



## **Metropolitan Portland Health Information Exchange RFP**

### **Results and Reports Retrieval System**

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# 1. General Information

## 1.1 Introduction

The Metropolitan Portland Health Information Exchange (MPHIE) seeks proposals from qualified vendors for the development, implementation and operation of its clinical information exchange (the HIE). The HIE will exchange health information between health care providers, health plans, and other participants for the purposes of enhancing the continuum of care and health care operations. The Bidder will be expected to provide a comprehensive written response that addresses the requirements of the Statement of Work, and demonstrate a working prototype if invited. The selected Contractor will be expected to deliver the comprehensive set of products and services which will provide the functionality outlined for the HIE over a 3-5 year period.

## 1.2. Background

In 2006, the Metropolitan Portland Health Information Exchange (MPHIE) defined a vision for health information in the region:

*“Meaningful health information is widely and securely available among authorized persons in a usable form anytime and anywhere it is needed in order to improve the overall safety, effectiveness and efficiency of an individual’s care and the public’s health.”*

The MPHIE intends to pursue a practical strategy to build a financially sustainable community-wide health information exchange. The proposed first step is a **Results and Reports Viewing and Retrieval System**, which will make already-computerized information from laboratories, hospitals and imaging centers available for viewing and retrieval by all of a patient’s providers.

Lab results, imaging reports, and dictated emergency department and hospital discharge summaries provide essential information for the diagnosis and management of acute and chronic conditions. However, these results, reports, and dictations are generally not available to other “non-ordering” community providers who might need them to make decisions about patient care outside the originating care setting or health system. As a result, care is suboptimal and providers often order unnecessary tests or admit patients to the hospital. Physicians are either not aware of or do not have access to previous lab and radiology results and other key information about the patient.

The ideal solution will offer an online, standardized, widely available and secure means for accessing recent and historical laboratory results, imaging reports, discharge summaries, and emergency department summaries by authorized parties. Results and dictations will be aggregated for the patient, regardless of ordering provider or which medical laboratory was used. Results and dictations will be available across different care settings. The platform will be readily expandable for additional types of information.

For more information, please visit <http://www.q-corp.org>.

### ***1.3 Summary of Requirements***

The system will make lab results, imaging reports, and ED and hospital discharge dictations securely available to authorized clinicians. These are critical requirements of the system. The system must be able to accept one or more of the desired types of information in the first phase of development.

**Requirement #1: Make results & reports including patient tests, imaging procedures, and hospitalizations available electronically to authorized clinicians for patient care during the decision-making process.**

**Requirement #2: Allow the clinician to review the patient's results and reports from other care settings rapidly, with minimal effort and time cost, and within a convenient workflow.**

**Requirement #3: Allow the patient to opt out of the system.**

### ***1.4 Bidder Format & Response***

The following requirements are provided to bidders.

- Read the RFP and Statement of Work Requirements completely and thoroughly.
- Attend the mandatory Bidders Conference to obtain clarifications on the procurement material.
- Prepare a working prototype. Bidders will have the opportunity to plan and build a prototype to be demonstrated, if invited, after your written response to the RFP is evaluated. The Prototype strategy and requirements are outlined in a section 2.9 of the RFP below. The purpose of the prototype is to assist with the assessment of the vendor(s) capabilities and to accelerate the implementation of functionality post award.
- Prepare a response according to the outline below. A complete response is required or the proposal will be disqualified.

**Table 1: Response Format**

<b>RESPONSE SECTION</b>	<b>TITLE</b>	<b>FORMAT OR MAXIMUM NUMBER OF PAGES</b>
A	Cover Letter	Letter with company letter head of no more than 3 pages. Signed by representative that has the legal capacity to contract with the MPHIE.
B	Introduction to Bidder Proposal	No more than 3 pages
C	Table of Contents (list all documents comprising this response)	Word document with table of contents
D	Response to Statement of Work (SOW)	No more than 10 pages
D1	Response to Minimum Mandatory Requirements (Section 2.2)	No more than 10 pages
D2	Bidder response to Data Center Requirements (Section 2.8)	No more than 10 pages
D3	Bidder's Proposed Technical Design	No limit
D4	Price Proposal (two different ways)	Excel spreadsheets by year for 3-5 years for each of the 2 approaches: 1) Critical Functionality Only 2) Complete Phasing Overview
D5	Payment Schedule	Excel spreadsheets
D6	Implementation Project Plan (draft)	Word & Microsoft Project
D7	Response to Corporate Capabilities (Section 2.9)	Respond to questions and complete tables
E1	Response to Functional Requirements	No more than 10 pages
E2	Response to Privacy and Security Requirements	No more than 10 pages
E3	Response to Data, User Technology, Services, Interoperability, Implementation, Standards, Architectur, Performance, Scalability, Availability and Usability Requirements	No more than 20 pages
F	Specifications for Third Party Applications Software in Price Proposal spreadsheets	Word or Excel documents
G	Interface Specification	Word or Excel documents
H	Migration Specifications	Word or Excel documents
I	Hardware Specifications	Word documents or (published) manual references
J	Exceptions or Modifications to the Proposal	Optional
K	RFP Forms	Certification Sheet, Bidder's Signature Form

*Number of copies and delivery specifications*

The Bidder shall provide 1 original unbound proposal, 5 paper copies and 2 electronic media copies of proposal. The electronic media version of the proposal shall be provided on compact disk and saved in PDF format. The unbound proposal shall be marked "Original" and will contain original signatures in all locations requiring the Bidder signature. The remaining 5 copies do not require original signatures.

Proposals should be delivered either in person or via US postal service or other approved delivery service in a sealed package (box or envelope), which is conspicuously labeled "SEALED PROPOSAL – METROPOLITAN PORTLAND HEALTH INFORMATION EXCHANGE." The package should also contain the name, address, and telephone number of the proposing firm.

***Mail or Delivery Service***

If delivered by mail or delivery service, the proposal shall be enclosed in an "inner" envelope labeled as indicated above.

***Proposals should be addressed to:***

Metropolitan Portland Health Information Exchange

Address

Suite

Portland, OR 97XXX

Tel: (503) XXX-XXXX

Fax: (503) XXX-XXXX

Email: [mphie@mphiedomain.org](mailto:mphie@mphiedomain.org)

***Proposal Format***

Word documents shall be Times-Roman with no less than 12 point fonts. Margins shall be no less than 1 inch.

Spreadsheet and graphic documents shall be inserted into the proposal document except for the price tables which shall be included in printed form in Exhibit 1 and also provided on electronic media.

### **Sample Procurement Schedule**

<b>Date</b>	<b>Activity</b>	<b>Time Allocation</b>
May 21, 2007	RFP Issued	
June 4, 2007	Deadline for submitting questions to MPHIE	10 business days
June 8, 2007	Answers to Bidders' Questions Posted	4 business days
June 11, 2007	Bidders' Conference	
July 2, 2007	Bids due at 2:00 p.m. Pacific Time	6 weeks from release date
July 23, 2007	Invitation to Demonstrate Prototype Released	3 weeks
August 6 – 17, 2007	Prototype Demonstrations	2 weeks
September 14, 2007	Final Evaluations and Reference Checks	4 weeks
September 17, 2006	Vendor Selection	1 business day

### ***Bidders' Conference***

A mandatory bidders' conference call will be held on June 11, 2007 from 9:30 a.m. Pacific Time to 11:30 a.m. Potential bidders must confirm their attendance at the bidders' conference call by June 8, 2007, by email to [email@address.com here](mailto:email@address.com). One (1) primary contact person from each organization should provide the name(s), title(s), telephone number(s) and email address(es) of each person attending the bidders' conference from the given organization. It should be noted whether the person(s) will be participating in person or via conference call and if any special accommodations will be needed. Up to four (4) persons from each bidder organization may attend the bidders' conference call. Upon registration, the contact person from each organization will receive a confirmation email, which will include the call-in telephone number.

At the bidders' conference call, potential bidders will receive information about the bid process, and answers to questions presented at the conference

### ***Questions***

All questions are required to be submitted in writing. Prospective bidders must provide a written copy of all questions at the bidders' conference. Questions may also be submitted to the MPHIE office in advance of the bidders' conference. The deadline for submitting questions is 11:30 a.m. on June 4, 2007. Questions submitted in advance should be directed to [email@address.com here](mailto:email@address.com) and must be provided in a Word document attached to the email. The questions should be sequentially numbered. Answers to questions will be posted at [www.website.org here](http://www.website.org) by June 8, 2007.

### ***Closing Date***



All RFP responses must be received by 2:00 P.M., Pacific time, July 2, 2007.

