



Solicitation Information

21 March 06

RFP # B06154

TITLE: Disease Surveillance Improvement Project

Submission Deadline: 19 April 06 @ 1:40 PM (Eastern Time)

Questions concerning this solicitation may be e-mailed to the Division of Purchases at questions@purchasing.state.ri.us no later than **4 April 06 at 12:00 Noon (ET)**. Questions should be submitted in a *Microsoft Word attachment*. Please reference the RFP / LOI # on all correspondence. Questions received, if any, will be posted on the Internet as an addendum to this solicitation. It is the responsibility of all interested parties to download this information.

SURETY REQUIRED: No

BOND REQUIRED: No

**Jerome D. Moynihan, C.P.M., CPPO
Administrator of Purchasing Systems**

Vendors must register on-line at the State Purchasing Website at www.purchasing.ri.gov

Note to Vendors:

Offers received without the entire completed three-page RIVP Generated Bidder Certification Form attached may result in disqualification.

THIS PAGE IS NOT A BIDDER CERTIFICATION FORM

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Section II. Introduction

On behalf of the Rhode Island Department of Health, the Department of Administration/Office of Purchases, is soliciting proposals from qualified firms to implement the National Electronic Disease Surveillance System Base System (NEDSS or NBS) and the National Outbreak Management System (OMS) as funded and required by the Centers for Disease Control (CDC). This Request and the State's General Conditions of Purchase will establish what needs to be accomplished and the expectations of the vendor and the state from this point of solicitation throughout the engagement.

This is a Request for Proposals not an Invitation for Bid; responses will be evaluated on the basis of the relative merits of the proposal, in addition to price. There will be no public opening and reading of responses received by the Office of Purchases pursuant to this Request, other than to name those offerors who have submitted proposals.

A. Instructions and Notifications to Offerors

- Potential offerors are advised to review all sections of this Request carefully, and to follow instructions completely. Failure to make a complete submission as described herein may result in a proposal's rejection.
- Alternative approaches and/or methodologies to meet the goals of this procurement may be included in responses. Proposals which depart from or materially alter the terms, requirements, or scope of work defined by this Request will be rejected, however, as non-responsive.
- The offeror shall bear all costs associated with developing, submitting or clarifying a proposal in response to this Request. The State assumes no responsibility for these costs.
- Proposals are considered to be irrevocable for a period of not less than sixty (60) days following the opening date, and may not be withdrawn, except with the express written permission of the State Purchasing Agent.
- All pricing submitted will be considered to be firm and fixed unless otherwise indicated herein.
- Proposals misdirected to other State locations or which are otherwise not present in the Office of Purchases at the time of opening for any cause will be determined to be late and will not be considered. The official time clock is located in the reception area of the Division of Purchases, Department of Administration, One Capitol Hill, Providence, RI.
- In accordance with Title 7, Chapter 1.1 of the General Laws of Rhode Island, no foreign corporation without a Rhode Island business address, shall have the right to transact business in the State until it shall have procured a Certificate of Authority to do so from the Rhode Island Secretary of State (401-222-3040). *This is a requirement of the selected vendor(s).*
- It is intended that an award pursuant to this Request will be made to a prime contractor, who will assume responsibility for all aspects of the work. Joint venture and cooperative proposals will not be considered, but subcontracts are permitted, provided that their use is clearly indicated in the offeror's proposal, and the subcontractor(s) proposed to be used are identified in the proposal.
- All proposals shall include the offeror's FEIN or Social Security number as evidenced by a W9, downloadable from the Division of Purchases website at www.purchasing.state.ri.us.
- The purchase of services under and award made pursuant to this Request will be contingent on the availability of funds.

- The State of Rhode Island has a goal of ten per cent (10%) participation by MBE's in all State procurements. For further information, visit the web site www.rimbe.org. To speak with an M.B.E. Officer, call (401) 222-6253.
- Interested parties are instructed to peruse the Division of Purchases web site on a regular basis, as additional information relating to this solicitation may be released in the form of an addendum to this RFP / LOI

Equal Employment Opportunity (RIGL 28-5.1)

§ 28-5.1-1 Declaration of policy. – (a) Equal opportunity and affirmative action toward its achievement is the policy of all units of Rhode Island state government, including all public and quasi-public agencies, commissions, boards and authorities, and in the classified, unclassified, and non-classified services of state employment. This policy applies in all areas where the state dollar is spent, in employment, public service, grants and financial assistance, and in state licensing and regulation. For further information, contact the Rhode Island Equal Employment Opportunity Office, at 222-3090

Section III. Background and Purpose

A. Background

The implementation of the [National Electronic Disease Surveillance System](#)¹ (NEDSS) has been called for at both the federal and state level. The [Centers for Disease Control](#)² (CDC) has developed, and is continuing to develop, tools and standards to track, analyze and manage infectious disease reports. Rhode Island's Department of Health (HEALTH) relies on several older applications provided by CDC and a few custom developed applications for this purpose. This project involves moving from those disparate systems which CDC is phasing out to a more integrated and comprehensive approach now available and funded by the CDC. The department's recently completed information technology strategic plan highlights this project.

NEDSS is a "cross cutting" system because disease surveillance is an important aspect of routine public health activities, outbreak management, and bioterrorism and emergency preparedness. Disease reporting to HEALTH is performed mainly by healthcare facilities such as hospitals, physicians and laboratories. Most laboratories have information systems which can send results electronically and many hospitals and physicians are also able to report electronically. However, these reports are still largely submitted to HEALTH by paper, fax, or phone call, because the current systems in HEALTH do not support electronic input. Once submitted to HEALTH, the reports are marked for investigation by an epidemiology staff for subsequent reporting to the CDC via NETSS. When NEDSS becomes operational, an interface between Cerner [the State laboratory] and NEDSS could replace this labor intensive manual process. The process of paper reporting is inefficient, and the result in under-reporting of events, as well as the belief in the private sector that public health reporting is a separate and burdensome process.³

While this project is not envisioned to be particularly complex technically it does involve a significant amount of coordination and business process reengineering. The implementation of this software will require input from the Centers for Disease Control, their software consultants, the vendor hosting the application, the department's network, security, laboratory and epidemiology staff and outside laboratories. The system will need to work for all of their perspectives to be successful. This may involve customizing screens or reports in the basic system and/or changing the way the staff within the department handle and analyze data for disease surveillance.

Vendors who have been working in this area know that the software platform to which the state would like to migrate has been available for a few years. Past attempts at migration have been stymied by personnel changes and uncertainty as to whether the state would have to host the application locally. In January 2006, CDC engaged CSC, Inc. to host the application which they had developed under contract. The ability to use a hosted service will make this project more cost effective and less complicated technically.

B. Purpose of Outsourcing

The state has chosen to hire a vendor to reach these goals for several reasons. We do not have specific expertise involved to perform this migration. We seek a vendor that is well versed with the CDC's disease surveillance and understands the various versions of the CDC software to make the transition to a new system smooth. We also seek a vendor that has a capacity and ability to perform the services needed within the time frame established by the granting authority – funds related to the outbreak management system installation should be expended by the end of August and the remaining funds are scheduled to be extinguished at the end of October.

¹ National Electronic Disease Surveillance System: www.cdc.gov/nedss

² Centers for Disease Control: www.cdc.gov

³ Source: "Information Technology Needs for Emergency and Routine Functions, Report of Findings and Recommendations - DRAFT" for the Rhode Island Department of Health by HLN, Consulting, August 31, 2005, page 49.

