



# Request for Proposals: Informatics Technical Support and Services to Public Health Stakeholders

Letter of Intent Due: 5:30 PM (EST) October 14, 2021

*Application Due Date: **November 01, 2021***

*Applications due to APHL Informatics, [informatics@aphl.org](mailto:informatics@aphl.org).*

[www.aphl.org](http://www.aphl.org)

**8515 Georgia Avenue, Suite 700  
Silver Spring, Maryland 20910**

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## Section One: General Information

### Introduction

#### ***About APHL***

The Association of Public Health Laboratories (APHL) is a membership organization in the United States representing the laboratories that protect the health and safety of the public. In collaboration with members, APHL advances laboratory systems and practices, and promotes policies that support healthy communities. APHL serves as a liaison between laboratories and federal and international agencies, ensuring that this network of laboratories has current and consistent scientific information in order to be ready for outbreaks and other public health emergencies. Membership consists of local, territorial, county, and state public health laboratories; environmental, agricultural, and veterinary laboratories; and corporations and individuals with an interest in public health and laboratory science. APHL is a non-profit, 501(c)(3) organization with a history of over fifty years experience.

#### ***About the APHL Informatics Program***

For over fifteen years, APHL's Informatics Program has dedicated itself to helping public health laboratories and agencies with data standards development and implementation, public health data messaging, and the deployment of novel tools to simplify data exchange efforts. This assistance has included the development of the APHL Informatics Messaging Service (AIMS) and teams to deliver technical support and assistance to public health stakeholders. APHL technical support and assistance teams works closely with public health partners to deliver the most advanced, efficient, and scalable solutions as possible to further public health electronic data exchange and interoperability.

#### ***RFP Purpose***

The APHL informatics program has released this Request for Proposals (RFP) to solicit bids from qualified applicants to support the advancement of informatics initiatives across public health stakeholders. This RFP is broken into two separate scopes of work. **Although we encourage applicants to respond to both scopes of work, applicants have the choice to limit their response to a single scope area. APHL will award each scope area independently and may select one or multiple awardees per scope area.**

1. [Advancement of Electronic Case Reporting \(eCR\) at Public Health Agencies \(PHAs\)](#)

The primary aim of this RFP is to solicit proposals from qualified organizations and individuals who have the technical and programmatic expertise necessary to advance the goals of the eCR program. Successful applicants will work with the existing eCR team, PHAs, and other

stakeholders to generate detailed guidance and assistance materials, as well as to provide direct support, both short and long-term, to PHA implementers for the integration and use of Initial Electronic Case Report (eICR) and Reportability Response (RR) data elements. Successful respondents will be led by APHL eCR leadership and supported by internal eCR HL7 and data integration experts as solutions are developed that allow eCR data to integrate with existing systems and make data available for local health use as well as increasingly sophisticated use in other public health practices at PHAs. For applicants to be considered for this award, applicants must address all requirements stated in the [eCR scope of work](#) demonstrating the necessary expertise coupled with a solid implementation approach related to the following goals:

- a. Work with the existing eCR team to provide short and long-term support for PHAs to validate and integrate eCR content into existing processes including surveillance systems, databases, and other data storage/analysis/dashboarding platforms and document processes to support local quality analysis, modification, and use as stated in the [eCR scope of work](#)
  - b. Document recommended approaches, training guidance, standard operating procedures, worksheets, checklists, and other materials to support PHAs in using eCR data. This will require bringing HL7 CDA and eICR experts and expert-level developer resources to the project to serve as references and directly support implementers and developers, following guidance developed by national eCR team.
  - c. Support PHAs directly in implementation of eCR integrations in re-usable and relatively standard ways, identified through PHA, eCR leadership and APHL team interviews, and conducted by working directly with PHA teams.
2. [Informatics Expertise and Technical Assistance Support for Core APHL Informatics Initiatives](#)

APHL is seeking to identify informatics subject matter experts (SMEs) to work individually and/or within a team setting with APHL staff and other contractors, partners and key stakeholders, to support current and future-funded APHL Informatics program work. APHL may make separate awards to one or more SMEs in each of the specific areas discussed in the [Core Informatics TA Scope of work](#) section of this RFP. Applicants are strongly encouraged to indicate the areas for which they should be evaluated within their response to this RFP. APHL will identify appropriate projects and roles dependent on applicant responses and may award one or more active roles or initiatives to successful applicants as project and program initiatives are finalized and resource needs identified. In addition, awardees identified through this RFP process will constitute the

APHL technical assistance resource pool through the end of the current APHL/CDC cooperative agreement period which ends on June 30, 2025, this approach is similar to the federal contracting model known as [indefinite delivery, indefinite quantity \(IDIQ\)](#).

Applicants will respond to the following expertise areas:

- a. Project Management and Coordination
- b. Business Analysis
- c. Vocabulary, Terminology and Coding
- d. Architecture
- e. Data and Systems Integration

## RFP PROCESS OVERVIEW

### Eligibility

This is an open and competitive process.

### Response Submission Deadlines

APHL will follow the [anticipated RFP schedule](#) unless otherwise modified on APHL's procurement site <https://www.aphl.org/rfp/Pages/Informatics-TSS.aspx>. If there is a change to the RFP schedule following the letter of intent deadline, APHL will contact the main point of contact identified in their letter of intent directly.

Applicants must meet the following three important submission deadlines related to this RFP: the letter of intent email, final response submission and, if applicable, revised or updated submission. Applicants who submit proposals in advance of the deadline may withdraw, modify, and resubmit proposals at any time prior to the indicated deadline.

### Anticipated RFP Schedule

The following dates are set forth for informational and planning purposes. APHL will communicate any modification to this anticipated schedule on APHL's procurement website (<https://www.aphl.org/rfp/Pages/Informatics-TSS.aspx>) and via email to all applicants that submitted a letter of intent.

All due dates have a **5:30pm EDT** deadline unless otherwise indicated.