### ***Incurred Expense***

MPHIE will not be responsible for any expenses incurred by the bidder in preparing and submitting a proposal.

### ***Economy of Preparation***

Proposals should be prepared simply and economically, providing a straight-forward, concise description of the Bidder's offer to meet the requirements of the RFP.

DO NOT USE RING BINDERS.

### ***Right to reject proposals / waive or correct minor irregularities***

MPHIE reserves the right to withdraw this Request for Proposal, to reject any proposals, to waive minor irregularities in proposals or to allow the Bidder to correct a minor irregularity if the best interest of the HIE will be served by doing so.

## ***1.5 Bidding Conditions***

### **1.5.1 Prices**

The pricing policy that you choose to submit must address the following concerns:

- The structure must be clear, accountable and auditable;
- It must cover the full spectrum of services required;
- Costs and compensation must be consistent with the rates established or negotiated as a result of this RFP or Purchase Order issued based on this contract.

### **1.5.2 Quantities**

The quantities given in the proposal are best estimates and are given as a basis for the comparison of the proposals. Quantities ordered may be increased or decreased by as deemed necessary during the period of the contract.

### **1.5.3 Funding**

The continuation of this contract is contingent upon funding obtained by MPHIE.

### **1.5.4. Business References**

Bidders must supply three (3) business references according to the instructions in Section 8.

## ***1.7 Instructions for Price Tables and Schedules***

Two Price Proposals are being solicited as part of this Request for Proposal. Bidders must provide pricing for each of the two options:

- Comprehensive pricing by year for the critical functionality only identified in the Phasing Overview priced as an Application Service Provider (ASP). The Price Table Spreadsheets must be used to submit this Proposal in the format provided. Each sheet identifies the critical functionality.
- Comprehensive Pricing by year for the complete set of functionality identified in the Phasing Overview priced as an Application Service Provider (ASP). The format for this response is free format text to provide the Bidder with the opportunity to articulate their business and pricing model. There is no specified format for this response but it is limited to 10 type-written pages.

### **1.7.1 Supplies and/or Services and Prices/Costs**

The Bidder must bid on all the components of the Statement of Work. If portions of the work are to be executed by subcontractors or teaming partners, those portions of technologies or services must be identified in the Price Tables.

- **Data Acquisition** – Gateways, interfaces, and networking requirements from health systems, labs, and imaging centers.
- **Data Center & Services** – Health information exchange, hosting, provisioning, HIE hardware & software, installation and customization.
- **Customization & Integration** – Portals and branding.
- **Training, support, and services** for the HIE staff and users.

The work shall be performed in accordance with the Statement of Work in Section 2, as well as the requirements specified describing all supplies and materials to be provided and services to be performed. All supplies, materials and services shall conform to the terms and conditions of this contract.

### **1.7.2 Purpose of Price Schedules & Tables**

The purpose of the price schedules and tables is to allow MPHIE to evaluate the likely cost associated with each Bidder's proposal. MPHIE will assume that any item not separately priced on the price schedules is either included in the price of some other item or will be provided at no additional charge. The Bidder shall be responsible for the costs incurred in providing any of the software, supplies, materials and services that are not identified on the price schedules. The Bidder shall be liable for any required supplies, materials or services, within the scope of the contract, that were not presented in the business proposal. Items not separately priced shall be provided at no charge.

The Price Tables are also provided to the Bidder on electronic media and must be used by the Bidder to submit their cost data.

Price Tables for Metro Portland HIE

	<u>Stage/Phase 1</u>	<u>Cost (\$K)</u>	<u>Stage/Phase N</u>	<u>Cost (\$K)</u>	<u>Annual maintenance/support thereafter</u>	<u>Cost (\$K)</u>
<b>1. Data Acquisition from Health Systems or Labs</b>						
1a. Health System Gateway						
	Health system gateway hardware					
	Gateway hardware annual maintenance/support					
	Health system gateway software applications					
	Gateway software annual maintenance/support					
	Health system gateway database software					
	Health system gateway database software maintenance/support					
	<i>Gateway backup/recovery/availability software (if required)</i>					
	<i>Gateway backup/recovery/availability software maintenance/support (if required)</i>					
	<b>Health System Gateway Subtotal</b>	<b>0</b>		<b>0</b>		<b>0</b>
1b. Health System Interfaces to the Gateway						
	Interface development from source data systems to health system gateway (? 3 per health system)					
	Interface annual maintenance/support					
	<i>Health system IT staff training &amp; support (if required)</i>					
	<i>Interace engine hardware (if required)</i>					
	<i>Interface engine software (if required)</i>					
	<i>Interface engine maintenance/support (if required)</i>					
			Additional Interface development to support new data types			
	<b>Health System Interfaces Subtotal</b>	<b>0</b>		<b>0</b>		<b>0</b>

1c. Health System Network Connectivity to the HIE			
	<i>Network costs, if not already provided for</i>		
	Network costs subtotal	0	0
<b>2. Health Information Exchange Data Center &amp; Services</b>			
2a. HIE Data Center			
	Data center colocation, floor/rack space	Data center colocation, floor/rack space	
	Power	Power	
	Backup Power	Backup Power	
	Networks/bandwidth	Networks/bandwidth	
	HIE Data Center costs subtotal	0	0
2b. HIE Hardware & software			
	Exchange Engine Hardware		
	Software		
	Maintenance/support		
	Database hardware		
	Software		
	Maintenance/support		
	Networking hardware - routers, firewalls, proxy servers, IP sprayers, etc.		
	Software		
	Maintenance/support		
	Storage Area Network Hardware		
	Software		
	Maintenance/support		
	Backup/recovery/availability hardware		
	Software		
	Maintenance/support		
	Patient Identity Hardware		
	Software		
	Maintenance/support		
	Record Locator Service/Document		
	Registry Hardware		

Software			
Maintenance/support			
Authentication/Authorization/Auditing			
Security Services Hardware			
Software			
Maintenance/support			
Physician Viewer Application Server			
Hardware			
Software			
Maintenance/support			
	Patient Application Server Hardware		
	Software		
	Maintenance/support		
	Terminology Services Hardware		
	Software		
	Maintenance/support		
	PHR Database Hardware		
	Software		
	Maintenance/support		
	De-Identified Data Aggregates Hardware (secondary uses database)		
	Software (database)		
	Maintenance/support		
	Additional User Hardware		
	Software		
	Maintenance/support		
HIE Hardware & Software Costs			
Subtotal	0	0	0

2c. HIE Installation & customization costs

<i>HIE Data center installation/customization costs (if any)</i>			
HIE Install & customization Costs			
Subtotal	0	0	0

**3. Customization/Integration**

3a. Branding & portal integration with the local health system portals

	Customization/Integration Costs			
	Subtotal	0	0	0
<b>4. Training, support, service</b>				
4a. User training, user support, customer service				
	End user training & education			
	End user support			
	HIE staff & participating org IT training			
	HIE support & service			
	Training, support, service Costs			
	Subtotal	0	0	0

### **1.7.3 Price Response**

It is the MPHIE's long-term intent to implement all functionality described in the RFP; however, MPHIE would like to entertain two options for implementing a subset of or all functionality described in this RFP. As a result, MPHIE would like to receive cost and implementation proposals for supporting the following functionality options:

- 1) Only Results and Reports availability and Physician Viewing;
- 2) All Functionality.

Individual Price Tables are also to be used to propose the Functionality identified.

## **2. Statement of Work**

### ***2.1 Overview***

The period of performance for this contract will be for 3-5 years from the date of award. As part of the bidding process, the Bidder will have the option to build a functioning prototype to be evaluated along with the written response to the RFP.

The Bidder must bid on all the components of the Statement of Work in Section 2. If portions of the work are to be executed by subcontractors or teaming partners, those agreements and the terms of the contracted services must be included in the Bidder's response.

- Contract Management and Communication – Staffing and activities related to the management oversight provided by the Bidder including the interface to the Client team, reporting, troubleshooting, and escalation.
- Development, Implementation, and Enhancement
- The Functions (applications) and Technology (hardware and third party software) provided to meet the requirements for the Utility.
- The Implementation Activities that support the rollout to identified users including activities for system build, data migration, interfaces, testing, etc.
- Cost of User Training – The cost of providing “train the trainer” services to MPHIE support and implementation staff, plus an initial round of training with participating entities (hospital/health systems).
- System Maintenance and Operations Support Services – The cost of support services and staffing for ongoing operations. Services include the support for system maintenance and for MPHIE operations such as marketing, user enrollment, and ongoing training.
- Data Center Operations – The cost for hosting, support services and staffing related to all data center operations including Business Continuity, internet service, telecommunication provisioning, and security.