C. Project Goals, Objectives

This project seeks to improve the state's ability to track the spread of disease in four specific ways. The implementation of the National Electronic Disease Surveillance System and the Outbreak Management System will:

1. Improve timeliness of disease investigation;
2. Increase disease surveillance data accuracy and comprehensiveness;
3. Provide for person-based analysis of disease surveillance information;
4. Enhance epidemiological analysis, visualization and reporting;
5. Protect confidential information.

These goals will be met by accomplishing the following objectives:

1. Streamline business processes;
2. Adopt national standards for electronic exchange of person based disease information;
3. Increase integration of public health surveillance and health information systems;
4. Implement direct electronic data exchanges among providers, laboratories, state epidemiologists and the Centers for Disease Control.

Acceptance testing will be performed by state epidemiologists, laboratory, network and security personnel and data recipients at the CDC to determine whether these goals and objectives have been met.

Section IV. Scope of Work

A. Functional Scope

This project will utilize electronic transmission of disease surveillance data to improve public health. This will be accomplished by upgrading and replacing current software for all disease surveillance and other software specifically designed for animal bites, sexually transmitted diseases, tuberculosis, and chronic hepatitis. Additional software customized for other conditions will be installed in future phases of this project. The department intends to continue using the blood lead level tracking system and the HIV/AIDS reporting systems currently in use. This project is not intended to supplant the geographic information system functions currently performed in the department. The project also involves implementing the Outbreak Management System developed by CDC. A list of reportable conditions covered by this project, and the Program Area Module that will be used for surveillance, where applicable, is provided in Appendix A: Diseases Reportable in Rhode Island.

B. Technical Scope

The state of Rhode Island will utilize a NEDSS web-server based technology hosted remotely as developed by CDC under separate contract. The Outbreak Management System software, however, will be hosted locally. The state laboratory has recently installed new hardware and software⁴ to allow it to accept disease surveillance information from laboratory partners throughout the state. Utilities will need to be installed at the local level to provide authentication of users and to ensure the security of any data transmitted. Tables 1, 2 and 3 identify the software systems in use and to be replaced and new software and hardware systems to be installed. Appendix B: Gap Analysis identifies modifications needed to meet local requirements.

TABLE 1: SOFTWARE PROGRAMS CURRENTLY USED AT DOH TO REPORT CASES		
Acronym Or Name	Project Intent	Name, brief description and link to more information
Overall Systems		
NETSS	Replace	National Electronic Telecommunication System for Surveillance the system supplied by CDC and currently used at the Department of Health to report nationally notifiable diseases or other health conditions to CDC. (Windows 95™, Epi Info™)
PHLIS	Replace	Public Health Laboratory Information System a system currently used in public health laboratories to report and analyze a variety of conditions which have a significant laboratory testing component. (Windows™, SQL Server 2000™, Visual Basic)
ELR	Enable	Electronic Laboratory Reporting has been installed at the State laboratory but its is not used because the Office of Communicable Diseases is not capable of receiving the data.
Disease Specific Systems		
STD-MIS	Replace	Sexually Transmitted Disease Management Information System a stand alone system supplied by CDC used to track sexually transmitted diseases. (MSDOS™, FoxPRO™)
TIMS	Replace	Tuberculosis Information Management System a surveillance and case management client application used in all 50 states. (Windows™)
Hepatitis System	Replace	Chronis Hepatitis registry (MS Access™)
Animal Bites	Replace	Report of animal bites registry (MS Access™)
LESS	Replace	Lead Elimination Surveillance System case management system developed under contract to the Department of Health by Kyran Research Associates maintained in-house for childhood (and all persons) exposure to lead. (Windows, SQL Server, VB)
HARS	Not included	HIV/AIDS Reporting System a password protected system used to register HIV/AIDS patients. (MSDOS™, in C™).

⁴ The new system meets HL-7, LOINC, HIPAA requirements (according to the Epidemiology and Laboratory Capacity Grant application)

TABLE 2: SOFTWARE PROGRAMS AND PROTOCOLS TO BE INSTALLED IN THIS PROJECT

NEDSS	National Electronic Disease Surveillance System an initiative that promotes the use of data and information system standards to advance the development of efficient, integrated and interoperable surveillance systems. (Current release is version 2.6) As above, this is to be installed under another contract.
NBS	NEDSS Base System a modular software application that allows for the web-based exchange of disease and public health condition data on a national level. This system is intended to replace NETSS and Rhode island stand alone packages to support surveillance and analysis activities. This software will be installed remotely as part of another CDC project. This project entails providing the necessary links to and customization of that software.
PAMs	Program Area Modules for diseases including: Generic, Hepatitis, Bacterial Meningitis and Invasive Respiratory Diseases (BMIRD), Vaccine Preventable Diseases (VPD), Foodborne illnesses
NPP	NEDSS PAM Platform. The most recent web based disease tracking system. This product will be used for surveillance of Sexually Transmitted Diseases, Tuberculosis, Varicella and Lead exposure. (see http://www.cdc.gov/std/program/std-pam/20050126STDPAM-Session4V5.ppt)
OMS	Outbreak Management System a suite of software tools for capturing standard data; configuring outbreak-specific vocabularies; performing analysis; and creating dynamic questionnaires, reports and outbreak-specific packages.
PHINMS	Public Health Information Network Messaging System. A collection of software and standards whose purpose is to securely transmit messages related to cases among the state, laboratories and the Centers for Disease Control. (version 2.1; Various operating systems)
Reporting Utilities	<ul style="list-style-type: none"> ➤ Reporting Data Mart ➤ Reporting Database
Interfaces	<ul style="list-style-type: none"> ➤ National Laboratory Partner Observation Results Unsolicited Electronic Laboratory reporting messages for state reportable conditions. (HL7⁵ 2.3) ➤ Nationally Notifiable Disease messages from HEALTH to CDC ➤ Observation results from the Rhode Island State Health Laboratory (HL7 2.3)
Utilities	Two-Factor authentication software, remote access

C. Tasks

The vendor shall:

1. Understand the current business processes associated with tracking of communicable diseases and outbreak management at HEALTH;
2. Understand the history, current status and future opportunities for disease prevention and control provided by the CDC software and business process solutions;
3. Update the gap analysis between the department's processes and version 1.3 of NBS (see Appendix B: Gap Analysis);
4. Perform a detailed work flow analysis for each condition to be migrated to the NBS or NPP, and for outbreak management;
5. Implement the Outbreak Management System, any locally necessary software and modifications to the base system as per the gap analysis and need for custom reports (see Appendix C: List of Custom Reports)
6. Work cooperatively with department team members to set up appropriate user profiles;
7. Test the application. In the case of security testing the vendor will work with state information network security personnel to ensure that the system meets state standards, in addition to any federally imposed testing.
8. Provide training and documentation on the new business practices for department users in the Division of Disease Prevention, the Office of Vaccine Preventable Diseases, the State Health laboratory, information technology and others as appropriate.

⁵ Health Level Seven is an organization for setting health standards.

D. Deliverables

This engagement is deliverables based. Vendors will be able to bill for each project sub phase, although invoices may be submitted no more frequently than monthly. The following table provides an estimate of the level of effort by the vendor for each phase and sub phase to assist offerors in their proposal. Offerors may change accept or change these estimates in their cost proposals.

TABLE 3: LEVEL OF VENDOR EFFORT BY PROJECT PHASE	
Project Phases	Estimated Percentage level of vendor effort
Planning and Assessment	Pre-engagement
Implementation Phase	
Project Initiation	20%
Basic Implementation	10%
Rhode Island Specific Configuration	30%
Transition to Production Phase	
Testing	20%
Training	10%
Technical	5%
Project Closure	5%
Production Phase	Out of scope

Each of these project phases is associated with particular deliverables as shown in Table 4.