Table 1: Anticipated RFP schedule

10/01/2021	RFP Issued
10/12/2021	Informational Teleconference (Optional)
<b>10/14/2021</b>	Letter of Intent <b>Due Date</b> (Required)
<b>10/27/2021</b>	Final Questions or Clarifications <b>Due Date</b>
<b>11/01/2021</b>	RFP Responses <b>Due Date</b>
11/10/2021	Proposal Review and Evaluation Complete (follow-up interviews if needed)
11/16/2021	Final review completed, and awardee(s) selected and notified
TBD	Contract awarded – dependent on final contract review and ratification by all parties.

## Communications

### **RFP Point of Contact**

APHL will manage all RFP communication with applicants through APHL’s central email inbox: [informatics@aphl.org](mailto:informatics@aphl.org). Please include the title of the RFP in the subject line of all email correspondence.

### **RFP Materials**

APHL will post all RFP-related documents, current schedule information and answers to all submitted questions and clarifications on APHL’s procurement site, <https://www.aphl.org/rfp/Pages/Informatics-TSS.aspx>.

### **RFP Questions and Clarifications**

This RFP is designed to provide the necessary information applicants need to prepare competitive proposals for the work described; it is not intended to be comprehensive. Each applicant is responsible for determining all the factors and information necessary to submit a comprehensive bid proposal to APHL. APHL invites applicants to submit questions and requests for clarification regarding the RFP. Applicants must submit all questions and requests for clarification via email to by close of business October 27, 2021.

### **RFP Informational Teleconference (Optional)**

APHL will hold an optional teleconference on **Tuesday October 12, 2021 at 3:00 pm ET**.

During this call, APHL will review the RFP scope of work and allow potential applicants to ask clarifying questions ahead of the [letter of intent due date](#).

APHL requests that potential applicants send questions **as they are identified, you do not need to wait for the teleconference**. Applicants may contact [APHL](#) to receive a formal calendar invitation if they wish.

Informational Teleconference Call-in Information:

Topic: APHL RFP Informational Teleconference: Informatics Technical Support and eCR Services to Public Health Agencies

Time: Oct. 12, 2021 03:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://aphl.zoom.us/j/97769447091>

Meeting ID: 977 6944 7091

***RFP Letter of Intent***

To allow for appropriate review process planning, APHL requires that prospective applicants submit a brief email statement indicating an intent to submit an RFP response, the scope area(s) they responding to, along with the identity and contact details of their primary contact(s).

***RFP Final Submissions***

Applicants must submit responses to [APHL](#), with a copy to Leslie McElligott: [leslie.mcelligott@aphl.org](mailto:leslie.mcelligott@aphl.org).

The applicant is responsible for ensuring that the proposal is received at APHL by this deadline.

Applicants must address the required proposal elements for the response to qualify as “complete”.

APHL may terminate or modify the RFP process at any time during the response period. APHL will acknowledge the receipt of the applicant’s RFP response via email within 48 hours of submission. If you do not receive an acknowledgment, please email [APHL](#) to confirm receipt. APHL must receive complete applicant responses no later than 5.30 pm EDT on **November 1, 2021**.

***RFP Page Limit and Formatting Specifications:***

An applicant’s proposal must be limited to the following per scope area:

1. Advancement of Electronic Case Reporting at Public Health Agencies
  - a. 10 pages of narrative and visuals
  - b. font size of 11 points or larger
  - c. page margins of at least 0.5 inches
2. Informatics Expertise and Support for Core APHL Informatics Initiatives
  - a. 10 pages of narrative and visuals

- b. font size of 11 points or larger
- c. page margins of at least 0.5 inches

If an application exceeds the identified page limits for the scope areas above, only the information provided within the allotted page limit for that scope area will be sent to the evaluation team who will review scores based solely on the portion of the proposal submitted for review. Title page, table of contents and appendices do not count towards page limits.

## Award

APHL expects to provide funding for this work on a cost-reimbursable basis supported by the Enhancing Public Health Laboratories Capabilities and Increasing Capacity Cooperative Agreement, number NU60OE000104. APHL will make these payments in accordance with the payment terms specified in the written contract between APHL and the selected organization(s) and/or individual(s) or as otherwise mandated by applicable federal law or regulation or the terms of APHL's funding notice from the Centers for Disease Control and Prevention (CDC).

## Term of Award

The original period of performance for this award will run from the date of contract execution through the end of the current APHL/CDC cooperative agreement year, which ends on June 30, 2022.

The potential for annual funding support through June 30, 2025 may be considered by APHL based on the availability of funds and performance of the awardee(s).

## Evaluation of Responses

### ***Initial Review***

APHL's Informatics Program staff will conduct an initial review of all proposals for completeness. Any application that is incomplete on the [RFP response due date](#) will not be considered and will not receive a formal evaluation.

### ***Evaluation Team***

Following the initial review, APHL will convene two evaluation teams. Team One will evaluate awardee responses to the *Advancement of Electronic Case Reporting (eCR) at Public Health Agencies (PHAs)* scope of work. Team Two will evaluate awardee responses to the *Informatics Expertise and Technical Assistance Support for Core APHL Informatics Initiatives*. Both evaluation teams will assess proposals on their relative qualities based on the General Evaluation Criteria outlined below along with other factors and sub-factors noted in each RFP scope area.

### ***Conflict of Interest***

APHL will ask potential reviewers to complete and sign APHL's Conflict of Interest Disclosure Statement in order to disclose any real or perceived conflict of interest prior to the start of the evaluation process. Reviewers will have to affirm that they have no conflict of interest that would preclude an unbiased and objective review of the proposals received. APHL will not select reviewers with a perceived or potential conflict of interest. This Conflict-of-Interest Disclosure Statement is provided in the RFP for Applicant review only. Applicants should not complete the Conflict-of-Interest Disclosure Statement unless instructed by APHL.

### ***General Evaluation Criteria***

Winning applications to this RFP will be selected only after the evaluation teams' assessment of each completed proposal. Evaluators will weigh an applicant's ability to meet the goals and objectives outlined in each RFP scope area, basing their assessment on the general evaluation criteria listed below:

- Management Approach
- Technical Approach & Capabilities
- Organizational Experience & Past Performance
- Transition/Startup Plan

### ***General Evaluation Criteria Guidance***

#### **eCR Specific Criteria [Scope 1 (only): 50%]**

- Demonstrates experience in assessment/planning of PHA systems, PHA education, and PHA content development.
- Demonstrates public health experience in 1) implementation(s), 2) CDA-based or clinical standards.
- Demonstrates experience with surveillance system(s).
- Has experts/expertise in the following areas: CDA standards, FHIR push standards, integration, and eICR.
- Shows a variety of content development, especially for public health or updating evolving guidance and working without pre-existing materials.

