report: Dr. Corrado sees a patient who she is concerned about. The patient has unusual symptoms or seems to have a flu-like illness that the doctor does not recognize. She is aware of how case reports trigger in her EHR system and knows there are no triggers in the patient record after the encounter. In this example, the doctor should call the health department as well, but she may choose to manually initiate a case report to preemptively provide some context to DOHMH case investigators. The case report would bypass RCKMS and come directly to our system. It would largely look the same as an automatic one, but there would be a free text field present for the provider to include the reason for manual initiation.

Use Case 5: Rules		
Use Case Name:	Cleaning and Standardization messages using natural language processing.	
Purpose:	To clean and standardize a message that does not conform to standards. Natural language processing and use of large language models reduce the need for manual cleaning of data.	
Business Requirement:	# FR-DF-032	
Primary Actor(s):	Bureaus and	
Stakeholder(s) Interests:	Stakeholder	Interest
	Bureaus	Cleaning and standardizing of data
System:	System must have a way to clean and standardize messages	
System / Downstream Impact:	Maven receives results	
Success Guarantees:	Maven receives results that are clean and standardized	
Preconditions:	User has valid login username for the system and has access to module for cleaning and standardizing a message	
Trigger:	User selects message and edits	
Use Case Steps:	User logs into the system to the message queue where messages did not conform to standards. User observes that a sender is sending data in a non-standardized way. User can either write a rule to handle this singular message or create a global rule to address any message of this nature. User decides to write a global rule and then resubmits the message to see that the rule worked and successfully filed to Maven.	

Use Case 6: Rules		
Use Case Name:	Complex rules	
Purpose:	To ensure rules function has the capability for users to create complex rules and system has logic to support	
Business Requirement:	# FR-DF-033	
Primary Actor(s):	Bureaus	
Stakeholder Interests	Stakeholder	Interest
	Bureaus	Write complex rules
System:	System must have a robust rules function	
System / Downstream Impact:	Maven receives results	
Success Guarantees:	Result is sent as two separate results to Maven	
Preconditions	System has robust rules function with operators to support complex rules writing	
Trigger:	System receives a result that calls a complex rule	
Use Case Steps:	Multiple results combined into one record. This record contains two results. Result = “MTB Complex DNA DETECTED. RIFAMPIN RESISTANCE NOT DETECTED. The MTB RIF PCR Test is FDA approved for testing sputa.” This is a PCR result that is combining two results into one record. “MTB Complex DNA DETECTED.” And “RIFAMPIN RESISTANCE NOT DETECTED.” Should have been reported as two separate results. User creates a rule to treat the one long result as two results and is received by Maven as two results.	

Use Case 7: Rules		
Use Case Name:	Do not deliver results to Maven	
Purpose:	To allow results to be set to do not deliver	
Business Requirement:	# FR-DF-032	
Primary Actor(s):	Bureaus	
Stakeholder Interests:	Stakeholder	Interest
	Bureaus	Results that should not be delivered to Maven
System:	System must have a way to write a rule or block certain results that do not need to be reported to Maven.	
System / Downstream Impact:	Maven does not receive result	
Success Guarantees:	The result goes to the DND queue and not reported to Maven	
Precondition	User has valid login username for the system and has access to DND a result (Rules/Blocking)	
Trigger:	User selects message and set to DND or write a rule based on a result or text from result to DND	
Use Case Steps:	User logs into the system to the message queue. User observes that a sender has sent results that should not be reported to Maven. User can either write a rule to handle this singular message or create a global rule to address any message of this nature to be “DND”. User decides to write a global rule and then resubmits the message to see that the rule worked, and result was sent to DND queue. Example: User creates a rule to “DND” negative results for Gonorrhea User creates a rule to “DND” if the result does not contain “positive” or “detected” User creates a rule to “DND” a test result based on age criteria of a patient User creates a rule to “DND” if specimen source is not from a sterile source	

Use Case 8: Rules		
Use Case Name:	Set Not Reportable to Maven	
Purpose:	To allow results to be set to Not- Reportable to Maven	
Business Requirement:	# FR-DF-032	
Primary Actor(s):	Bureaus	
Stakeholder Interests:	Stakeholder	Interest
	Informatics	Results that should not be delivered to Maven
System:	System must have a way to write a rule or block certain results that do not need to be reported to Maven.	
System / Downstream Impact:	Maven does not receive result	
Success Guarantees:	The result is not reported to Maven	
Precondition	User has valid login username for the system and has access to set a result to non-reportable (Rules/Blocking)	
Trigger:	User selects message and set to not reportable or write a rule based on a result or text from result	
Use Case Steps:	User logs into the system to the message queue. User observes that a sender has sent results that should not be reported to Maven. User can either write a rule to handle this singular message or create a global rule to address any message of this nature to be set to not reportable. A result would get classified as ‘Not Reportable’ when it is not required for reporting (i.e., not a required in the NYC Health Code, not a reportable organism)	