### ***2.2. Minimum Mandatory Selection Requirements***

In order for a proposal to receive Bidder consideration, all requirements set forth in this section must be fully satisfied by the Bidder. Proposals that fail to completely satisfy all of the

minimum mandatory requirements, after being provided with an adequate opportunity for clarification, will be eliminated from further consideration and disqualified as being non-responsive. The order in which the minimum mandatory requirements appear in no way corresponds to or implies relative importance or value. If the Bidder successfully satisfies the minimum mandatory requirements, the Bidder may be invited to demonstrate their prototype.

The Bidder's solution must provide and demonstrate the following minimum functions:

- Online Availability of Results and Reports – a historical patient records service (not on a central database) for inquiry and viewing of results and other clinical documents. This service will provide standardized and secure availability to authorized parties, of recent and historical laboratory results, imaging reports, discharge summaries, and emergency department summaries.
- Patient/Provider/Entity Identity Management – A centralized Master Patient Index (MPI) or similar functionality capable of deterministically identifying unique patients based on multiple demographic feeds from different sources.
- Results and Reports Viewer – The ability for providers to access, manage, and print recent and historical results and reports in MPHIE from a web browser or an embedded viewer on a workstation.
- Security and Access Controls – Capability to manage secure access to the exchange for MPHIE participants with the appropriate privileges.
- Patient Participation – Ability to manage patient participation options in MPHIE, including active and passive enrollment models, in consultation with the individual provider or clinic administration.
- Audit Processing - Use of the data collected to support all operational reporting and audit processing metrics.
- Commercial “off-the-shelf” 3rd party server products that provide health care terminology and vocabulary services, interface engine services, and web application services.
- Demonstrated ability to implement and operate the applications above in a community health information exchange, spanning distinct care delivery organizations.
- Demonstrated operational data center and staff capable of hosting and supporting the applications above.

### ***2.3 Criteria for Bidder Selection***

The final Bidder selection will take into consideration the prototype demonstration, peer to peer reference checks, client and corporate site visits, and the Bidder's RFP response. Figure 5 below identifies a summary of how the overall Bidder response to this RFP will be evaluated.



**Figure: Bidder Response Scorecard**

<b>Key Factors</b>	<b>Maximum Points</b>
Application Functionality	20
Installed Base	10
Prototype Demonstration and/or Site Visits	15
<b>Product Capability Total Points</b>	<b>45</b>
Development, Implementation & Enhancement Support	10
Ongoing Systems Maintenance and Support	5
Data Center Capabilities	15
Business Capabilities	10
<b>Company Total Points</b>	<b>40</b>
Cost Approach	5
Technical Architecture	10
<b>Technical &amp; Financial Total Points</b>	<b>15</b>
<b>Total Points</b>	<b>100</b>

## ***2.4 Additional Selection Details***

### **2.4.1 Basis of the Award**

MPHIE shall award this contract to the most responsible and responsive Bidder who best meets the terms and conditions of the proposal. The award will be made on basis of prior history of service and capability, product evaluation, and price.

MPHIE reserves the right not to award this RFP, to reject any or all proposals in whole or in part, to make multiple awards, partial awards, award by types, item by item, or lump sum total, whichever may be most advantageous to the MPHIE. The intent though is to award this contract to one (1) Bidder.

Bidders submitting proposals may be afforded an opportunity for discussion and revision of proposals. Revisions may be permitted after submissions of proposals and prior to award for the purpose of obtaining best and final offers. Negotiations may be conducted with responsible Bidders who submit proposals found to be reasonably likely to be selected for award. The contents of any proposal shall not be disclosed so as to be available to competing Bidders during the negotiation process.

## **2.4.2 Scoring Criteria**

The MPHIE operations team will review all proposals submitted in response to this RFP. The team will be comprised of the executive director and staffers with expertise in procurement, contract management, budgeting, operations, and technology. Each Proposal will be evaluated to determine if it meets the mandatory RFP provisions. Any proposal failing to meet those requirements is subject to immediate disqualification without further review. Relative merits of all remaining proposals will be evaluated against criteria as listed in this RFP.

The MPHIE operations team's findings will be presented to the MPHIE Board of Directors and/or other governing entities. The Board will review the team's findings and will request that top bidders present oral reviews along with their prototype demonstrations.

MPHIE operations team members will assign up to the maximum number of points listed for each of the listed above. For items having quantitative answers, points will be proportionate to each proposal's response. Items with qualitative answers will receive the average of points assigned by team members.

Full points will be given for proposed schedules that meet the schedule requirements. Longer schedules will not necessarily disqualify a Bidder, but may receive a lesser evaluation. Variance from the anticipated project schedule and duration must be explained in detail.

## **2.5 Prototype (Optional)**

### **2.6 Data Center Operations and Capabilities**

MPHIE will outsource most or all Data Center Operations Capabilities. These capabilities will be purchased as Managed Services. The requirements below outline recommendations for these capabilities. The Bidder response to this section should outline how the Bidder will support these requirements and/or provide an alternative or improved approach for these services.

#### **2.6.1 System Operations**

Data center services need to be available on 24 hours per day 7 days per week basis with monthly operations reports provided to MPHIE Operations Team. Business Continuity testing and drills would be performed on a yearly basis.

#### **2.6.2 Operations Staffing**

The Contractor will be required to provide data center staff to support the applications proposed as well as to provide trouble-shooting and operations management. A Data Center Staffing plan shall be included in Section D6 of Contractor's response (Figure 1). Staffing should include a system / security administrator, interface administrator, data storage administrator, network engineer, and a Customer Center Supervisor and Operations Manager.

### 2.6.3 Data Center Requirements

Capabilities of the Contractor's data center should include the following. If the bidder has other acceptable or equivalent capabilities, which will satisfy these requirements, it should be specified in the bidder's response to this section for consideration by MPHIE:

- A primary data center location and secondary data center location.
- The primary data center will implement all hardware equipment in racks that will include the network core as well as the MPHIE application hardware and Storage Area Network (SAN) storage.
- The secondary data center will implement all hardware equipment in racks to include secondary network equipment and the backup SAN data vault.
- The primary and secondary data centers should be located at least 250 miles apart so that they would not be likely to be impacted by the same catastrophic event.
- Data Center Characteristics
  - Power sourced from different power grids in the geography. The power sources should be routed to Uninterruptible Power Sources (UPS) and transfer switches, then to at least two different power distribution units (PDUs) in each room. All hardware recommended must support redundant power supplies.
  - Provide a raised floor that is 18" or higher with wire basket cable management under the floor that does not impede air flow.
  - Provide appropriate air flow, temperature and humidity control that is monitored.
  - Provide generator backup. Demonstrate fuel delivery contracts that provide service guarantees or pre-positioned fuel supplies for 2-3 weeks.
  - Transfer switches that can automatically transfer between the power grid and generator.
  - Provide robust physical security in the room including logged access and video surveillance.
  - Provide FM200 fire suppression or equivalent that does not ruin equipment with water to suppress fire.
  - Provide dual and diverse Internet Service Provider capability.
  - Provide rack and room monitoring and logging for power consumption, spikes, temperature, and humidity control.
  - Comply with all HIPAA related Security Rule guidelines.
- Other Data Center Services
- Security Services
- Data Storage management
- Managed Network Services – Internet Service Provider provisioning, monitoring, and troubleshooting.
- Internal network bandwidth monitoring and troubleshooting including guaranteed quality of service.
- Hardware monitoring and troubleshooting including system administration for operating systems, application systems firmware, and vendor relations.
- Interface management.

### **2.6.3.1 Business Continuity and Disaster Recovery Characteristics**

The Contractor must provide a Business Continuity Plan as part of the deliverables for data center operations and capabilities. Business Continuity encompasses all of the interim manual processes that must be undertaken in the event of a service interruption as well as the more technical processes of Disaster Recovery. The Disaster Recovery component of Business Continuity Plan should identify all of the restoration activities for the infrastructure, hardware, and software. The plan must address failover of primary equipment, network diversity, failover to remote locations, and fail back capabilities to the primary equipment and location. Expected Recovery times should be identified, then verified yearly with testing and documented testing results. A risk assessment per the HIPAA Security regulations must also be completed with mitigation strategies implemented. Such risk scenarios should at a minimum include:

- Degrading organizational, operational, and technical issues;
- Alternative procedures and processes;
- Recovery procedures;
- Communication, notification, and documentation procedures.