**Management Approach [Scope 1: 17.5%; Scope 2: 35%]**

Describe their organizational structure and how they propose to manage this task, including a discussion of timelines and issues.

- Provide a rationale for their management approach.
- Describe the methodology for managing the task, performance measures they will use to monitor performance, any management tools they will use, how they will ensure quality products are delivered, how they will mitigate risk, and how they will communicate.
  - Adequately describe the resources they propose to complete the work described in the RFP Scope Area(s) selected and a rationale for their proposed approach.
  - Identify any resources (facilities, hardware, software, communications, etc.) that would be required above and beyond that already addressed as part of this RFP.
- Clearly indicate how any tasks and subtasks will be monitored - and how corrective action will be taken if appropriate – and specify an approach for maintaining control of all contract change management issues.
  - Provide (i) a description of how conflicts are managed; (ii) a plan to ensure client satisfaction; and (iii) a measurement of fiscal responsibility and accountability.
- Identify anticipated management barriers and risks and provide a description of their approach to risk management during the task order from a management perspective and the planned actions to mitigate or eliminate risks.
- Identify all assumptions or conditions, if any, relating to their Management Plan and Other Qualification Information.
- **Cost Proposal:** Since this is a human resource/expertise focused RFP, we would expect the cost proposal to be based on a time and materials basis. We do not have a preferred format; however, we feel that it would make the most sense for any known (named individual) or blended rate (labor category) pricing for the initial contract period (through June 2022) be included as part of the staffing/role matrix discussed in the general evaluation criteria under the Technical Approach (last sub-bullet). You are free to identify your own proposed labor categories/approach. In addition, we request that applicants identify any general yearly rate increases post the initial budget period and any direct costs you would expect APHL to reimburse for that are not already built into your projected rates.

*Please note: The cost proposal/resource matrix may be included in an appendix and will not count against the 10-page response limit per scope area.*

**Technical Approach [Scope 1: 27.5%; Scope 2: 55%]**

- Responsiveness to RFP Specifications
- Approach to respond to program goals and deliverables including implementations and how the responder will report its performance and quality
- Approach to documentation development and knowledge management

An applicant should specifically address aspects such as technical understanding, methodology, and approach and provide adequate qualified technical human resources to address the technical and administrative requirements and services outlined in the RFP scope area they are responding to. An applicant's proposal should:

- Provide a detailed and comprehensive statement of the problem, scope, and purpose of the project to demonstrate complete understanding of the intent and requirements of the work in the applicant's selected RFP scope area(s).
- Describe the proposed programmatic or technical approach (i) to comply with or satisfy requirements specified in the respective scope of work sections the applicant is applying for. An applicant must submit a proposal that is consistent with the stated goals and objectives.
- Discuss the ability to identify and recruit qualified personnel. An applicant must provide a description of (i) the approach and plan to rapidly obtain and/or replace qualified staffing resources to support existing and new task order work and to meet changing workload requirements and (ii) key skill sets for proposed personnel. Applicants may include resumes, as attachments to the response. *Please note: resumes may be included in an appendix and will not count against the 10-page response limit per scope area.*
  - APHL strongly encourages applicants to submit a staffing matrix showing type and number of staffing resources readily available, including breakdowns by skill sets, security clearances, and any related technical IT certifications.

**Organizational Experience and Past Performance [Scope 1: 2.5%; Scope 2: 5%]**

*Please note: Past performance content may be included in an appendix and will not count against the 10-page response limit per scope area.*

An applicant should provide a description of up to three projects completed within the past three years that clearly demonstrate the applicant's experience in performing projects of similar scope, size, and complexity to the RFP scope area(s).

Provide the following information for each project reference:

- The contract number, customer or agency name, the contract title and date, and the name of the project;
- A brief narrative description of the work performed for each of those contracts, including a discussion of any problems encountered, corrective actions taken and significant accomplishments achieved; and
- The dollar value, contract type, period of performance, place of performance, and the number and types of personnel used in the performance of the contract.

**Transition/Startup [Scope 1: 2.5%; Scope 2: 5%]**

Applicants should provide a plan for the transition or ramp-up of scope area activities, and should also consider outlining a plan that describes how project phase-out might occur.

**Possible Secondary Evaluation Criteria**

In the event that two or more proposals receive substantially similar scores from the evaluation team's review, APHL may introduce the following as secondary criteria that can be considered by the evaluation team in order to differentiate proposals with similar scores.

- **Price Evaluation**

APHL may conduct a price analysis of an applicant's proposal to determine the reasonableness of proposal. Only proposals that the evaluation team rated as technically acceptable will be subject to this type of analysis.

- **Price Realism**

APHL may conduct a price realism analysis of an applicant's proposal for such purposes as determining an applicant's understanding of the solicitation's requirements or assessing risk associated with an applicant's proposal.

## Post-Evaluation Procedures

APHL staff will notify one or more of the selected applicants within ten (10) business days of the completion of the evaluation and will post the name(s) of the awardees to APHL's procurement website, <http://www.aphl.org/rfp> on the same day. Unsuccessful applicants will receive notification of these results by email within 30 days of the date the name of the winning applicants are posted.

All applicants will be entitled to utilize APHL's RFP Appeals Process to formulate a protest regarding alleged irregularities or improprieties during the procurement process. Specific details of this policy are located on the procurement website.

## Conditions of Award Acceptance

All selected awardees must be able to contract directly with APHL or have an existing relationship with a third-party organization that can contract directly with APHL on behalf of the applicant.

## Disclaimer and Other General Matters

This RFP is neither an agreement nor an offer to enter into an agreement with any respondent. Once the application evaluation is complete, APHL may choose to enter into a definitive contract with one or more of the selected applicants or may decline to do so.