<table>
<tr><th colspan="2">Use Case 9: Rules</th></tr>
<tr><td>Use Case Name:</td><td>Complex rules</td></tr>
<tr><td>Purpose:</td><td>To ensure rules function has the capability for users to create complex rules and system should have logic to support this.</td></tr>
<tr><td>Business Requirement:</td><td># FR-DF-033</td></tr>
<tr><td>Primary Actor(s):</td><td>Bureaus</td></tr>
<tr><td>Stakeholder Interests</td><td>
<table>
<tr><td>Stakeholder</td><td>Interest</td></tr>
<tr><td>Bureaus</td><td>Write complex rules</td></tr>
</table>
</td></tr>
<tr><td>System:</td><td>System must have a robust rules function</td></tr>
<tr><td>System / Downstream Impact:</td><td>Maven receives results</td></tr>
<tr><td>Success Guarantees:</td><td>Record 1 and 2 are transmitted over to Maven and Record 3 is sent to the DND queue</td></tr>
<tr><td>Preconditions:</td><td>System has robust rules function with operators to support complex rules writing</td></tr>
<tr><td>Trigger:</td><td>System receives a result that calls a complex rule</td></tr>
<tr><td>Use Case Steps:</td><td>Complex rules:

User creates a global rule where records 1 and 2 are sent to Maven and record 3

is sent to the DND (Do not deliver) queue.
<table>
<tr><td>Record</td><td>Accession#</td><td>Test Type</td><td>Result</td></tr>
<tr><td>1</td><td>1234</td><td>AFB Smear</td><td>Negative</td></tr>
<tr><td>2</td><td>1234</td><td>Culture – DNA probe for M. tuberculosis complex</td><td>Positive</td></tr>
<tr><td>3</td><td>1234</td><td>Culture – DNA probe for M avium complex</td><td>Negative</td></tr>
</table>
</td></tr>
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Use Case 10: Matching and Deduplication		
Use Case Name:	Matching and Deduplication- when a patient record is received with no address and patient exists in the database	
Purpose:	To show systems matching and deduplication algorithm can handle when a patient's transaction is received with no address and patient exists in database	
Business Requirement:	# FR-DF-027	
Primary Actor(s):	Bureaus	
Stakeholder Interests:	Stakeholder	Interest
	Bureaus	Patient Identity
System:	Systems matching and deduplication algorithm must look at additional information available in the system for a match	
System / Downstream Impact:	Maven updates patient record	
Success Guarantees:	System can match to existing patient record or gets assigned to a human review queue.	
Precondition	System algorithm must be flexible to handle cases where not all demographic fields are present on the transaction and still establish an accurate match	
Trigger:	System receives transaction with no address present	
Use Case Steps:	Winnie the Pooh's patient record is received by the system with no address present. The only demographics present in this transaction is his First Name, Last Name, DOB and Gender. There is an existing patient record in the system with the same First Name, Last Name, DOB and Gender and is the same patient. System can look at additional details sent in the message and system to determine a match. 3 scenarios: System can match to an existing patient record, gets assigned to a human review queue or creates a new patient record. (Create a new patient record is how EDRI behaves in current state)	

Use Case 11: Matching and Deduplication		
Use Case Name:	Matching and Deduplication- when a patient record is received with no address and patient does not exist in database	
Purpose:	To show systems matching and deduplication algorithm can determine when new patient should be created when no address is present	
Business Requirement:	# FR-DF-027	
Primary Actor(s):	Bureaus	
Stakeholder Interests:	Stakeholder	Interest
	Bureaus	Patient Identity
System:	Systems matching and deduplication algorithm needs to be able to determine when to create a new patient	
System / Downstream Impact:	Maven updates patient record	
Success Guarantees:	System should determine no matches and create a new patient or human review queue	
Precondition	System algorithm must be flexible to handle cases where not all demographics fields are present on the transaction and determine there is no likely matches	
Trigger:	System receives a transaction with no address present and unable to find a match based on demographics in the database	
Use Case Steps:	Winnie the Pooh’s patient record is received by the system with no address present. The only demographics present is the First and Last Name, DOB and Gender. The system cannot find a match then the system creates a new patient record or human review based on the algorithms requirement.	