TABLE 4: DELIVERABLES BY PROJECT PHASE	
Deliverables	Lead / Participants
Site Readiness and Assessment Phase	
Project Initiation	
Kick off meeting	RI Vendor / All
Train Project team on disease surveillance system	RI Vendor / Project Team
Gap Analysis Report Updated ⁶	RI Vendor / Project Team
Business Process Workflow Diagrams	RI Vendor / Business Leads
Business Process Change Plan	RI Vendor / Business Leads
Implementation Phase	
Basic Implementation	
Configure Test Environment	DOH IT
Install Laboratory Messaging software (PHINMS 2.6)	CDC Vendor
Install basic disease surveillance package (NBS R1.1.4 SP1)	CDC Vendor
Install Newer disease surveillance package (NPP)	CDC Vendor
Install Security software	CDC Vendor / DOH IT
Install Outbreak Management System (OMS)	RI Vendor
Rhode Island Specific Configuration	
Load User Profiles	RI Vendor / DOH IT
Configure data customizations per the gap analysis ⁷	RI Vendor
Design and implement customized reports ⁸	RI Vendor
Load Existing Data	RI Vendor / Interface Analyst
Transition to Production Phase	
Testing	
RI Team User Acceptance Certification	Business Leads
Security Certification	RI Div. of IT / DOH IT
CDC Certification	RI Vendor / CDC Vendor
Training	
Manual, including RI specific methods	RI Vendor
Sessions for all users	RI Vendor / DOH Trainer
Technical	
Migrate data to production environment	RI Vendor/ DOH IT
Administration Guide	RI Vendor
Project Closure	
Post Deployment Report	RI Vendor / Team
Production Phase	
Draft Project Plan for next round of improvements	DOH
Registry and Operations Management	DOH

⁶ The current version is based on an analysis of the Rhode Island Department of Health's business practices as of one year ago (excepted to be the same as current) and version 1.1.3 of the National Base System. Some of the requested changes to the NBS have been dealt with the most recent version of the NBS and the NPP.

⁷ Rhode Island specific data fields will be included to the extent called for in the business process change plans. See Appendix B: Gap Analysis

⁸ See Appendix C: List of Custom Reports

E. Requirements

The State shall require offerors to:

1. Demonstrate specific knowledge of hardware, software, standards and protocols developed by and for the CDC involved in this project;
2. Demonstration expertise in epidemiology, disease surveillance, outbreak management;
3. Be willing and able to travel to Rhode Island at no additional cost beyond the quoted price of the contract for consultation with state employees as required. The amount of travel may depend upon the approach and methodology of the vendor but it is essential that state personnel working on this project, particularly those who need to change the way they do business, are able to communicate directly with vendor personnel.
4. Identify any the expertise and role of any subcontractors working on the project;
5. Identity by name and give the qualifications, experience expertise and credentials of the project manager and other personnel to be assigned to the project;
6. Note whether they, or any subcontractors, are a Minority Business Enterprise as certified by the state of Rhode Island.⁹

The State shall require the contracted vendor to:

1. Complete all tasks within the allotted timeframe;
2. Give adequate notice, preferably 2 weeks prior to a site visit, to allow for scheduling of appropriate HEALTH team members;
3. Agreement that rights to data, and work products will revert to the State on payment;
4. Submit all required reports and/or data in a format that can be easily read and/or used by the user;
5. Respect the confidentiality of data;
6. Adhere to the Department of Health's core technical requirements (see Appendix E: Core Technical Requirements);
7. Adhere to all state and federal standards regarding the work product.

The State is required to:

1. Participate in interviews, work sessions, and work product review as required by the project plan;
2. Perform of any necessary research on the business processes as may be required by the project;
3. Timely response to requests for information and decisions, preferably within 2 days;
4. Provide the project team with the necessary project office infrastructure – workspace, phone, print, fax, email, and network connectivity when on-site;
5. Manage and set up secure remote access as required by the project;
6. Provide the infrastructure and technical expertise to support the implementation plan including a network administrator, and system administrator;
7. Work with the consultant to modify business practices to allow for the installation of the new systems;
8. Provide a database administrator to perform database: reorganizations, copies, restoration and testing of production migration procedures.

Section V. Proposal Submission

Questions concerning this solicitation may be e-mailed to the Division of Purchases at questions@purchasing.state.ri.us no later than the date and time listed on the cover sheet of this solicitation. **Send your questions in a Microsoft Word format.** Please reference the RFP/LOI # on all correspondence. Questions received, if any, will be posted and answered on the internet as an addendum to this solicitation. It is the responsibility of all interested parties to download this information. For computer technical assistance, call the helpdesk at (401-222-2142, ext 134).

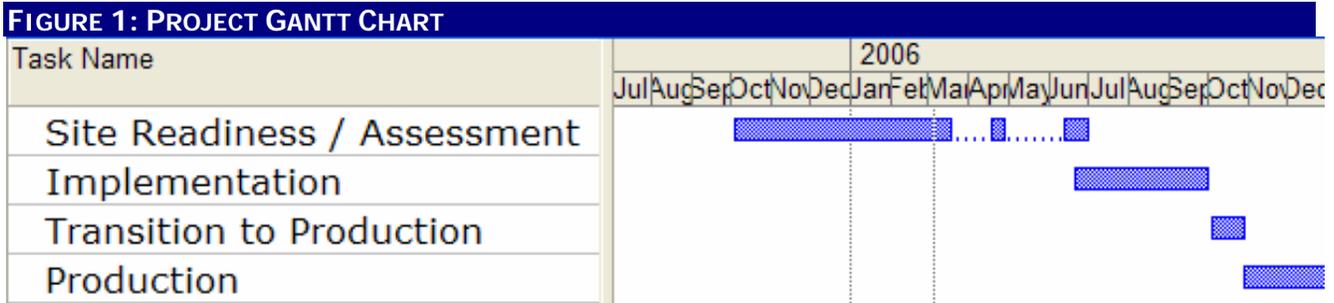
Interested offerors may submit proposals to provide the services covered by this Request on or before the date & time listed on the cover sheet of this solicitation. Proposals received after this time and date will not be considered.

Proposals should include the following:

1. A completed and signed three-page RIVIP Bidder Certification Cover Form, available at www.purchasing.ri.gov.
2. A Cost Proposal reflecting the hourly rate, or other fee structure, proposed for this scope of services, including completion of the Cost Proposal Summary form, enclosed, and
3. A *separate* Technical Proposal describing the qualifications and background of the applicant and experience with similar programs, as well as the work plan or approach proposed for this requirement.
4. A completed and signed W-9 (taxpayer identification number and certification). Form is downloadable at www.purchasing.state.ri.us.
5. In addition to the multiple hard copies of proposals required, Respondents are requested to provide their proposal in electronic format (CDRom or Diskette). Microsoft Word / Excel OR PDF format is preferable. Only 1 electronic copy is requested.

Section VI. Timeline

Funding for this project comes from two different sources at the Centers for Disease Control with slightly different time requirements for spending. The funding related to the Epidemiology and Laboratory Capacity Grant is available throughout the 2006 calendar year. The funding associated with the Public Health Preparedness and Emergency Response for Bioterrorism was made available in August of last year and is available through August of this year. Figure 1 gives provides a project timeline for the project.