APHL must ensure that the selected respondents are neither suspended nor barred from receiving federal funds and that the respondents meets any other funding eligibility requirements imposed by the Cooperative Agreement. APHL's determination of whether the respondents are eligible to receive Cooperative Agreement funding will be definitive and may not be appealed. If APHL determines that the selected respondents are ineligible to receive Cooperative Agreement funding, APHL will nullify the contracts or will cease negotiation of contract terms.

Each respondent will bear the costs associated with or relating to the preparation and submission of its application. These costs and expenses will remain with the respondent, and APHL will not be liable for these or any other costs or other expenses incurred by a respondent.

## Section Two: RFP Scope Statements and Requirements

### RFP Scope One: Advancement of Electronic Case Reporting at Public Health Agencies

#### ***Background***

Electronic Case Reporting (eCR) is the automated generation and transmission of case reports from electronic health records (EHRs) to public health agencies (PHAs) for review and action (Figure 1). eCR reduces the burden on healthcare providers to accomplish their reporting requirements to public health and improves the timeliness and completeness of case reports at the local, state, and national levels.

Reporting diseases and conditions of interest to public health by healthcare providers is required by law in all US states and territories. Requirements of this reporting vary by disease/condition and public health jurisdiction. Historically, healthcare providers must identify that their patient has a disease/condition of interest to public health, create a reportable condition case report using time-intensive manual processes (e.g., written reports, fax, or mail), and submit the report to the appropriate PHA. This has led to significant underreporting and, therefore, delayed identification of events, such as dangerous disease outbreaks, that require public health intervention.

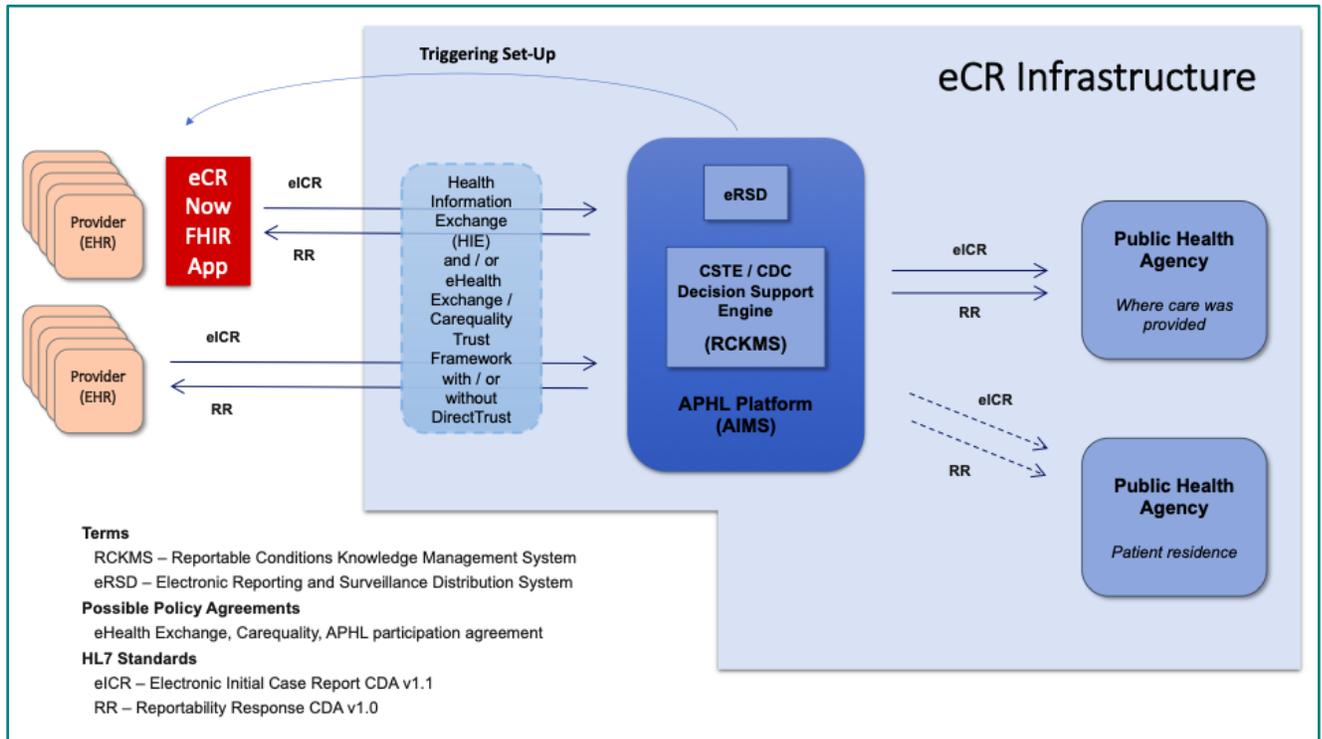
An eCR implementation at a provider begins with loading of trigger codes that, when entered into a medical record system, will trigger the generation of an Initial Electronic Case Report (eICR). The eICR is transported to the AIMS platform where a rules engine called Reportable Knowledge Management System (RCKMS) determines reportability and generates a Reportability Response (RR). A RR is always sent back to the provider and the eICR and RR are sent on to the PHA if one or more conditions are found to be reportable based on the content of the eICR. RCKMS contains common reporting criteria for specific conditions but PHA's may also adjust reporting rules via an authoring user interface. A reportable eICR and RR pair may route to multiple PHA's based on reportability determination for the PHA jurisdiction for both patient home and provider facility address.

PHAs receive these eICR and RR pairs and must integrate them into a variety of internal systems such as multiple surveillance systems, databases, data lakes, reporting systems, and other analysis and disease surveillance platforms. Critical to health care organization motivation is the ability to stop manual reporting, which requires PHAs to integrate these document pairs in such a way that the data becomes

accessible to local health jurisdictions. PHAs have unique technical, structural, and funding requirements that have led to the proliferation of internal systems including pre-processing, variable integration between different systems such as surveillance systems often built around electronic laboratory reporting (ELR) data and paper questionnaires, immunization registries, vital statistics, cancer, syndromic, reporting databases, dashboards, and other data flows. eCR must be integrated into these systems. PHAs are variably resourced and under differing local leadership directions and would benefit from common approaches, guidance, and training to bring nationwide eCR processing up to a minimum level of data integration, that of processing documents to the degree necessary to allow data sharing with local health jurisdictions. Successful processes may utilize a variety of short- and long-term approaches, informed by advancements at sister PHAs and national guidance from leadership and public health subject matter experts (SMEs). Longer term, further advances in processing of coded elements and data integration are desirable and will require support to bring all jurisdictions up to this level of data processing.