Use Case 12: Matching and Deduplication		
Use Case Name:	Matching and Deduplication for facility	
Purpose:	To show systems matching and deduplication algorithm can look at facility data at its most granular level	
Business Requirement:	# FR-DF-020, FR-DF-024, FR-DF-026	
Primary Actor(s):	Bureau	
Stakeholder Interests:	Stakeholder	Interest
	Bureau	Use of facility
System:	System matching and deduplication algorithm must look at facility data at a granular level	
System / Downstream Impact:	Maven receives result	
Success Guarantees:	System matches to correct facility on facility table or sends to a human review queue (*Please note- currently, not sure if the bureaus would like the system to add a facility to the database when there is no match)	
Precondition	System must have a facility table defined at a granular level	
Trigger:	System receives facility data in message	
Use Case Steps:	System receives two results on a patient. One result is for the TB bureau and the other is for the STI bureau. System should be able to look at the most granular level of facility data and process this message as two separate locations: Result 1 and TB location of: Hudson practice, 123 Westway, 10023, 212-606-1000, Suite101 Result 2 and STI location of: Hudson practice, 123 Westway, 10023, 212-606-1000, Suite 102	

Use Case 13: Matching and Deduplication		
Use Case Name:	Matching and Deduplication for a provider record received in the system as a code or free text	
Purpose:	To show systems algorithm can determine a match on provider record received either as a discrete code or in a free text field	
Business Requirement:	# FR-DF-021, FR-DF-030, FR-PW-010	
Primary Actor(s):	Informatics & Bureaus	
Stakeholder Interests:	Stakeholder	Interest
	Informatics	Updates Provider table
	Bureaus	Need provider information
System:	Systems matching and deduplication algorithm must handle provider matching as a code or free text	
System / Downstream Impact:	Maven files the provider on the result transaction	
Success Guarantees:	System finds a match to an existing provider record or no match and sends to a human review queue. (*Please note- currently, not sure if the bureaus would like the system to add a new provider to the database when there is no match)	
Preconditions:	System must have a provider table defined	
Trigger:	System receives a transaction with a provider information as a code or free text	

Use Case Steps:	• System receives a result with the ordering provider information in a free text field. System can identify the provider information in the free text field and finds a match when doing a lookup within the database. System processes the message and sends to Maven. • System receives a result with the ordering provider as a discrete code. System can identify the provider information when doing a lookup within the database and finds a match. System processes the message and sends to Maven. • System receives a result with the ordering provider as a free text field and does not find a match in the database. The message is processed and sent to the correct bureau; however, the errored provider data goes to the informatics or bureau review queue. • System receives a result with the ordering provider as a discrete code and does not find a match in the database. The message is processed and sent to the correct bureau; however, the errored provider data goes to the informatics or bureau review queue.

Use Case 14: Matching and Deduplication		
Use Case Name:	Matching and Deduplication- human review queue for fuzzy matches	
Purpose:	To show system can route fuzzy matches to a queue for human review when algorithm cannot determine patient is an exact match	
Business Requirement:	# FR-DF-027	
Primary Actor(s):	Bureaus	
Stakeholder Interests	Stakeholder	Interest
	Bureau	Patient Identity
System:	Systems matching and deduplication algorithm needs to route a transaction to a human review queue that do not meet the threshold for matching	
System / Downstream Impact:	Maven updates patient record once transaction is reviewed and confirmed	
Success Guarantees:	System should send configured threshold matches to a human review queue	
Preconditions	System algorithm must be able to determine when to route transactions to a human review queue	
Trigger:	System receives a transaction that is similar to an existing patient record in database	
Use Case Steps:	Winnie the Pooh, who lives at 945 East 73rd street, NY, NY, 10034 Apt 5H exists in the system, DOB: 12/3/2019. A new transaction is received by the system for a Sarah Anderson who lives at 954 East 73rd street, NY, NY, 10034 Apt, DOB: 3/12/2019. System should send this to a human review queue.	