Note that this timeline assumes that the CDC Application Service Provider (ASP) will have configured the hardware and installed all the necessary software before the implementation portion of this project. The vendor will not be held responsible for not making project deadlines to the extent that the hosted application is necessary to complete the project. The vendor to be hired as a result of this request for proposals will, however, be expected to complete those deliverables that are not dependent on the hosted application within the project timeline. If necessary, the State of Rhode Island will work with the CDC to allow for funding to be continued for any portion of the project that was not completed due to the inability to use the hosted application on a timely basis.

Note that while this Request for Proposals is out to bid and a vendor is being selected the State of Rhode Island, Department of Health, will be working with the Centers for Disease Control and their vendor, CSC, Inc. to develop a memorandum of understanding formalizing the roles described in this proposal. The

Section VII. Proposal Response Documents

A. Checklist

Proposals must include the following:

- Completed and signed three-page RIVIP Bidder Certification Cover Form, available at www.purchasing.state.ri.us.¹⁰
- Technical Proposal as outlined in Section VII.B
- Completed and signed Internal Revenue Service form W-9, downloadable from the IRS website at www.irs.gov/pub/irs-pdf/fw9.pdf.
- Cost Proposal as provided for in Section VII.C to be signed and separately sealed.

B. Technical Proposal

Executive Summary

The Executive Summary should highlight the contents of the Technical Proposal and State evaluators with a broad understanding of the offeror's technical approach and ability.

Offeror's Organization and Staffing

A proposal must include a description of staffing, including an organizational chart intended for the project. The qualifications of all persons or units(s) responsible for deliverables associated with this project should be demonstrated.

This section shall also identify of all staff and/or subcontractors proposed as members of the project team, and the duties, responsibilities, and concentration of effort which apply to each, as well as resumes, curricula vitae, or statements of prior experience and qualifications.

Work plan/Approach Proposed

This section shall:

- Demonstrate the offeror's understanding of the State's requirements (Section IV.E) and the project goals (Section III);
- Explain the approach and/or methodology to be employed, and a work plan for meeting the project goals (Section III.C);
- Include a discussion and justification of the methods proposed for each task identified in the Scope of Work (Section IV.C);
- Identify technical or other risks/issues that they foresee may be confronted during the project;
- Include a detailed proposed project schedule by deliverable and sub-deliverable (Section IV.D) ;
- Identify of milestones that will be employed to administer the project. (A gannt chart of the project plan would be useful but is not required for this purpose.);
- Identify staff assignments, including a description of their specific role and level of effort within the project.

Previous Experience and Background

This section shall:

- Comprehensively list similar projects undertaken and/or similar clients served, including a brief description of the projects;
- Description of the offeror's, and all subcontractors, business background and financial position;
- Identify whether the offeror is certified by the State of Rhode Island as a Minority Business Enterprise (MBE).

C. Cost Proposal

The Technical Proposal must contain the following sections:

- Executive Summary
The Executive Summary is intended to highlight the contents of the Technical Proposal and to provide State evaluators with a broad understanding of the offeror's technical approach and ability.
- Offeror's Organization and Staffing
A description of staffing, including an organizational chart highlighting the persons or unit(s) responsible for this project should be demonstrated.

This sections shall include identification of all staff and/ or subcontractors proposed as members of the project team, and the duties, responsibilities, and concentration of effort which apply to each, as well as resumes, curricula vitae, or statements of prior experience and qualification.

- Work plan/Approach Proposed
This section shall describe the offeror's understanding of the State's requirement, including the result(s) intended and desired, the approach and/or methodology to be employed, and a work plan for accomplishing the results proposed. This section shall include a discussion and justification of the methods proposed for each task identified in the Scope of Work (above), and the technical issues that will or may be confronted at each stage of the project. The work plan description shall include a detailed proposed project schedule by task, a list of tasks, activities and/or milestones that will be employed to administer the project, and the task assignments of staff members and level of effort for each linked to the Cost Proposal.
- Previous Experience and Background
This section shall include the following information:
 - A comprehensive listing of similar projects undertaken and/or similar clients served, including a brief description of the projects,
 - A description of the business background of the offeror (an all subcontractors proposed), including a description of their financial position, and
 - The offeror's status as a Minority Business Enterprise (MBE), certified by the Rhode Island Department of Economic Development, and/or a subcontracting plan which addresses the State's goal of ten percent (10%) participation by MBE's in all State procurements. For further information, call the MBE Officer at (401) 222-6670.

Table 5 provides a form for offerors to organize their costs in the response.

TABLE 5: COST PROPOSAL FORM			
Task	Staff Cost	Other Expenses	Total Cost
Project Initiation			
Basic Implementation			
Rhode Island Specific Configuration			
Testing			
Training			
Technical			
Project Closure			
PROJECT TOTAL			

Proposals (an original plus [3] copies of Technical and Cost responses) should be mailed or hand-delivered in a sealed envelope marked

“RFP #B06154: DISEASE SURVEILLANCE IMPROVEMENT PROJECT” to :

**RI Dept. of Administration
Division of Purchases, 2nd floor
One Capitol Hill
Providence, RI 02908-5855**

NOTE: Proposals received after the due date and time listed on the cover sheet of this solicitation may not be considered. Proposals misdirected to other State locations or which are otherwise not present in the Division of Purchases by the scheduled date and time will be determined to be late and may not be considered. Proposals faxed, or emailed, to the Division of Purchases will not be considered. The official time clock is located in the reception area of the Division of Purchases.

Section VIII. Evaluation and Selection

Rhode Island is interested in finding a vendor that has experience dealing with the range of disease surveillance software that has been developed by the Centers for Disease Surveillance and state installations of these applications. The successful offeror will demonstrate that its staff have an understanding of state disease surveillance and outbreak management business practices and change management of same. The staff should have both the technical expertise to comprehend the multiple operating environments and that will need migration to the new system and the people skills to assist our personnel as they adjust to a new means of doing business. They should also be able to demonstrate from past performances that they can prepare the clear and concise documentation, training materials and reports in the appropriate format(s).

The State will perform a multi-tiered selection process. A Proposal Review Committee with technical and project area expertise will evaluate and score all proposals. The Committee will first score the proposals based on: staff qualifications, capability, capacity and experience of the offeror, and quality of the work plan. Offerors must achieve a minimum of 65 points out of a possible 80 to be considered technically responsive to the request. Only those proposals which achieve this minimum score will be evaluated further. The qualified offers will then be evaluated based on cost. Cost points will be based on the ratio between the least cost and the cost of individual proposal. Table 6 shows the point breakdown for the evaluation criteria.

TABLE 6: EVALUATION CRITERIA	
Criteria	Points
Staff Qualifications	30
Capability, Capacity and Experience of Offeror	30
Quality of the Work plan	20
Cost ¹¹	20
TOTAL	100

Notwithstanding the foregoing, the State reserves the right to award on the basis of cost alone and to act in its best interest.

Proposals found to be technically or substantially non-responsive at any point in the evaluation process will be rejected and not considered further.

The State may, at its sole option, elect to require presentation(s) by offerors clearly in consideration for award.

The Technical Review Sub-Committee will present written findings, including the results of all evaluations, to the State's Architect/Engineer and Consultant Services Selection Committee, which will recommend up to three finalists to the Director of the Department of Administration, who will make the final selection for this requirement. *When a final decision has been made, all respondents will be notified by mail.*

¹¹ Calculated as lowest responsive cost proposal divided by the cost proposal of the particular offer times 10 points.