Technical support and solutions will rely on a variety of applicant skillsets and knowledge, among them expertise in HL7 CDA and FHIR standards and PHA surveillance systems such as NEDSS based systems (NBS), EpiTrax, Maven, Sunquest, and others including custom systems. In addition, pre-processing modifications to incoming data are conducted through integration engine modifications and will require skillsets in Rhapsody, Mirth, MuleSoft, EMSA, and others, and other software and systems not listed here. Database integrations can happen at various points for a variety of uses from document and message tracking, staging/ETL, quality assurance monitoring, data analysis, dashboarding, and others. Knowledge of and experience with HL7 version 2 ELR standards and other v2 standards (IIS, others) will be required as these, along with questionnaires, often form the basis of existing public health data systems and will require standards experience for successful integration of eCR data into PH data systems. These messages contain some of the same information present in eCR data, therefore successful integration of eCR into existing systems will require detailed knowledge of deduplication as well as iteration and tracking data provenance of these elements. A crucial part of data integration is data quality including structural and content validation including tool development and performance of validation. While reporting and dashboarding occurs for a variety of local purposes, some reporting and dashboarding needs are shared across jurisdictions such as CDC's Nationally Notifiable Disease Surveillance System (NNDSS), basic QA and onboarding functions, document tracking once they enter the PHA for processing, tracking senders, etc.).

Figure 1. eCR Flow



### Goals and Objectives

The purpose of this RFP is to solicit proposals to support PHAs in the consumption and use of eCR data as well as providing appropriate eCR data access to local jurisdictions. This will involve engagement with the eCR leadership, APHL program and technical teams, and public health agency eCR advisors, informatics, IT, and other staff on development of assistance materials and direct support consistent with the following goals and objectives.

1. Work with the existing eCR team to provide short and long-term support for PHAs to validate and integrate eCR content into existing processes including surveillance systems, databases, and other data storage/analysis/dashboarding platforms and document processes to support local quality analysis, modification, and use.
2. Document recommended approaches, training guidance, standard operating procedures, worksheets, checklists, and other materials to support PHAs in using eCR data. This will require bringing HL7 CDA and eICR experts and expert-level developer resources to the project to serve as references and directly support implementers and developers, following guidance developed by national eCR team.

3. Support PHAs directly in implementation of eCR integrations in re-usable and relatively standard ways, identified through PHA, eCR leadership and APHL team interviews, and conducted by working directly with PHA teams.

Propose a plan to address:

- a. Implementation plan reflecting direct assistance to PHAs in use of eCR data including making it available to local health jurisdictions
- b. Proof of SME content knowledge in CDA, integration engine development and other technical resources, as well as availability of people that can help PHAs do the work of mapping, content validation, pre-processing, and other work to support consumption of eCR data into surveillance systems and distribution of eCR content to local health jurisdictions.
- c. Overall PHA roadmap for eCR implementation model including detailed description of
  - i. Proposed architectures and processing,
  - ii. Mappings and data reconciliations,
  - iii. Data and document processing and routing,
  - iv. Monitoring both document tracking and quality including dashboard development with sample elements and examples,
  - v. Access, security, and other work to assist PHAs and local health including staff training, education, etc.

### ***Scope of Work***

The eCR proposed scope of work includes a thorough examination of PHA needs and eCR technical requirements including technical solutions in place, data reconciliation, and data provenance tracking needs between eCR, ELR, and existing surveillance system data elements, mapping to surveillance systems, other documentation and training needs, etc. In addition, direct implementation support shall be provided to PHAs in line with guidance developed in response to plan development (eCR playbook, requirements documents, others). The assessments, interviews, and direct assistance to PHAs should be performed in a minimally burdensome manner to limit the time required from existing PHA and APHL resources, as well as include adequate detail in documentation to permit local staff to maintain and modify technical assistance, SOPs, training, and other products.

#### **1. Process**

- a. The process of contractor knowledge acquisition will be conducted through iterative development including Confluence team and PHA knowledge resources for support (including SOPs, reference content repository for troubleshooting, and common questions).
- b. Because guidance materials for the integration of eCR data into PHA workflows do not currently exist, eCR leadership will closely guide initial content development and transfer of SME knowledge to contracting team for development of shared approaches, materials, and resources.
  - i. eCR playbook development, educational materials, and technical reference documentation will be part of this, but are not an inclusive list.
  - ii. Demonstration of integration engine developer resources experienced in CDA development are required.
- c. This content development will be dual-purpose; both required training of contractor team as well as development of artifacts that can be shared with others and may include current or future needs and directions.

## **2. eCR consultancy - current state and planning**

- a. Evaluation of PHA current state as preparation for planning eCR data integration implementations including workflows, policies, technical resources, content validation, and quality assurance and tracking, including associated systems interactions including reporting, data warehousing and analysis requirements.
- b. Common information model uses to integrate eCR content with ELR and other data sources
- c. Data integration and reconciliation guidelines and recommendations developed with ELR SME advisors and other interviewees.
- d. Development of detailed PHA planning artifacts to support, assist, and advance eCR implementations given various local environments and resources

## **3. eCR payload receipt and accession**

- a. Contractor will provide consulting services as described throughout including technical integration needed to consume eCR payloads, assisting with structural and content validation as needed, to examine and parse payloads for detailed discussions and

planning with epidemiologists, local and other stakeholders, and to drive decisions about surveillance system pre-processing, and other routing decisions.

- b. Accession eCR payloads by reportable condition(s), reporting provider, patient, jurisdiction, and case. Manage cases with multiple/serial eCR payloads. Triage of data needed by specific PHA programs, and management of data that are considered highly sensitive by PHA policy will be supported.