The Contractor shall provide Business Continuity Services including:

- Remote Data Vaulting,
- Failover, Restart, and Rollback Procedures, Testing, and Execution.

### **2.6.3.2 Data Center Reporting**

The Contractor must report service level agreement (SLA) performance against standard. The SLAs will address, but are not limited to, the following elements:

- Network Availability
- System Availability
- System response
- Escalation effectiveness
- System maintenance
- Security compliance
- Web interface availability

### **2.6.3.3 Facility**

The MPHIE will maintain offices in the near the vicinity of Portland Oregon. However, some of the MPHIE staff may be co-located with the Contractor in the Contractor's facility. The Contractor should anticipate supporting office space for up to 4 staff members. The Contractor may be required to locate key management and support staff that regularly interface with MPHIE managers and staff in their facility.

## 2.6.4 Network, Server, and Storage Hardware

Three separate hardware locations are identified in the Data Center Requirements. These include the primary data center, a remote data center, and supporting network infrastructure.

The following is an example hardware design; the Bidder may propose alternate designs as long as they address the needs outlined below. There is significant hardware redundancy starting with the network core, with all servers, and with disk storage. It is critical that the MPHIE infrastructure be stable and secure to ensure confidence and increased participation. Additionally, everything should scale so that it can be purchased small, then enlarged as transaction volumes and participation increases.

### 2.6.4.1 Network

A primary network core resides in the primary data center with a redundant core available. These network cores could be configured to failover automatically and should have quality of service (QOS) capability to support performance tuning as well as redundant power supplies. Each of the power supplies should be plugged into diverse power distribution units in the data center if possible. They should be a carrier size network core switches.

- Diverse Internet Service Providers should be procured to link to the core configuration from different ISP locations in the data center. This would support re-routing of transactions in case of an ISP outage.
- A carrier grade hardware firewall which accommodates denial of service attack countermeasures, virus protection, email attachment scanning, and web site blocking is identified for the MPHIE enterprise.
- Network monitoring software is suggested to monitor network operations on a real time and alert basis.

### 2.6.4.2 Servers

- Application Servers – The application servers will host the MPHIE exchange engine.
- Interface Engine Servers –These servers will host the “Interface Engine.”
- Vocabulary Server – A server for managing, integrating, normalizing, and deploying standard terminologies supporting health care applications such as electronic medical record systems, real time decision support systems, order-entry systems, and interface engines.
- Web Application Server –These servers will host the “Application Web Server”.
- Front End Web Servers –deployed in a farm of servers to load balance web traffic as the MPHIE grows.
- Automated Tape Library – An automated tape library backs up files on a daily basis for rotation off-site. Agents run on each server and back up data to tape. Disaster Recovery instructions are also created daily. A tape rotation pickup vendor will also need to be identified.

### **2.6.4.3 Storage**

- Storage Area Network – A storage area network (SAN) is specified with sufficient usable storage in the primary data center, along with a redundant SAN in the remote data center with an equivalent amount of usable storage. All MPHIE data except operating systems would be stored on the primary SAN, and then copied to the remote SAN on a real time basis. A SAN network will be required to tie the SAN to the network core.

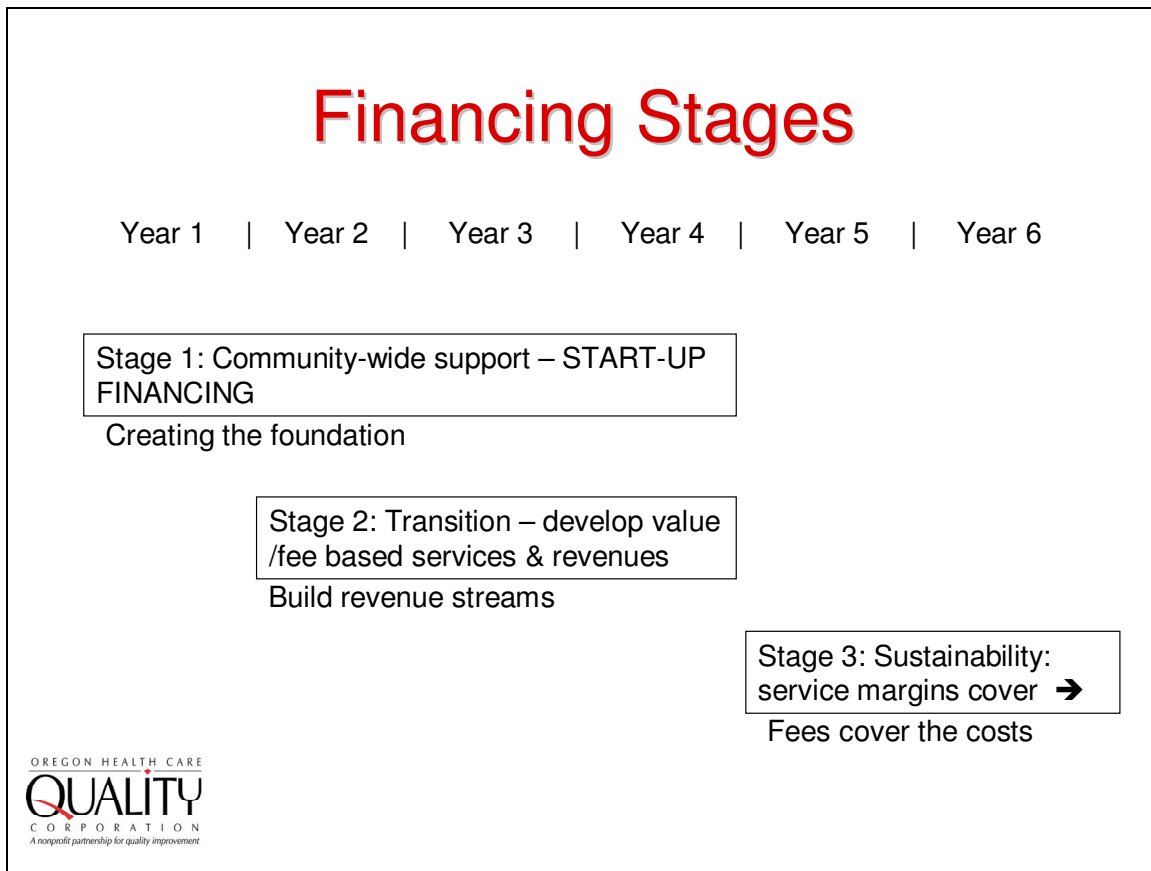
### **2.6.4.4 Business Continuity Contracts**

Business continuity contracts for server and network equipment should be available for inspection by MPHIE. These vendors provide spare equipment on an as needed basis which could be plugged into the network and attached to the primary or secondary SAN for recovery.

## ***2.7 Implementation Phases***

The recommended strategy is to proceed in phases, beginning with a minimum set of functionality that provides a base for expanded services to meet the community requirements, financial plan, and privacy needs. Briefly, the financing stages supported by the technology plan are as follows (See Figure 2.9.1):

- Stage 1: Start up – Community-wide benefit focus, years 1 to 3-4.
- Stage 2: Transition – Developing value-based services, years 2 to 4.
- Stage 3: Sustainable Financing – target year 5.