Appendix A: Diseases Reportable in Rhode Island

TABLE 7: CONDITIONS REPORTABLE IN RI THAT ARE NOT IN THE NEDSS BASE SYSTEM

Transmissible Spongiform Encephalopathies including Creutzfeldt-Jakob Disease
Severe Acute Respiratory Syndrome
Ricin Poisoning
Clostridium perfringens epsilon toxin poisoning
Glanders
Animal bites

TABLE 8: DISEASES DELIVERED WITH THE NEDSS BASE SYSTEM

Condition Name Delivered with NBS	Program Area Module in NBS	Reportable in RI
African Tick Bite Fever	Generic	No
AIDS	Generic	Yes
Amebiasis	FoodBorne Generic	Yes
Amnesiac shellfish poisoning	FoodBorne Generic	No
Anisakiasis	FoodBorne Generic	No
Anthrax	Generic	Yes
Asthma, Work-related	Generic	No
Babesiosis	Generic	Yes
Bacterial meningitis, other	BMIRD ¹²	Yes
Botulism, foodborne	FoodBorne Specific	Yes
Botulism, infant	Generic	Yes
Botulism, other (includes wound)	Generic	Yes
Botulism, other unspecified	Generic	Yes
Botulism, wound	Generic	Yes
Brucellosis	Generic	Yes
Campylobacteriosis	FoodBorne Generic	Yes
Cat scratch fever (Bartonellosis)	Generic	No
Chancroid	Generic	Yes
<i>Chlamydia trachomatis</i> genital infection	Generic	Yes
Cholera	FoodBorne Specific	Yes
Ciguatera fish poisoning	FoodBorne Generic	Yes
Coccidioidomycosis	Generic	Yes
Colorado tick fever	Generic	No
Cryptosporidiosis	FoodBorne Specific	Yes
Cyclosporiasis	FoodBorne Specific	Yes
Dengue Fever	Generic	Yes
Dengue hemorrhagic fever	Generic	Yes
Diarrheal disease, not otherwise specified	FoodBorne Generic	Yes
Diphtheria	Generic	Yes
Diphyllobothrium latum	FoodBorne Generic	No

¹² Bacterial Meningitis and Invasive Respiratory Disease

TABLE 8: DISEASES DELIVERED WITH THE NEDSS BASE SYSTEM

Condition Name Delivered with NBS	Program Area Module in NBS	Reportable in RI
Ehrlichiosis human, other or unspecified agent	Generic	Yes
Ehrlichiosis, human granulocytic (HGE)	Generic	Yes
Ehrlichiosis, human monocytic (HME)	Generic	Yes
Encephalitis, Cache Valley	Generic	Yes
Encephalitis, California serogroup viral	Generic	Yes
Encephalitis, Eastern equine (EEE)	Generic	Yes
Encephalitis, post-chickenpox	Generic	Yes
Encephalitis, post-mumps	Generic	Yes
Encephalitis, Powassan	Generic	Yes
Encephalitis, St. Louis	Generic	Yes
Encephalitis, Venezuelan equine (VEE)	Generic	Yes
Encephalitis, West Nile	Generic	Yes
Encephalitis, Western equine (WEE)	Generic	Yes
Enterohemorrhagic <i>Escherichia coli</i> (EHEC) shiga toxin+ (serogroup non-0157)	FoodBorne Generic	Yes
Enterohemorrhagic <i>Escherichia coli</i> (EHEC) O157:H7	FoodBorne Generic	Yes
Enterohemorrhagic <i>Escherichia coli</i> (EHEC) shiga toxin+ (not serogrouped)	FoodBorne Generic	Yes
Verotoxigenic <i>Escherichia coli</i>	FoodBorne Generic	No
Flu Activity Code (Influenza)	Generic	Yes
Foodborne illness, NOS	FoodBorne Generic	Yes
Giardiasis	FoodBorne Generic	Yes
Gonorrhea	Generic	Yes
Granuloma inguinale (GI)	Generic	Yes
<i>Haemophilus influenzae</i> , invasive	BMIRD	Yes
Hansen disease (Leprosy)	Generic	Yes
Hantavirus infection	Generic	Yes
Hantavirus Pulmonary Syndrome	Generic	Yes
Head Injury	Generic	Yes
Hemolytic uremic syndrome postdiarrheal	Generic	Yes
Hepatitis	Hepatitis	No
Hepatitis A, Acute	Hepatitis	Yes
Hepatitis B Viral Infection, Perinatal	Hepatitis	Yes
Hepatitis B virus infection, Chronic	Hepatitis	Yes
Hepatitis B, Acute	Hepatitis	Yes
Hepatitis C Virus Infection, chronic or resolved	Hepatitis	Yes
Hepatitis C, Acute	Hepatitis	Yes
Hepatitis Delta, Co- or Super-Infection	Hepatitis	Yes
Hepatitis E, Acute	Hepatitis	Yes
Hepatitis Non-ABC, Acute	Hepatitis	Yes
HIV Infection, adult	Generic	Yes
HIV Infection, pediatric	Generic	Yes
Human T-Lymphotropic virus type I infection (HTLV-I)	Generic	Yes
Human T-Lymphotropic virus type II infection (HTLV-II)	Generic	Yes

TABLE 8: DISEASES DELIVERED WITH THE NEDSS BASE SYSTEM

Condition Name Delivered with NBS	Program Area Module in NBS	Reportable in RI
Influenza, animal isolates	Generic	No
Influenza, human isolates	Generic	No
Kawasaki Disease	Generic	No
Lead Poisoning	Generic	Yes
Legionellosis	Generic	Yes
Leptospirosis	Generic	Yes
Listeriosis	FoodBorne Specific	Yes
Lyme disease	Generic	Yes
Lymphogranuloma venereum (LGV)	Generic	Yes
Malaria	Generic	Yes
Measles (Rubeola)	VPD ¹³	Yes
Meningitis, Aseptic	Generic	Yes
Meningococcal disease, <i>Neisseria meningitidis</i> , invasive	BMIRD	Yes
Motor Vehicle Injury	Generic	Yes
Mucopurulent cervicitis (MPC)	Generic	No
Mumps	Disease Specific	Yes
Neurosyphilis	Generic	Yes
Nongonococcal urethritis (NGU)	Generic	No
Norovirus	FoodBorne Generic	No
Other Injury	Generic	Yes
Paralytic shellfish poisoning	FoodBorne Generic	Yes
Pelvic Inflammatory Disease (PID), Unknown Etiology	Generic	Yes
Pertussis	VPD	Yes
Plague	Generic	Yes
Poliomyelitis, Paralytic	Generic	Yes
Psittacosis (Ornithosis)	Generic	Yes
Q fever	Generic	Yes
Rabies, animal	Disease Specific	Yes
Rabies, human	Generic	Yes
Reye syndrome	Generic	No
Rheumatic fever	Generic	No
Rocky Mountain spotted fever	Generic	Yes
Rotavirus	FoodBorne Generic	No
Rubella	VPD	Yes
Rubella, Congenital Syndrome (CRS)	VPD	Yes
Salmonellosis	FoodBorne Specific	Yes
Scarlet fever	Generic	No
Scombroid fish poisoning	FoodBorne Generic	Yes
Shigellosis	FoodBorne Generic	Yes
Silicosis	Generic	Yes
Smallpox	Generic	Yes
Spinal Cord Injury	Generic	Yes