#### **4. Make eCR and related content available to local PHAs**

- a. Contractor will provide consulting and technical integration services as well as short and long-term options needed to ensure that all local PHAs can quickly access eCR content and may assist in integrating them with related data such as ELR and other data streams for collective use in public health practice. Several different approaches to local PHA data access will be supported. The contractor will provide planning and strategy roadmaps, security and information models, set-up and configuration, and database and mapping implementations.
  - i. Security, authentication and authorization system support, development, rationale, and integration will be key for successful use of eCR data by local PHAs.
  - ii. Secure access through integrated surveillance system(s) at state level
  - iii. Database or other access to eCR HTML potentially including consulting to support development of web front end with necessary functionality (view, search, minimal reporting) or other shorter-term accesses for state, local, and tribal PHAs.
  - iv. Routing and delivery of eCR and related content to local PHA systems including integration of multiple eICRs including condition- and local jurisdiction-specific-processing (routing, access, query, along with other approaches)

#### **5. Consume eICRs and RRs into surveillance systems, registries, and databases**

- a. Contractor will provide consulting services including technical integration, and assistance with structural and content validation needed to consume eCR and related content into surveillance systems, registries, and databases including associated supportive documentation such as high-level maps and data flows for internal use and any documentation that will be required for local developer(s) to maintain, modify, and

extend routes, functionality, mapping, and for reporting (such as CDC NNDs development or creating databases for public dashboards).

- b. Multiple surveillance systems will be supported with some services needing to be implemented outside of surveillance systems using integration engines (Rhapsody, Mirth, MuleSoft, EMSA, others) and other tools as determined by local environments.
- c. Support for sensitive data management, program specific routing and filtering, quality control (related to initial and ongoing validations) and dashboarding.
- d. Both CDA XML and FHIR XML/JSON formats will be supported over legacy transport (S3, SFTP, etc. for CDA and FHIR bundles) and FHIR API implementation will be supported. Management of payload transformations and version compatibility should be considered.

## **6. Data integration and support services**

- a. Mapping, filtering, sensitive data management, data validation, and other services outside and inside of surveillance systems (NBS, Maven, EpiTrax, Sunquest, and others), registries, and databases needed to consume eCR data, reconcile with ELR and other related data, manage multiple eCRs, filter data needed by specific PHA programs, and manage data that are considered highly sensitive by PHA policy will be supported.
- b. Dashboard and other tool development required to examine, track, and monitor data quality or other basic or sharable quality assurance tracking needs as well as locally implemented analytics using PHA-preferred tools (Power BI, Grafana, Tableau, others) and jurisdiction needs to guide dashboard metrics and tracking

## **7. Training and education**

- a. eCR playbook development to include sufficient detail on implementing that PHAs and developers can use it as a detailed roadmap for development including identifying and providing solutions for eCR data processing, workflow changes to accommodate eCR, content validation, data reconciliation and provenance and other work to support PHAs and locals in using eCRs in their environments.
- b. Staff training materials, education, and training
  - i. PHA new hires
  - ii. HL7 training on basics of eCR, FHIR, ELR, how to read standards and IGs

- iii. Technical instruction materials up to and including documentation required for PHA staff to extend and maintain local development
- iv. Educational material development in consultation with eCR leadership to educate various audiences (PHA and Informatics leadership, etc.) about eCR topics (written, graphic, short video, other modalities)
- v. Training materials to be used for staff going to PHAs including eICR/IM/SS/DB technical knowledge acquisition processes to ensure expert qualifications of personnel before, during, and throughout deployment.

#### **8. Facilitate PHA communication and education**

- a. Various formats such as Confluence moderation, meeting with small groups of PHA staff for discussions, training, identification of needs

#### ***eCR Proposal Structure and Content***

In addition to the guidance provided under the [General Evaluation Criteria section](#), the eCR leadership team has provided the following guidance related to this scope area. Proposals should contain the following sections.

- Submitter profile
  - Company profile
  - Past performances and experiences
- Relevant experience in assessment and planning, education, content development, and implementation in key areas below
  - Public health practice IT implementation experience (local, state, tribal public health), especially standards-based (v2 ELR, IIS or CDA eICR, Cancer, CCD)
    - Identification of other standards expertise is also desirable
  - Public health surveillance system experience (EpiTrax, Maven, NBS, Sunquest, others)
  - Integration engines, specifically Mirth/Rhapsody/EMSA development and technical references and documentation
    - Resources with expert experience in integration engine development or use of CDAs are required, with eICR and FHIR push experience desirable.
  - Content and educational artifact development (reference content repositories, Confluence, public health guidance, guidebooks and technical implementation guides including HL7 Implementation Guides, short videos, HL7 training materials, v2 standards

training, etc.) as well as post-development knowledge management and updating artifacts to align with evolving guidance, especially artifacts developed without pre-existing reference materials in rapidly evolving environments

- Potential technical approaches
- Management Plan
  - Project Plan, Operations Plan, PHA engagement Plan, Risk Management Plan, Resource Management Plan
- Staffing Plan

## RFP Scope Two: Informatics Expertise and Support for Core APHL Informatics

### Initiatives

#### ***Background***

In 2007, APHL's Informatics program launched the Public Health Laboratory Interoperability Project (PHLIP) funded as an innovative project under the APHL/CDC cooperative agreement. The PHLIP initiative expanded the program's mission beyond its original charge of committee-based projects, leading to and led APHL on a journey to become a national public health informatics leader and service provider. The APHL Informatics Messaging Services (AIMS) Platform and the launch of APHL's Technical Assistance (TA) program are two of the most notable achievements of our program's growth and both feature prominently in our CDC funded projects and initiatives.

APHL has continued to manage and evolve these initiatives and to date has provided both direct assistance and project centric informatics expertise to public health laboratories and agencies in all 50 states and U.S. territories. The goal of providing informatics expertise through APHL's TA model is to streamline and modernizing electronic data exchange between public health organizations and their partners by providing the support and expertise necessary to meet local and national informatics objectives.

#### ***Purpose and Approach***

The purpose of this RFP focus area is to identify organizations who can support APHL/CDC cooperative agreement projects and initiatives through June 2025. Awardee(s) will work closely with APHL program staff to identify and assign the appropriate informatics subject matter experts (SMEs) who may work individually and/or within a project team to deliver a broad range of informatics programmatic and technical services, including direct one on one assistance to public health partners as well as the delivery of services as part of funded project initiatives.