Use Case 15: Audit		
Use Case Name:	Audits for user activity to edits and resubmits to messages	
Purpose:	System should have a log/audit of all user activity for when a user edit/resubmits a message	
Business Requirement:	# FR-DF-003	
Primary Actor(s):	Bureaus, Informatics or System Administrator	
Stakeholder Interests	Stakeholder	Interest
	Bureaus	Troubleshooting
	Informatics	Troubleshooting
System:	System must have a way to audit user actions such as edit/resubmit a message	
System / Downstream Impact:	Log file is written to on edit/resubmit with who took the action Submitted message goes to the correct bureau in Maven	
Success Guarantees:	All actions for edit/resubmit is audited with user information	
Precondition:	User has valid username for the system and has access to edit/resubmit a message	
Trigger:	User edits message and then resubmits the message	
Use Case Steps:	User logs into system and goes to the edit/resubmit function for messages, opens the message, edits the message then resubmits the message. The message then flows over to Maven and the correct bureau. User can go into the user log and/or message window and see their user's id/name attached to the resubmitted message, with what was edited.	

Use Case 16: Dashboard & Analytics: Workflow		
Use Case Name:	Accessing connections to interfaces, services, and processes from the dashboard	
Purpose:	To have a configurable dashboard for informatics workflow needs	
Business Requirement:	# FR-D-003	
Primary Actor(s):	Informatics	
Stakeholder Interests:	Stakeholder	Interest
	Informatics	View connections and troubleshooting
System:	System must have a way to configure the dashboard to show connection points	
System / Downstream Impact:	None	
Success Guarantees:	User can view all or single connections from the dashboard (tailored to the connections they monitor)	
Preconditions	User has a valid login username for the system and can access the dashboard functionality	
Trigger:	User clicks on the connection link on the dashboard	
Use Case Steps:	User clicks on a single connection or all connections to see if any queues are stopped, started, queued or when last message was sent.	

Use Case 17: Dashboard & Analytics: Reporting		
Use Case Name:	Reporting for conditions and diseases year to date	
Purpose:	To generate a report for a disease/condition, year to date	
Business Requirement:	# FR-D-001, # FR-D-002	
Primary Actor(s):	Bureaus	
Stakeholder Interests:	Stakeholder	Interest
	Bureaus	Follow-up for patient care, Reporting
	DDC	Reporting
System:	System must have a reporting tool/dashboard	
System / Downstream Impact:	System must be able to handle processing of reports without impact to system	
Success Guarantees:	User can see all the selected disease/conditions for year to date	
Precondition	User has a valid login username for the system and can access the dashboard functionality	
Trigger:	User selects disease/condition code from dashboard options and parameter for timeframe	
Use Case Steps	User selects the code for a condition or disease, selects the client # or leaves blank to see all clients, and then selects time parameter for the date, selects start and end date to reflect a timeframe within the year. Example: 1/1/- 12/31. User can now preview a report for diseases/conditions.	

Use Case 18: Dashboard & Analytics: Reporting		
Use Case Name:	Reporting for conditions and diseases within a timeframe	
Purpose:	To generate a report within a 24-hour timeframe for 1 or multiple disease/condition	
Business Requirement:	# FR-D-001, # FR-D-002	
Primary Actor(s):	Bureaus	
Stakeholder Interests:	*Stakeholder*	*Interest*
	Bureaus	Follow-up for patient care, Reporting
	DDC	Reporting
System Criteria:	System must have a reporting tool/dashboard	
System / Downstream Impact:	System must be able to handle processing of reports without impact to the system	
Success Guarantees:	User can see all the selected disease/conditions within a 24-hour timeframe	
Precondition	User has a valid login username for system and has access to the dashboard functionality	
Trigger:	User selects disease/condition code from dashboard options and parameter for timeframe	
Use Case Steps:	User selects the code for a condition or disease, selects the client # or leaves blank to see all clients, and then selects date & time parameter based on the users' needs. i.e., Last 12 hours, 24 hours, 48 hours etc. User can now preview a report within the past 24 hours.	

Use Case 19: Dashboard & Analytics: Workflow		
Use Case Name:	Accessing hold queue from dashboard	
Purpose:	To have a configurable dashboard for Bureau workflow needs	
Business Requirement:	# FR-D-003	
Primary Actor(s):	Bureaus	
Stakeholder Interests:	Stakeholder	Interest
	Bureaus	View hold messages and troubleshooting from dashboard
System:	System must have a way to configure the dashboard to show hold queue	
System / Downstream Impact:	None	
Success Guarantees:	User can access their hold queue from the dashboard	
Precondition	User has a valid login username for the system and has access to the dashboard functionality	
Trigger:	User clicks on link of their hold queue from dashboard	
Use Case Steps:	User clicks on link “hold queue” from their dashboard and can view their hold queue based on current hold queue settings. Example: Major, Minor, Hepatitis, Flu, Wadsworth, Lyme, Salmonella & PHL.	