¹³Vaccine Preventable Disease

TABLE 8: DISEASES DELIVERED WITH THE NEDSS BASE SYSTEM

Condition Name Delivered with NBS	Program Area Module in NBS	Reportable in RI
<i>Staphylococcus aureus</i> , coagulase-positive, methicillin- or oxacillin-resistant (MRSA)	Generic	No
<i>Staphylococcus aureus</i> , coagulase-positive, vancomycin-resistant (VRSA)	Generic	Yes
<i>Staphylococcus aureus</i> , vancomycin intermediate susceptibility (VISA)	Generic	Yes
Streptococcal disease, invasive, other	Generic	Yes
Staphylococcal enterotoxin	FoodBorne Generic	Yes
Group A <i>Streptococcus</i> , invasive	BMIRD	Yes
Group B <i>Streptococcus</i> , invasive	BMIRD	Yes
<i>Streptococcus pneumoniae</i> , drug-resistant invasive	BMIRD	Yes
<i>Streptococcus pneumoniae</i> , invasive	BMIRD	Yes
Sudden Infant Death Syndrome (SIDS)	Generic	No
Suicide	Generic	No
Syphilis, congenital	Generic	Yes
Syphilis, early latent	Generic	Yes
Syphilis, late latent	Generic	Yes
Syphilis, late with clinical manifestations other	Generic	Yes
Syphilis, primary	Generic	Yes
Syphilis, secondary	Generic	Yes
Syphilis, unknown latent	Generic	Yes
Syphilitic stillbirth	Generic	Yes
Tetanus	Disease Specific	Yes
Toxic-shock syndrome (staphylococcal)	Generic	Yes
Toxic-shock syndrome (STSS due to Group A <i>Streptococcus</i>)	BMIRD	Yes
Toxoplasmosis	FoodBorne Generic	Yes
Trichinosis	FoodBorne Generic	Yes
Tuberculosis	Generic	Yes
Tularemia	Generic	Yes
Typhoid fever (caused by <i>Salmonella typhi</i>)	FoodBorne Generic	Yes
Typhus Fever, (endemic fleaborne, Murine)	Generic	No
Typhus fever, (epidemic louseborne, caused by <i>Rickettsia prowazekii</i>)	Generic	No
Vancomycin Resistant Enterococcus	Generic	Yes
Varicella (Chickenpox)	Generic	Yes
<i>Vibrio parahaemolyticus</i>	FoodBorne Generic	Yes
<i>Vibrio</i> sp., non-toxigenic, other or unspecified	FoodBorne Generic	Yes
<i>Vibrio vulnificus</i> infection	FoodBorne Generic	Yes
West Nile Fever	Generic	Yes
Yellow fever	Generic	Yes
Yersiniosis	FoodBorne Generic	Yes

* Indicates state specific condition to be added to NBS Condition Code Table

Disease Surveillance Improvement Project

Appendix B: Gap Analysis

RFP No. ***

Key to Abbreviations

Function:

- S - Surveillance
- A - Analysis, Visualization or Reporting
- M - Messaging, Electronic Lab reporting

Priority

- MC - Mission Critical - the problem prevents the operational or mission-essential capability or jeopardizes personnel safety.
- H - High – the problem adversely affects operational or mission-essential capability or degrades performance and for which no alternative solution is known.

Solution:

- CDF - Collaboratively Defined Field
- LDF - Locally Defined Field
- E - Edit

Program Area Module	Function	Priority	Solution	Problem or Change	Description
All	H	H	ER		Manage Contacts Button: for Meningococcal Disease, Acute Hepatitis A, Acute Hepatitis B, Typhoid Fever
	S	H	E	C	Where calculations are involved in determining infectious period, provide a 2-month "drop-down" calendar.
Animal Bites, Not in NBS	S	H	LDF	C	For Animal bites to humans, add: Name of a contact, phone of a contact, incident date, city/town of incident, reported by, Report phone, description of incident., type of exposing animal, Captured?, Retrievable?, Quarantined?, Euthanized?, Lab Exam? , Rabies Vaccine: UTD?, Not UTD?, Unknown?, Does not apply, Owner of exposing animal, Owner address of exposing animal, Bite?, Scratch?, Abrasion?, Proximity (bats)?, Saliva of animal on wound/lesions/mucosa, location of bite: arm?, leg?, head/neck?, trunk?, specify location, Lab exam report date, Exam results, Recommendations/Treatment, No Risk exposure - No vaccine Recommended, Low Risk exposure - No vaccine Recommended, Low Risk exposure - Vaccine Released, High Risk Exposure- HRIG and HDVC Recommended, High Risk Exposure - HDVC Recommended, Patient Refused Vaccine. If HRIG or HDVC released, Name of DOH Dr, Name of dispensing pharmacy, Place of Rx. , Rabies Lab number, Does this case involve human exposure?, Summary and Disposition.
BMIRD	S	H	LDF	C	For the Group B Strep form, add "Was mother screened and treated at 35-37 weeks?"
Food	S	H	LDF	C	Cases of Salmonella aged < 5 years add: In the five days before your child became ill, do you have any knowledge that your child came in contact with someone (relative, baby sitter, house cleaner, etc) exposed to reptiles or amphibians?, In the five days before your child's illness, did (he/she) visit a place (such as a childcare setting, pet store, or another home) where there was a reptile or amphibian?, In the five days before your child became ill, were there any reptiles (such as snakes, turtles, iguanas, or other lizards) or amphibians (such as frogs or salamanders) in your house?, If patient had any contact with a reptile (Y to any above question), what types of reptiles or amphibians, Snake? Turtle? tortoise? Iguana? Other lizard (anole, chameleon, gecko)? Frog, salamander or other amphibian? In those five days, was the reptile or amphibian ever out of the cage? If yes, where was the reptile or amphibian? Kitchen floor? Kitchen counter? Kitchen sink? Carpet or uncarpeted bathroom floor? Other floors? (specify) Other area;
Generic	S	H	E	C	ER: A suggestion was made to view a generic clinical spectrum of disease, possibly in the Morbidity Report section, with a list of signs and symptoms for all communicable diseases.
	S	H	CDF	C	RMSF and the Ehrlichiosis investigation forms, add LDFs for the following items from the CDC "Tick-Borne Rickettsial Disease Case Report" form (CDC 55.1): Items 9,11, 12, 17.
	S	H	E	C	Malaria investigation form, add LDFs from the CDC Malaria Case Surveillance Report (CDC 54.1): Was malaria chemoprophylaxis taken; History of malaria; Blood transfusions; Therapy
	S	H	LDF	C	For Animal Rabies: add: Vaccinated for rabies? Date vaccinated: Date of exposure, Date Received in Lab, Result date, FA Result (Positive, Negative, Not Tested, Unsatisfactory, Indeterminate), Unique Lab Id Number; Sender's name, address, phone number, fax number.
	S	H	Edit	P	For Streptococcus pneumoniae: when entering a laboratory report, in the Result Method field, add □g/ml.
	S	H	LDF	C	For Neisseria Meningitis: add: Number of contacts of this case recommended to receive antibiotic prophylaxis: _____