#### **Overview of APHL Technical Assistance Models**

APHL has developed several different technical assistance models to support the diverse needs of our stakeholders and funders.

- Independent Implementation: TA SMEs develop stand-alone tools and resources for stakeholder use with the goal of implementation.
- Guided Implementation: Project management support to develop a plan for implementation and to manage stakeholder progress.

- Targeted Assistance: Scope-limited assistance available by stakeholder request; focused on a defined technical challenge or needed area of expertise.
- Cohort Implementation: Full SME support to a group of TA recipients for end-to-end implementation
- Hands-on Implementation: Full SME support to a single TA recipient for end-to-end implementation

**Important information:**

- APHL expects to select multiple awardees as part of this RFP process. APHL will make initial awards to vendors across one or more of the subject matter expertise areas discussed in the Scope of Work section, task orders beyond the initial award will be managed either through a closed RFP process or through a call for specific human resources; restricted to awardees of this RFP.
- Applicants should submit a response that encompasses all areas; however, they may choose to highlight the areas where they have the most interest or expertise. Applicants should clearly indicate these interest areas in their final RFP response.
- *Please note:* This RFP pertains to newly funded and future technical assistance engagements, not for projects or assignments actively managed by current contracted resources. All budgets submitted must be related to this project scope only.

**Scope of Work**

Each awardee will provide consultation and expertise for APHL and CDC informatics initiatives across multiple public health use cases, including but not limited to: Electronic Test Order and Report, Electronic Laboratory Reporting, National Notifiable Disease reporting, cross-jurisdictional data exchange, as well as the potential for novel or standalone initiatives. Technical Assistance team members are embedded directly with and operate as a collaborative unit under the direction of APHL Informatics staff. Under this model, APHL TA teams will work with an expanded network of stakeholders (CDC program officers, CDC technical assistance teams etc...) to provide valued services to laboratory, information technology, and epidemiology TA recipients across the public health ecosystem.

Applicants are advised that the specified services may shift slightly in response to changes in APHL's programmatic needs. In addition, APHL is likely to revisit and potentially modify the specified services under any of the six project areas in future project years in order to reflect the amount of funding available in a given project year and to meet then-current APHL programmatic needs.

General requirements and detailed explanations of the skill sets required for each area are outlined below.

## Project Management and Coordination

Overview: Initiate and shepherd projects through to completion, managing people, processes, and tools to ensure project success. Develop and maintain project plans and schedules to meet project goals and objectives, manage and mitigate risks and issues, and ensure appropriate documentation and reporting. This may include coordination and management of human resources, budgets, collaborative tools, and other activities needed to provide consultation and assistance on informatics activities for public health surveillance and laboratory data management. Specific Tasks may include:

- Manage project and technical assistance engagements including: scheduling and project planning, stakeholder management, risk identification and mitigation, issue tracking and solutioning, communication, reporting, knowledge management and associated documentation per APHL standards. Ensure team provides support to scope for data exchange solution implementation, and ensure milestones are met through go-live or per project requirements.
- Identify and develop needed processes, communications, tracking systems or other logistical solutions to help ensure projects meet deadlines and complete deliverables.
- Provide project management activities following APHL and PMO policies, which may include but are not limited to informatics business needs, project process agreements, project plans, work breakdown structures, project schedules, requirements, SOWs, and public health information security considerations.
- Utilize project development methods that are appropriate for the scope of each project and approved by informatics program management, business owners, and business stewards.
- Lead the TA team using APHL's TA method and develop documentation to support TA approach and delivery, tracking, collaborative tools and templates to ensure project goals are met. Ensure ongoing communication and collaboration within the Technical Assistance Team to accomplish project requirements using the APHL TA method.
- Ability to record and deliver information, to explain procedures, and to contribute to the broad range goals of delivering overarching technical assistance initiatives while capitalizing on historical efficiencies and reusability when possible.

## Business Analysis

Work directly with APHL staff and appropriate persons (e.g. partners, system owners, users, etc.) as authorized to perform discovery, capture requirements, develop innovative specifications, build implementation guides and other resources for technical solutions for data exchange. This will include the ability to understand, document and translate requirements, including standard measures and

indicators, needed for systems designers, developers, and technical architects designing applications and prototypes. Specific Tasks may include:

- Capture, document and communicate high level and in-depth business requirements analysis of data exchange initiatives and technical solutions. This may include discovery, workflow analysis, or landscape analysis to understand current and future state, needs and capabilities, and key contributing factors to support decision making on technical solutions.
- Enable communication and collaboration between project stakeholders, and ensure knowledge transfer between the technical assistance team and assistance recipients and collaborating partners. Understand, document, and translate end user and subject matter expert needs to technical requirements for system designers, developers and technical architects.
- Conduct project discovery on informatics modernization efforts. This may include performing targeted discovery and project planning support for new or emerging projects or to guide general discovery on informatics needs and brainstorming efforts.
- Ensure successful collaboration with Informatics staff and consultants to coordinate technical assistance across all informatics initiative and provide consistent delivery of maintainable and scalable data exchange solutions.
- Prepare project reports, presentations, and meet other project reporting requirements as directed by Informatics leadership. Communicate issues and updates to program management, business stewards, and other involved stakeholders.
- Provide review, quality control, and assurance on technical assistance processes and deliverables.

### **Vocabulary, Terminology and Coding**

Develop, configure, implement, and maintain national health information technology standards and codes to support the interests of TA recipients to achieve electronic data exchange and interoperable surveillance needs. Analyze workflows, perform gap analyses and crosswalks across local and standard mappings, and develop and manage project-related value sets, mapping tools and encoding guidelines.

Specific Tasks may include:

- Provide Technical expertise and guidance in health information exchange, Electronic Medical Record/Electronic Health Record Integration Architecture, and national and international data standards including HL7 2.x/3.x ORU/OUL, ORM/OML and/or ADT, XML, CCD, SNOMED, LOINC, ICD-9, ICD-10, CDA, and FHIR.