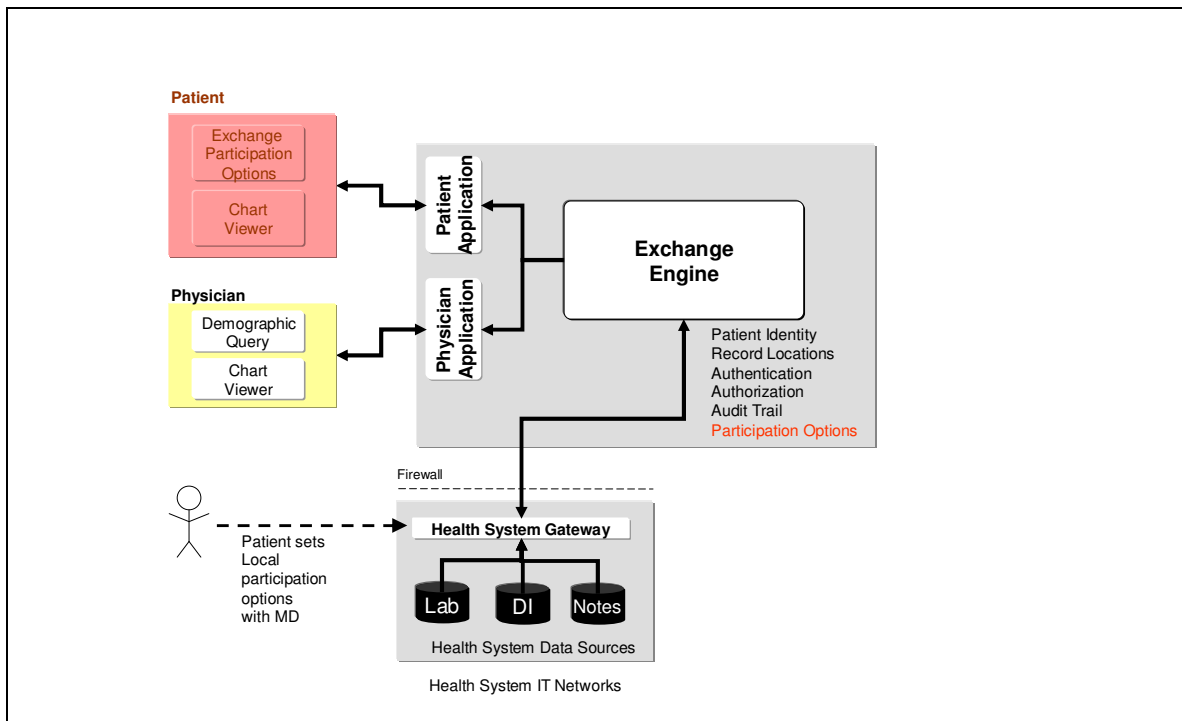
**Figure 2.7.1. MPHIE Financing Timeline.**

The corresponding technology phases are:

- Stage 1: Provide thin basic infrastructure and information to support a community-wide benefit, years 1 to 3-4.
- Stage 2: Initial interoperability, additional data types, semantic tools, persistent data to support initial value-based services, years 2 to 4.
- Stage 3: Full interoperability, secondary uses, and complete persistent patient record services to achieve additional value based services and fully-sustainable financing – target year 5.

The design to support the above plan is outlined in Figures 2.9.2 through 2.9.4. In general, the recommended architecture uses a federated or distributed model, in which the clinical data resides with the health systems or providers. The centralized services include security management, patient identity, and a pointer system used to locate the clinical data for a patient. A discussion of the particulars of each phase is provided with the figures.

## Stage 1 Architecture.

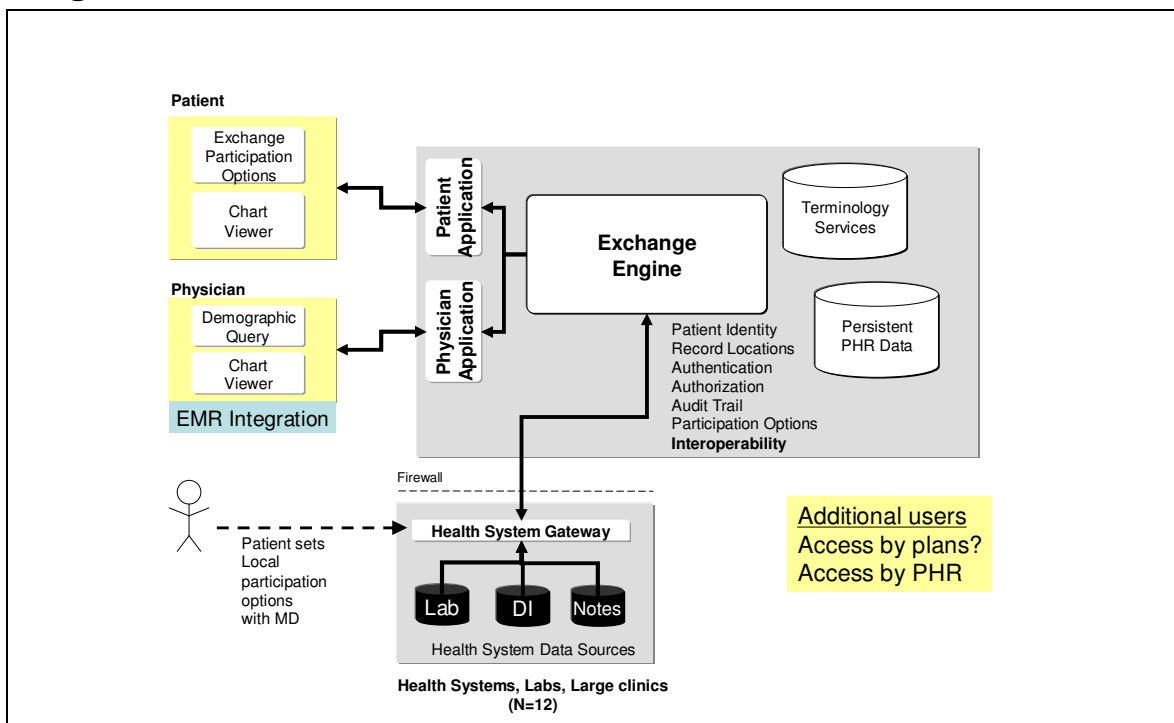


**Figure 2.7.2. Thin centralized HIE services.**

In stage 1, the central services consist of patient identity management, record location services/document registry, security services to include authentication, authorization, and audit trail, and the ability for patients to control their participation options in the exchange. The exchange should also provide patients with the capability to view their own data (red box, upper left). Physicians would query data from the exchange with a standalone web portal. There is no central storage of clinical data. Lightweight edge servers or “Gateways” would reside at the health systems, receive and convert data from source systems/interfaces, and register patients and records with the HIE. Note that the first level of patient control over participation is at the health system, where the patient decides whether to participate in the exchange. The second level of patient control is within the exchange itself; the patient sets global preferences via a patient portal. Primary users are the physician and the patient.

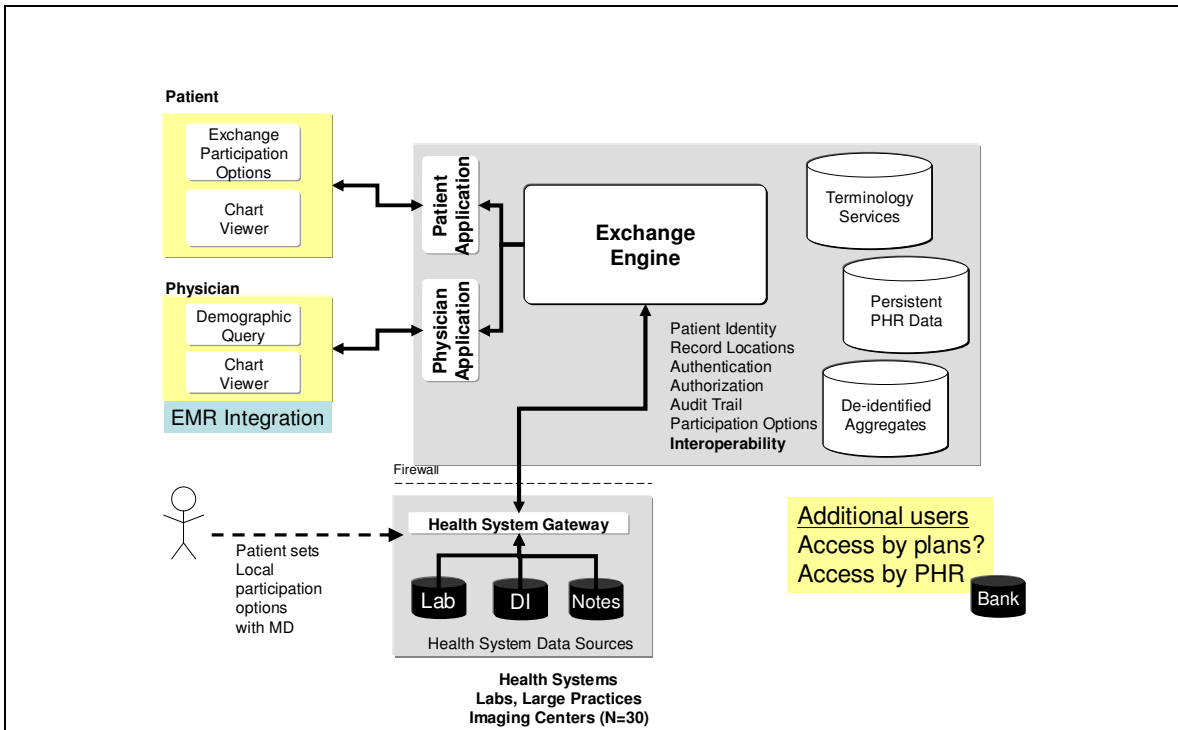


## Stage 2 Architecture



**Figure 2.7.3. Initial Value-Based Services.** In stage 2, the exchange must be able to support services that require increased interoperability, such as direct integration with provider EMRs, Personal Health Records, and other data types (e.g. medications). The exchange will provide terminology services, which are intended to provide semantic interoperability across the HIE. For example, providers should have the ability to automatically import structured and coded data from the HIE into the clinical lists of the EMR (problem, medication, allergy, procedures, etc). The structured and coded data imported from the exchange would be usable by the EMR system functions exactly the same way as if it were native to the EMR, for example for decision support alerts/triggers/reminder. Additionally, the exchange will support structured chart summary documents in line with national standards such as HL7 Continuity of Care Document (CCD) or XDS-Medical Summary (XDS-MS). Persistent data storage will enable establishment of PHR databases. Additional users could include health plans and other PHR services.