Program Area Module	Function	Priority	Solution	Problem or Change	Description
Hepatitis	S	H	LDF	C	Hepatitis A Acute form, add: Number of contacts of this case who received IG
	S	H	LDF	C	Hepatitis A Acute form, add: Did the case eat raw shellfish?
	S	H		C	Hepatitis A investigation form: add: if the patient is employed as a food handler: add: name and address of the restaurant. Also add: a section titled "Food history of the patient for the 2-6 wks prior to onset" containing the following text entry fields: 1. Name and location of restaurants, 2. Name and location of food stores, 3. Name and location of bakery, 4. group meals attended (e.g. reception, church, meeting, etc.), 5. location raw shellfish purchased.
	S	H	LDF	C	For Hepatitis general investigation form, add: Bilirubin total: ____; Bilirubin direct: ____; Bilirubin date ____ / ____ / ____
	S	H	LDF	C	For Hepatitis general investigation form, add: Jaundice onset date
	S	H	LDF	C	Hepatitis A Acute form, under the question about working as a food handler, add: When was the last day the case worked?
	S	M C	?	P	Perinatal HBV infection form was unable to go back and edit/add the date of a vaccination after having submitted without date
	S	H	LDF	C	Hepatitis Investigation Form : under "Was the patient pregnant?" add: 1. "Outcome of pregnancy" with drop down to include Live birth; Not a live birth; Unknown; Other. 2. If live birth choose type
	S	H	LDF	C	Perinatal HBV infection investigation form: under Medical History heading add: Name of Mother
VPD	S	H	LDF E	C	Measles Investigation Form: 1. Add contact information line list. 2. Drop down calendar for infectious period (see RI_12).
	S	H	LDF E	C	Pertussis Investigation Form 1. Add contact information line list. 2. Drop down calendar for infectious period (see RI_12).

Appendix C: List of Custom Reports

Epidemiology

- Master Line Listing (sort by disease then by patient's last name);
- Outbreak Line Listing (sort by disease then by patient's date of illness onset);
- Annual Disease Frequency for up to 10 years of previous data;
- Demographic report by age groups, sex, race/ethnicity (white, non-H, black non-H, Hispanic, other non-H), county, city, date of onset/positive lab;
- Weekly Summary Report (Disease by MMWR week) for selected disease(s);
- Disease by Outcome (alive/dead);
- Comparison of cases from current week of onset, to same week one year ago or two years ago (MMWR wk);
- Median case count for past five years;
- Tables that displays counts and rates for city/county and needs population;
- Epi curves --- weekly, monthly, in years;
- Report of Campy by serogroup, Shigella by serogroup, Mening by Serogroup (A,B,C, 135), Salmonella by serogroup, H. flu by serogroup.
- Others as determined in the revised gap analysis process

Program/Administrative

- Reports by investigator;
Number of cases assigned, opened, closed and completeness of variables;
- Reports by facility (hospital, laboratory);
Reporting timeframes, completeness of variables;
- Others as determined in the revised gap analysis process

Appendix D: Communicable Disease Reporting Process

#	Step	Current Activities	People Responsible	Post Project Activities
1	Receive & Assign Reports	Phone 1. Receive phone call and fill out Telephone Disease Intake Form (TDIF) ¹⁴ .	CD nurses /DCR	Manual data entry replaced for labs that support system;
		Mail 1. Opened and date stamped; 2. Reports given to Consulting PH Nurse; 3. Forms are sorted and given to specific program person(s).	Clerical Clerical Consulting PH Nurse	Cases transferred electronically; Records presented for review in a Review Queue (for reports submitted electronically);
		Fax 1. Retrieved from fax machine; 2. Reports given to Consulting PH Nurse; 3. c. Forms are sorted and given to specific program person(s)	Clerical Clerical Consulting PH Nurse	Data duplication identified and notice given of a possible match upon entry;
		Interdepartmental from State Laboratory 1. Mail retrieved from mailroom; 2. Reports opened & date stamped; 3. Reports given to Consulting PH Nurse; 4. Forms are sorted and given to specific program person(s).	Clerical Clerical Clerical Consulting PH Nurse	Case reports printed from the system (Paper files to be maintained for some time).
		After Hours Phoned in Report ¹⁵ 1. After Hours Report Received; 2. If medical attention needed immediately caller is given to a physician to report; 3. On call reports received by OCD staff next morning ¹⁶ .	On-call administrator On-call physician CD Nurses Disease Control Reps	Data activated logged for date, time and person entering data.
2	Review of Case Report Content	1. Review for duplicates; 2. Complete Minimum Intake Form (TDIF), unless data phoned in; 3. Obtain missing information; 4. Check disease for urgency of follow-up.	CD nurse DCR	Records reviewed on screen; Reports printed to identify missing data; Urgent cases revied by Epidemiologists.
3	Assign Reports for Follow-Up	1. Case assigned for follow-up; 2. Immediate reportables assigned.	CD nurse/epi	?
4	Follow-up with Provider	1. General follow-up; 2. Sensitive or Challenging situation follow-up; 3. Follow-up with doctors offices; 4. Inform doctor that OCD personnel will contact patient unless doctor objects; 5. Follow-up with hospitals; 6. Follow-up with laboratories.	CD nurses	Cases reviewed on screen; Contact information made available in system; Case report printed and faxed or mailed to providers.

¹⁴ If this form is still needed then a form must be made in the system.

¹⁵ Immediately reported diseases are processed as soon as call comes in

¹⁶ Paperwork completed next business day

#	Step	Current Activities	People Responsible	Post Project Activities
5	Follow-up with Patient ¹⁷	<ol style="list-style-type: none"> Contact physician before patient if physician is known and can be reached. Patient Contact Methods: <ol style="list-style-type: none"> Phone Visit home Visit hospital Send letter requesting call-back Interview patient/contacts-food history, activity history; Identify contacts; Provide education to patient/contact; Follow-up with workplace/daycare; Verify reported information; Collect additional information; Persons who assist public health in patient follow-up; <ol style="list-style-type: none"> Hospital Infection Control Practitioner School Nurse Corrections Nurse 	CD nurse	Provider notification logged (date, time person making contact); Patient contact, or lack thereof logged; ?How to capture notes; Records edited and edit process logged. ?Contact Patient?
6	Ensure follow-up completion	<ol style="list-style-type: none"> Review by person working the case; Reviewed by outbreak team if outbreak; Reviewed by team/manager if sensitive case; Collaborative effort of Communicable disease/epi team; Document completion. 		Investigation marked as closed when work is complete and no additional information is anticipated.
7	Evaluate report against case definition	<ol style="list-style-type: none"> Case information evaluated against case definition from communicable disease manual or CDC forms; If needed, consult with State Epidemiologist. 	CD nurse, Epi	?
8	Monitor Disease Patterns	<ol style="list-style-type: none"> Review previously reported cases for commonality of disease, addresses, dates, etc; Systematic analysis of data: <ol style="list-style-type: none"> Compare with prior months, annual stats Ad-hoc analysis Weekly and monthly review by team Look for big-picture patterns (outbreaks, emerging seasonal trends, changes in underlying populations, opportunities for intervention); Actions based on data: <ol style="list-style-type: none"> Fax alert to docs in community Investigate and control outbreak Head-off seasonal upsurge Ensure adherence to data quality standards Change priorities 	CD nurse/Epi ----- ----- Epi team	?Standardized reports to assist in routine review of data would be helpful
9	Outbreak Identification	<ol style="list-style-type: none"> Review of case data¹⁸; Calls from concerned community members; Calls from concerned health care providers. 	CD nurses/Epis	?Reports comparing recent and historical data may be helpful

¹⁷ Need knowledge of disease. Follow-up protocols, appropriate forms.