- Understand the role of Standards Development Organizations (e.g., HL7, Regenstrief), and participate in the development of healthcare standards.
- Develop standards resources and tools such as implementation guides, mapping tables, business rules and encoding guidelines, for public health data especially related to laboratory and surveillance reporting. This includes reporting streams such as electronic test orders and results (ETOR), electronic laboratory reporting (ELR), electronic case notification for nationally notifiable diseases, and laboratory surveillance reporting. Provide expertise to support partners understanding and implementing standards-based data exchange.
- Ensure successful collaboration on standards use, interpretation, and assistance with Informatics staff and consultants working across technical assistance.
- Provide terminology and standards support for public health entities across multiple initiatives.

Some example tasks include:

- Assist PHL or PHA staff with mapping local to standard codes, such as Logical Identifiers Names and Codes (LOINC) and Systemized Nomenclature of Medicine Clinical Terms (SNOMED-CT), and apply solutions to messaging issues from a terminology perspective.
- Coordinate with data exchange partners to ensure data exchange solutions follow national standards (e.g., HL7 2.x/3.x, SNOMED, LOINC) and meet project requirements.
- Coordinate with data exchange partners to ensure vocabulary solutions follow national standards appropriate for the respective domain and data exchange paradigm, and meet project requirements (e.g., standardized electronic laboratory reporting flat file development)
- Provide vocabulary support to meet the requested services, provide knowledge transfer, and promote more efficient and effective electronic data exchange, transfer, and use.
- Support TA recipients' efforts to implement more structured data analysis models by assisting in assessment of existing models and/or the development of new models.
- Represent public health communities' requirements at Standards Development organizations to improve underlying international standards.

### **Architecture**

Develop and support data exchange solutions to meet specific and broad project requirements using national standards for public health, where available and appropriate. This includes the ability to 'think

outside the box' and introduce innovative and specific program analysis to align with other activities supported by APHL, and further interoperability. Specific Tasks may include:

- Provide expertise in technical architecture assessment and design, health information exchange, Electronic Medical Record/Electronic Health Record Integration Architecture, including: HL7 2.x/3.x, XML, CCD, SNOMED, LOINC, ICD-9, ICD-10, CDA, and FHIR.
  - Rhapsody and Mirth Certifications preferred
  - Experience with data architecture design (Transactional, Business Intelligence).
  - Experience with the needs assessment methodology, Joint Application Development (JAD)
- Provide technical architecture design solutions to public health entities and data exchange partners with varying degrees of information technology abilities. Tasks may include:
  - Conduct technical infrastructure needs assessments and IT use case analyses to identify potential barriers to implementing electronic messaging efforts and make recommendations for building a scalable, maintainable messaging solution per project requirements.
  - Assist TA recipients and data exchange partners with designing, developing, testing and validating data exchange solutions that may include data extraction from Laboratory Information Management Systems/Laboratory Information Systems, Surveillance Information Systems, other databases or data warehouses; designing, building, and documenting databases, queries, scripts, or other components; developing integration engine routes to transform and translate information per data exchange specification; and transportation to data exchange partner(s).
  - Assist TA recipients and data exchange partners with receiving, validating, and parsing electronic data.
  - Architect scalable systems per project requirements that support future expansion needs, and develop re-usable technology components to promote efficiencies.
- Provide technical architecture troubleshooting and maintenance support for public health entities and data exchange partners to meet the requested services per project requirements, provide knowledge transfer, and promote more efficient and effective electronic PHL data exchange, transfer, and use.
- Provide subject matter expertise in the area of technical architecture, routing options, and system integration to support data exchange efforts. Provide project coordination necessary to implement computer software products and resolve technical problems.

- Ensure successful collaboration and knowledge transfer on technical architecture assistance approach, reusable components, and route development with Informatics staff and consultants working across technical assistance.
- Perform knowledge transfer and share reusable technical components with technical assistance recipients and collaborating partners.

### Data and Systems Integration

Utilize integration engine software, transport protocols, XML encoding documentation, and other IT workflow components (e.g., mapper files, JavaScript filters, database filters and transport/I.O. configuration, web services, etc.) to support PHAs, PHLs, and other data exchange partners. Develop solutions for enterprise data integration for health information exchange, and continuity of operations. Specific Tasks may include:

- Provide Technical expertise in enterprise data integration, health information exchange, Electronic Medical Record/Electronic Health Record Integration Architecture, including: HL7 2.x/3.x, XML, CCD, SNOMED, LOINC, ICD-9, ICD-10, CDA, and FHIR.
  - Lyniate Rhapsody and Mirth Certifications preferred
  - Experience with data architecture design (Transactional, Business Intelligence).
- Provide integration solutions to public health entities and data exchange partners with varying degrees of information technology abilities. Tasks may include:
  - Assist TA recipients and data exchange partners with developing, testing and validating data exchange solutions using various data integration programs and other IT workflow components (e.g. mapper files, JavaScript filters, database filters and transport/I.O. configuration, web services, etc.) to transform and translate information per data exchange specification and transport to data exchange partner(s).
  - Assist TA recipients and data exchange partners with receiving, validating, and parsing electronic data.
  - Develop integration solutions per project requirements that support future expansion needs and develop re-usable technology components to promote efficiencies.
  - Develop and maintain documentation for data exchange solutions.
- Provide technical architecture troubleshooting and maintenance support for public health entities and data exchange partners to meet the requested services per project requirements,

provide knowledge transfer, and promote more efficient and effective electronic PHL data exchange, transfer, and use.

- Provide subject matter expertise in the area of technical architecture, routing options, and system integration to support data exchange efforts. Provide project coordination necessary to implement computer software products and resolve technical problems.
- Ensure successful collaboration and knowledge transfer on technical architecture assistance approach, reusable components, and route development with Informatics staff and consultants working across technical assistance.

### **Back-end Development, Administration and Modeling**

Design methods to store, analyze, utilize, organize, and visualize data with a focus on public health data standards.

- Formulation and documentation of existing processes and events that occur during application software design and development.
- Use techniques and tools to capture and translate complex system designs into easily understood representations of the data flows and processes, creating a blueprint for health data exchange and interoperability.
- Provide subject matter expertise in the area of data creation, storage, organization, and presentation of data.
- Perform complex technical, analytical, and professional services involving public health data modeling and exchange standards.
- Ability to plan and coordinate security measures alongside AIMS and APHL Informatics team members, as well as enhance or build data storage designs for the most sustainable, efficient products.