### Stage 3 Architecture



**Figure 2.7.4. Full services.**

Stage 3 services would include patient record aggregation for PHR support, full interoperability services, aggregate databases suitable for secondary uses, and infrastructure to generate sustaining revenue such as lab result delivery, claims attachments, disease management, medication lists and so on.

## ***2.8 Contractor Management***

The successful Bidder (Contractor) will provide dedicated management for the MPHIE implementation and throughout the lifecycle of the exchange.

### **2.8.1 Contractor Manager**

The Contractor Manager will:

- Maintain the detailed implementation work plan associated with the management of each task and will develop and implement an ongoing formal monthly reporting process throughout the duration of this project to ensure management control of all task activities;
- Ensure execution of all maintenance and support services providing regular service level reports, appropriate staffing, issue management and resolution;
- Ensure performance of the agreed upon Data Center Operational Services and provide regular service level reporting.

The Contractor Manager will participate in management reviews as a part of the overall management of the contract. MPHIE intends to conduct reviews on a monthly basis, but specific projects or implementation phases may require weekly or bi-weekly status reviews. All such reviews will provide a realistic status of the program/project and will address all potential problem areas and actions being taken to mitigate such problems.

### **2.8.2 Management Reports**

The Contractor will be required to develop and maintain a secured website for communication, documentation control, and reporting among MPHIE operations and the Contractor. The Contractor is required to provide and update a management plan and participate in status meetings. MPHIE will also require year-end assessment and recommendation reports.

**Implementation Work Plan** – Regular updates, with version control, will be maintained for the detailed Implementation Work plan; updates and reports must include graphic representation(s) of project activities for tracking. Updates and reports of activities will be prepared as necessary for the MPHIE operations team to ensure management control of all contract activities. An automated tool will be used to develop and maintain the master Implementation Work plan.

**Implementation Issues Log and Tracking Reports** - These reports will be maintained and updated weekly during the implementation and included in Monthly Project Status Reports. Issue Tracking Reports will include the following log with minimum information: issue number, issue description, date first reported, reported by whom, project impact, recommended solution, person responsible for resolving, status of issue, date resolved.

**Bi-weekly Status Reports** – These reports will be submitted electronically on a bi-weekly basis to the MPHIE operations team during the development and implementation phases of the Contractor’s systems. The Status Reports will include details on task and specific work activity for the reporting period. These reports will include the updated Implementation Work plan and updated Issues List. The Contractor’s project manager will be prepared to discuss these

documents at MPHIE operations team meetings, as required, and answer questions regarding the following, at a minimum:

- Activities planned for the reporting period
- Work and deliverables completed / accomplished during the reporting period
- Status of ongoing activities
- Activities planned for the following reporting period
- Problems, dependencies or issues projected or identified
- Alternatives and/or recommended solution(s) for identified or projected problems or issues
- Known or projected resource and schedule impacts.

**Problem Report** - All calls to the Contractor Support Center will be logged in a problem/incident tracking system available to MPHIE. The problem/incident tracking system will contain a log of problems and detailed problem history reports. Problems will be documented, at a minimum, to clearly categorize each call as:

- Questions
- Maintenance Issues: password reset, logon problems, connectivity problems, etc.
- Future enhancement / update request for submission on Change Requests
- Production System Problem severity level 1, 2, or 3
- Any other interactions

Problem Reports shall include:

- Type of Call (as above)
- Date and time notified
- Name and email address of the Contractor's Point of Contact
- Date and time of arrival of maintenance personnel, if applicable
- Name of Problems
- MPHIE Assigned Priority (i.e., highest is Production System Down/Functional Failure Downtime)
- Type of Problems (hardware, software, reference files, etc.)
- Description of malfunction
- Description of root cause
- Time spent for repair
- Expected date/time of repair
- Date and time system was returned to the MPHIE for operation
- Description of action(s) taken, fixes or patches or repairs made, lists of parts/components replaced (detailed description of actual resolution) and whether temporary or permanent

**Change Control Report** – These reports will be submitted electronically on a monthly basis. The report will include the details of any change requests, the status of the request and impact on project budget and timeline.

**Monthly Project Status Reports** - A Monthly Project Status Report will be forwarded in draft to the MPHIE operations team by the 15th day of the following month. The MPHIE operations team will provide comment on the draft within 5 days of receipt. The report will be presented for

discussion at the monthly MPHIE operations team meeting. The report delivered will be a compilation of bi-weekly status reports and meetings and of sufficient detail to ensure understanding of contract progress and issues. Final copies will be delivered five working days after receipt of MPHIE comments. Each report will include:

- Activities planned for the reporting period
- Work and deliverables / accomplishments completed during the reporting period
- Status of work in progress
- Activities planned for the following month
- Problems (including scheduled items not accomplished) or constraints encountered
- Problems, dependencies or issues projected or identified
- Alternatives and/or recommended solution(s) for identified or projected problems or issues
- Resolution plans including timing
- Solutions implemented
- Known or projected resources
- Deliverable and schedule impacts
- Other issues requiring discussion / decision-making among MPHIE leadership and partners.

### **2.8.3. Audits and Reports Provided to the HIE Participants**

MPHIE shall perform the following audits and periodically provide the following reports to each Participant:

#### **2.8.3.1 Usage Reports.**

Periodic reports monthly and trended statistics regarding (a) usage of MPHIE Services by Participant's authorized users, (b) types and volumes of information accessed by Participant's authorized users, (c) volume of Participant demographic and record locator service records in the MPHIE System, (d) types and volumes of Participant information accessed through MPHIE Services, and (e) System performance, response times, unscheduled maintenance and downtime and related issues.

#### **2.8.3.2 Reports to Public Agencies.**

Statistics regarding Participant's data accessed by or submitted to public health or other agencies.

#### **2.8.3.3 Audit Trail Reports.**

Reports available on request (online or paper) regarding the access and use of Participant data for specific patients or other situations.

## ***2.9 Corporate Capabilities***

### **2.9.1 Corporate Organization**

The Bidder shall provide a corporate organization overview for itself and any subcontractors.

### **2.9.2 Company Profile**

Bidder shall provide the following Company Profile information for the Prime and each subcontractor, for Calendar Years 2005 and 2006:

	2005	2006
<b>Gross Revenue</b>		
<b>New Sales Revenue</b>		
<b>Other Revenue</b>		
<b>Net Revenue</b>		
<b>% New Sales Revenue from Clinical Information Systems</b>		
<b>R&amp;D Budget</b>		

**2.9.3 Product Sales**

Bidder shall complete the following table listing number of sales of the products listed:

SALES	APPLICATION INTEGRATION/INFORMATION EXCHANGE	LONGITUDINAL DATA REPOSITORY	IDENTITY MANAGEMENT	VOCABULARY /KNOWLEDGE SERVER	SECURITY	SINGLE USER SIGN-ON
Calendar Year 2005						
Calendar Year 2006						
Total since proposed platform released						

**2.9.4 Product Listing**

Bidder shall complete the following table listing the all products proposed for this solicitation. If a particular product capability category is not listed, expand the table as necessary to represent all pertinent product capabilities in the response.

PRODUCT CAPABILITIES	VENDOR NAME	PRODUCT NAME	RELEASE NUMBER	DATE FIRST RELEASED
Application integration / Information Exchange				
Longitudinal Data Repository				
Identity Management/Single User Sign-On				
Security				
Vocabulary / Knowledge Server				
Imaging				
ePrescribing				
eOrdering				
eSignature				
Master Patient Index				
Inbox Management				
Others				

**2.9.5 Product Installs**

Bidder shall complete the following table for each of the products described above.