¹⁸ Type of disease, number infected, clusters, trends

#	Step	Current Activities	People Responsible	Post Project Activities
10	Outbreak Investigation	Institutional¹⁹? Non-institutional 1. Verify outbreak, create case definitions, develop investigation plan; 2. Determine who, how many, symptoms duration, scope, confirm agent ²⁰ ; 3. Develop and implement intervention plan.	CD Nurses/Epis CD Nurses/Epis Team	Cases and suspects to an outbreak linked; Reports generated for viewing or analysis.
11	Outbreak Control	Plan strategy for efficient intervention and prevention methods ²¹	Team	??
12	Data Entry	Cases manually entered into database or spreadsheets	Epis Nurses clerical	Common platform records entered once. Electronic lab reporting reduces manual entry.
13	Data Quality Review	Methods 1. Annual review of selected records 2. QA Tool in data system 3. Weekly/monthly/quarterly review of data Criteria 1. Information completeness 2. Information Accuracy 3. Timeliness of Reporting	Epis	Standardized reports produced.
14	Evaluation of timeliness, completeness, accuracy, or reporting	(See data quality review)	? Nursing Consultant	Improvements with electronic lab reporting. Standardized reports will assist in routine review
15	Initiate reports based on public health activities	1. Faxes to providers-hot situations 2. Quarterly reports to physicians- stats, articles 3. Presentations 4. Seasonal reports on seasonal conditions 5. Post event reports on situations such as foodborne outbreaks	Epis / CD nurses /communications	?

¹⁹ Effort involves CD nurses, Epis, lab personnel, Environmental health,

²⁰ Interviews, inspections, specimens, analysis. Refer to Foodborne Disease Outbreak Guidelines

²¹ Education, media releases, immunizations or chemoprophylaxis

Appendix E: Core Technical Requirements

This section describes a set of common “core” requirements adopted by the Department of Health. They are primarily based on the PHIN Cross Functional Component requirements and provide the cornerstone for a sound architectural and technical infrastructure which will promote interoperability between any existing or future system within HEALTH.

1. **Message Construction:** *Source data must be translated into standard message formats. A message must adhere to a specific implementation guide and data structure to ensure data exchange consistency.*

In general, core requirement for all preparedness systems is to allow **system integration and data exchange via PHIN messaging**.
2. **Message Routing:** *must be routed to the correct destination and recipient(s).*

The system must provide infrastructure, or utilize existing infrastructure, to route messages to the intended destination. In addition, a Collaboration Protocol Agreement (CPA) is required for each partner. The two messaging partners agree on the information necessary to communicate to one another. A CPA is required for each messaging partner.
3. **Secure Message Transport:** *Messages must be securely and reliably exchanged over the Internet using the ebXML protocol.*

A secure connection is established using Hypertext Transfer Protocol using Secure Socket Layer (SSL). Using PHIN-MS to send encrypted messages to the CDC requires a digital certificate issued by Verisign through the Secure Data Network. Sending encrypted messages to other partners can use digital certificates issued by other certificate authorities.

PHIN-MS encrypts the message payload (the file) with the receiver's public key so only the intended receiver can decrypt the message. More detailed information about PHIN-MS secure messaging can be found on the PHIN-MS website.
4. **Message Parsing:** *Received messages must be parsed and validated. Extracted data must be written to the appropriate data store.*

Systems utilizing the department’s secure messaging solution must parse and validate the message after it is delivered securely. The parsing process determines the validity and type of message, and then passes the message information to the appropriate application program for processing.
5. **Public Health Directories, and**
6. **Directory Data Exchange:** *Directories are repositories for contact information used for message addressing.*

They may also be used to support systems access controls.

The Public Health Directory is one of the cornerstones of achieving interoperability between systems and is the key factor which will allow single sign-on to all HEALTH systems. To promote interoperability, this system should interface with the directory. If possible, the interfacing system should not store any personal information on its own, and it should be able to exchange data with the PHD using standard vocabularies and message constructs. To preserve integrity, relevant data stored in COTS software must be synchronized with public health directory information.

7. **Object Identifier Usage:** *Object Identifier are required in all PHIN messages to uniquely identify coding systems, identifier namespaces, and other well known objects, such as organizations.*

This is another component of PHIN that is relatively easy to follow but that a vendor without familiarity with PHIN is unlikely to support. OID's are easy to obtain: they are supplied through the PHIN Help Desk (1.800.532.9929).

8. **System Architecture:** *Broad system-level needs, platforms, and design standards, should be addressed by PHIN preparedness systems.*

9. **Audit Trail:** *A record of who has accessed records and what activities were performed must be captured.*

To ensure the integrity of department data, audit trails are essential. Each system may have different audit requirements, so it is important to determine what events should be audited (such as intrusion detection, success and failure, identity, timing, location, or before and after images). To prevent the loss of valuable information, be sure to plan for and set an appropriate size for the security log in which the audit trail data will be preserved.

10. **Vocabulary Standards:** *Standard vocabulary lists and data structures have been defined by standards organizations. Where they exist, preparedness systems should use them. As additional standards are defined, they should be accepted and implemented.*

Refer to the PHIN Vocabulary website for detailed information about standard PHIN vocabularies. According to the CDC, PHIN VADS is currently deployed in production at the CDC to provide vocabulary content for PHIN messages. There is also an implementation of PHIN VADS that is being used as part of the National Healthcare Safety Network. Though not in production now, PHIN VADS is being built into the CDC's National Electronic Disease Surveillance Systems (NEDSS) as a vocabulary server.

11. **Data Modeling and Data Repositories:** *Standard data models have been defined by partners. Data repositories developed by partners should be able to map to the concepts and maintain the associations defined in the standard models.*

Ensure that the data model for a new system is compatible with the PHIN logical data model which is described in the PHIN Logical Data Model User Guide.

Industry Standards Used by the Public Health Information Network	
Standard Type	Standards
Messaging	Health Level 7 (HL7) versions 2, 2.3.1, 2.4, 2.5, 3
Vocabulary	Logical Observations Identifiers Names and Codes (LOINC) Systemized Nomenclature of Medicine (SNOMED) Current Procedural Terminology (CPT) Medical Subject Headings Multum Devices Multum Drugs North American Industry Classification System (NAICS) Unified Medical Language System (UMLS) International Classification of Disease, 9th edition, Clinical Modification (ICD9)
Data model	HL7 Reference Information Model
Secure Data Transport	Electronic Business Extensible Markup Language (ebXML) Extensible Markup Language (encryption and digital signature) HyperText Transfer Protocol, secure version (HTTPS)
Directory Services	Lightweight Directory Access Protocol (LDAP) Directory Service Markup Language (DSML)
Alerting	Common Alerting Protocol
Security	X.509 Certificates
Courtesy CDC	

12. **Operations:** *Personnel, roles, and responsibilities necessary to support preparedness systems should be clearly defined. Operational requirements, such as system backup policies and procedures, continuity of operations, system monitoring, and employee training ensure that public health partners can effectively support preparedness activities.*

This core requirement would be satisfied with a sound Disaster Recovery plan for all technical aspects of HEALTH. Each system within HEALTH must have a disaster recovery plan that compliments the technical infrastructure disaster recovery plan for the department. Refer to the DR Checklist included in the appendix of this report.

13. **System Security and Availability:** *Security of systems supporting PHIN preparedness includes the protection of data from corruption and access by unauthorized individuals, as well as the protection of systems from sabotage or other failure. A plan must be established for continuing activities when PHIN preparedness systems are unavailable.*

14. **Privacy:** *Patients, organizations, and personnel must be protected from fraudulent and unauthorized use of their information.*

To satisfy core requirements 13 and 14, authentication and authorization credentials, as well as digital certificates, should be stored in the Public Health Directory. PHD services should provide a single signon function, which inherently is more secure because security information is stored in one place. Data can be transmitted confidentially and securely by using PHIN-MS, because the data undergoes multiple levels of encryption before transmission.