<b>PROPOSED PRODUCTS</b>						<b>SINGLE USER SIGN-ON</b>
Total Number of Sites – Operational						
Total Number of Sites – In Progress						
Total Number of state, regional or community customers						

**2.9.6 Services and Capabilities**

Bidder shall list all services / capabilities relevant to this solicitation. Indicate with a company name on the appropriate row and column of the Prime and/or subcontractor that provides the product or service.

<b>SERVICES/CAPABILITIES</b>	<b>PRIME</b>	<b>SUBCONTRACTOR</b>	<b>SUBCONTRACTOR</b>	<b>SUBCONTRACTOR</b>
Contract Management				
Project Management				
System Implementation Support				
System Maintenance Support				
Help Desk Services				
Operations Support Services				
Data Center Services				
Customer Center				

**2.9.7 Past Performance**

The Bidder Past Performance Surveys in Section 8 are to be used to evaluate the performance record of a Bidder submitting a proposal in response to the MPHIE. Survey should be distributed to five clients with customer responses returned MPHIE under separate cover according to the instructions on the Bidder Performance Survey.

### 3. Requirements Description

#### 3.1 Functional Requirements

ID	Requirement	Phasing
1.	Upload or register patient records:	
1.1	Allow laboratory to upload or register patient lab results	
1.2	Allow hospital to upload or register discharge summary reports	
1.3	Allow ED to upload or register summary reports	
1.4	Allow radiology service to upload or register imaging reports	
2.	Aggregate results and reports correctly from different sources about the patient	
3.	Allow users to log into the system with username and password	
4.	Provide functionality for the user to query and identify the correct patient	
5.	Provide functionality to assist the user to query and sort records about the patient	
6.	Allow the user to view records about the patient	
7.	Allow the user to print selected records	
8.	Allow the user to save selected records for a patient to disk or other media	
8.1	Create a local, standard format CCR/CDA representation of selected records for a patient from the health information exchange	
8.2	Save the standard format representation of the patient record in encrypted form on disk or other media	
9.	Support creation of user roles, at a minimum to include:	
9.1	Clinicians	
9.2	Clinician Proxy	
9.3	Patients	
9.4	Patient Proxy	
9.5	“Other User” involved in PTO for the patient	
9.6	Health information exchange administrator	
10.	Manage the identity and registration of users	
10.1	Manage Patient identity and registration	
10.2	Manage Patient Proxy identity and registration	
10.3	Manage Clinician identity and registration	
10.4	Manage Clinician Proxy identity and registration	
10.5	Manage Other User identity and registration	
10.6	Manage health information exchange administrator identity and registration	
11.	Allow Clinicians to designate specific individuals as Clinician Proxy users to obtain results and reports about the patient	
12.	Allow Patients to designate specific individuals as Patient Proxy users to view their	



	records and audit trails	
13.	Allow the Patient to opt in or out of the health information exchange	
13.1	Allow the patient to authorize provision of their demographic and registration data to the health information exchange	
13.2	Allow the patient to order the removal of their demographic and registration data from the health information exchange	
13.3	Allow the patient to authorize the inclusion of specific records from a participating source to the health information exchange	
13.4	Allow the patient to order the removal of all existing records from the health information exchange	
14.	Allow the patient to designate authorized users to access their records	
15.	Create audit trails, at a minimum to include:	
15.1	Audit each User logon to system	
15.2	Audit each User query of patient identity	
15.3	Audit each User query of patient records	
15.4	Audit each User viewing of patient records	
15.5	Audit each registration or upload of patient records to the system	
16.	Allow the Patient to view audit trails of query, viewing, and registration/upload of their records	
17.	Allow the Patient to view their records in the health information exchange	

### 3.2. Data Requirements

ID	Requirement	Phasing
1.	Support Lab results data	
1.1.	Ensure lab data integrity, informed by CLIA and Oregon law pertaining to lab data	
2.	Support imaging report data	
3.	Support hospital discharge summary report data	
3.1	(Support surgery reports)	
3.2	(Support Pathology reports)	
4.	Support ED summary report data	
5.	Support other data types in the future	Late
5.1	Medication data	
5.2	Vital signs and clinical observations	
5.3	Physician notes and chart summaries	
5.4	Images	
5.5	Tracings and other time series data such as EKG	

### 3.3. User Technology Requirements

ID	Requirement	Phasing
1.	Provide the capability for users to interact with the system via a web browser interface	
2.	Provide the ability to integrate with existing and future web portals in the community	Late
2.1.	Integrate with Health System physician and patient portals	
2.2.	Integrate with Health Plan patient portals	
2.3.	Integrate with Portals for Other Users involved in PTO for the patient	
3.	Support the capability to interact with the system via other certified clinical or patient systems in the future	Late
3.1.	Support direct integration with EMRs in the future	
3.1.1	Support ability for the Clinician or Clinician Proxy to query patient records in the health information exchange from directly within the EMR	
3.1.2	Support ability for the Clinician or Clinician Proxy to export and upload/register records to the health information exchange from within the EMR	
	Support direct integration with certified PHRs in the future	
3.2.1	Support ability to query patient records in the health information exchange from directly within the PHR	
3.2.2	Support ability for the patient to export and upload/register personal records from within the PHR	
3.2.3	Support ability for the patient to view audit trails from within the PHR	
3.2.4	Support the ability for the patient to opt in/out from within the PHR	
3.2.5	Support the ability for the patient to designate authorized clinicians from within the PHR	
3.2.6	Support the ability for the patient to designate Patient Proxies from within the PHR	

### 3.4 Privacy & Security Requirements

ID	Requirement	Phasing
1.	Comply with HIPAA – the HIE may operate as a “non-covered” entity, however information will be managed according to the rules applying to covered entities.	
2.	Comply with all Oregon patient privacy laws	
2.1	Manage specially protected data according to Oregon law	
3.	Comply with a minimum agreed-upon set of privacy & security standards established by the participating/governing stakeholders.	
3.1	Create or adopt a definition of security and privacy standards that may be used to certify organizations with respect to their “fitness” to participate in the exchange.	
4.	Comply with all regulations and best practices for physical and network security of health information	
4.1	Ensure data encryption in transit	
4.2	Assess integrity (completeness and correctness) of rendered data	
5.	Implement robust methods for patient consent processes to participate and manage data in the exchange.	
5.1.	Allow patient to receive notification that their data may be included in a data exchange	
5.2.	Allow patient to opt out of the data exchange	
5.3.	Allow patient to view their own data in the exchange	
6.	Audit trails - Patients must be able to obtain information about how their data has been accessed via the exchange (audit trail), to guard against inappropriate disclosure.	
6.1	Patient may view a report of who accessed data, when, and from what location.	
6.2	The exchange will audit all connections/disconnections to the services.	
6.3	Hold individual users accountable for inappropriate use or disclosure of patient information	
6.4	Protect individual users against excessive liability for disclosure	
7	Patient authorization of providers	
7.1	Patient authorization of specific providers or entities. Allow patients to control who can access their data via the exchange.	
7.2	Add/amend/annotate/dispute data in the exchange	
8.	Permit advanced patient control over data inclusion & access	
8.1	Allow the patient to selectively prohibit specially-protected or sensitive data from inclusion in the exchange.	
8.2	Allow the patient to selectively prohibit “other” (not specially-protected) data from inclusion in the exchange.	
8.3	Allow the patient to authorize only specific providers or entities to view sensitive or “other” data from within the exchange.	
9.	Enable role-based authorization of providers and other users of data	

9.1	Role-based authorization may be managed centrally or in a federated manner or both	
10.	Provide for robust authentication mechanisms of providers and other users of data	
10.1	If accessing the HIE from within a trusted domain/node, one-factor authentication is permitted	
10.2	If accessing the HIE from outside a trusted domain/node, require 2-factor authentication	
10.3	Utilize a Single Sign-On for users	
11.	Identity Management	
11.1	Provide a mechanism to uniquely identify all providers/users of the exchange	
11.2	Provide a mechanism to reliably identify an individual whose health information is part of the exchange.	
12.	Secondary Uses	
12.1	Permit secondary uses of de-identified or pseudonymized patient information for research, public health, and quality improvement	
12.1	Permit re-identification of patients in emergency cases only related to public health or community safety	

### ***3.5 Requirements for Information Technology Services & Implementation, Interoperability, and Healthcare Information Standards***

<b>ID</b>	<b>Requirement</b>	<b>Phasing</b>
1.	Upload/register patient records from data source systems in the community, using currently-available standard interfaces, message formats, and communications protocols over public networks	
1.1	Support commercially-available interface engines and other interface engines currently installed in the community	
1.2	Secure transmission protocol such as 128-bit HTTPS	
1.3	The exchange will operate with HL7 v 2.5 message format	
1.4	The exchange will standardize on CCR and CDA document formats	
2.	Lightweight impact on existing IT services for all stakeholders	
2.1	One-time effort to develop interfaces from the health system/clinical provider to the exchange.	
2.2	Minimal cost and effort to maintain the interface to the exchange.	
2.3	Provide lightweight, low maintenance “appliance” mechanism to data contributors	
2.4	Provide assistance with interface management and minimizing the number of interfaces	
3.	Offer centralized core support services together with localized support for stakeholders	
3.1	First-line support & triage at the health system or plan.	
3.2	Training of health system help desk.	
3.3	Second-line support at the MPHIE	
4.	Ensure data integrity for all data types	
4.1	Verify transmitted data in the exchange	
4.2	Provide the ability to easily reconcile results in the exchange with the source systems	
4.3	All data must be tagged with its source	
5.	System must be forward compatible with future healthcare IT trends such as Integrating the Health Care Enterprise, HL7 v 3, etc.	

### 3.6 Architecture Requirements

ID	Requirement	Phasing
1.	Provide centralized services for patient identity	
2.	Provide centralized services for authentication/audit/access control	
3.	Provide centralized services for record location	
4.	Permit access to source systems housing the patient data or “edge systems” located in a DMZ behind the data provider’s firewall.	
5.	Host centralized repositories of summary information (metadata), for example in support of a record locator service or an XDS document registry.	
6.	Host centralized repositories of patient data, for example in support of an XDS document repository, according to the preference of data providers.	

### 3.7 Performance, Scalability, and Availability Requirements

ID	Requirement	Phasing
1.	The system must have a fast subjective response time	
1.1	Query transactions by the clinical user should execute in less than 5 seconds	
2.	The system must have high availability	
2.1	All data must be 99.5% available	
3.	The system must scale to meet the needs of the Metro Portland Community	
3.1	Support 1.6 million unique patients in year 1, 1.8 million in year 5	
3.2	Store 29 million data items in year 1, 107 million in year 5	

### 3.8 Usability Requirements

ID	Requirement	Phasing
1.	System must initially fit within existing office workflows and require minimal re-design to take advantage of the benefits.	
2.	System should provide convenient access to the care team in the office and ED environment.	
3.	System should help the care team to better meet patient expectations.	
4.	System should expedite tedious work processes.	
5.	System will connect to and integrate with other systems such as EMR and PHR.	
5.1.	EMR and PHR may “pull” data from the exchange under the user’s control	
6.	Technical support and training will be made available to offices.	
6.1.	System will result in net benefit of time for the clinician after implementation and training.	
6.2.	Minimal training or loss of productivity to start	
7.	System will offer a high degree of usability	
7.1.	Provide intuitive user interface	
7.2.	Escape routes to the user	
7.3.	Information is well organized	
7.4.	Data presented at the right time & place	
8.	System will provide fast response times	



## 4. Data Users, Environment, and Technical Architecture

### 5. Interface Approach

#### 5.1.1 Interface Development

The Contractor will be responsible for the design, development, and implementation of interfaces. Data Providers will be responsible for building and maintaining their own interfaces to MPHIE. **Data Receivers will be responsible for building and maintaining their own interfaces to a gateway or to the exchange.** MPHIE will provide an interface contact resource to work with the Data Contributor or Receiver or their Contractor. The MPHIE Contractor will participate in testing the interfaces once developed by the Data Contributors, Receivers or their Contractor(s).

The MPHIE operations team will provide technical advisory guidance to the Contractor related to interface design. MPHIE will use standards based interfaces. Initially, HL7 V2.x will be adapted as the minimum standard and version for HL7 appropriate interfaces between MPHIE participants.

#### 5.1.2 Contractor Responsibilities for Interfaces

The Contractor will develop interface specifications for all interfaces. It is anticipated that these interfaces will be between participant applications and either a gateway or the MPHIE central exchange engine. The Contractor will execute the following tasks and provide documentation as follows:

- The Contractor will develop the interface design and provide documentation including application program interfaces for the extraction of data to other systems for data importing and exporting.
- The Contractor will specify the interface development tasks including steps for the conversion of current system interfaces and the requirements for other system Contractor interfaces.
- The Contractor will provide a test plan for end-to-end testing, verification of interfaces and documentation of test results as defined in system testing.
- The Contractor will provide a technician and all staff needed to support the interface testing to be conducted by MPHIE.
- The Contractor will monitor interface cut over and verification of the interface in the operational environment.
- The Contractor will provide an interface engine and vocabulary servers for reformatting and mapping of data, as needed.

*Potential interfaced information is listed in Section 3.2, “Data Requirements” above.*

## 6. Data Migration and Translation

Some data senders may wish to pre-load historical data from a defined time period in preparation for data exchange with the MPHIE. Contractor data migration support will include, but will not be limited to, the following tasks:

- Identify the participant architecture and data format for the data senders' organization.
- Develop the Data Migration Plan.
- Analyze data and prepare specification for cleansing and loading the data.
- Reformat and map the data as needed for the load utilizing vocabulary server if needed.
- Support solution for migration of non-convertible data.
- Test the data before conversion.
- Perform data migration.
- Validate the data.
- Provide on-site 24 hour 7 day per week data migration support.

## 7. Volume Estimates and Performance Standards

The Bidder must propose an Application Service Provider (ASP) cost model. The Bidder may provide a per click, per result, or other participation based metric as a basis for delivering, implementing and paying for the functionality provided.

The following metrics and definitions should be used when drafting the bidder's response.

### Metric Definitions:

- *A Result* -- Data that flows into the MPHIE about a single person (example - 1 patient lab test result). All of these in-flows will be electronic. Data that is accessed remotely through web services about a single person (example - 1 patient lab test result)
- Time periods -- Yearly
- Organization Types
  - Large Medical Center
  - Automated Physicians Practice (has an EMR)
  - Commercial Laboratory
  - Commercial Imaging Center
  - Surgical Center
  - Community Health Center or Clinic
  - Other

**Volumes Anticipated:**

Tri-County:Population, July 2006

Tri-County Total	1,569,170
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Tri-County Physician and Other Clinician Providers by Specialty (August 2006)

Specialty Category	Physicians	NP/PA/ CNM/CRNA	Social Workers,Counselors	Other Providers	Total
Total	3,943	690	914	301	5,848

	Years 1-2	Years 3-5
<b>Patients (MPI)</b>	5 million	7 million
<b>Providers</b>	4,000	6,000
<b>Organizations</b>	10	30
<b>Results (Source)</b>	50 million	100 million

Tri-County Physician and Other Clinician Providers by Practice Size  
(August 2006)

Practice Size	Total
Kaiser Permanente	995
Oregon Health Science Univ	925
Providence organizations	251
Legacy Health System	133
2 labs	n/a
2 imaging centers	n/a
3 largest independent clinics	>25 mds

**8. Bidder Past Performance Surveys**

The questions contained below are to be used to evaluate the performance record of a Bidder submitting a proposal in response to the Metropolitan Portland Health Information Network. MPHIE reserves the right to follow-up with survey respondent. Please complete this performance questionnaire and return to:

MPHIE RFP Administrator on or before {Date Here}. Reply by email [emai@mphiedomain.org](mailto:emai@mphiedomain.org) or fax is acceptable at (503) XXX-XXXX. Your responses to this questionnaire will be considered confidential, except as explained below.

For each of the following areas, rate the performance of the Offeror as (5) Outstanding; (4) Excellent; (3) Good; (2) Fair; (1) Poor; (0) Unsatisfactory; or (N/A) Not Applicable. Indicate your rating by circling the appropriate number.

Include a narrative explanation whenever you feel that it is appropriate, but as a minimum when a rating of “Unsatisfactory” is given. Please note that if an “Unsatisfactory” rating is given, the Offeror will be made aware of it and will be asked to comment.

Please complete the following questionnaire and return via regular mail, email or fax to the attention of:

Metropolitan Portland Health Information Exchange  
c/o Oregon Business Council  
1100 SW Sixth Avenue  
Suite 1608  
Portland, OR 97204

**This survey pertains to:**

**Department / Component:**

**Date of Survey:**

**Name of Person Completing Survey:**

**Signature of Person Completing Survey:**

**Your Company / Agency:**

**Your Role in this Contract (*circle one*):**

**Contracting Officer    Contract Specialist                      Project Officer            Other**

**Contract Value (*including options*):    \$**

**Performance Period: \_\_\_\_\_ (*including option periods*)**

**Type of Contract:**

**Approximate % of work being performed (or completed) by subcontractor(s): \_\_\_\_%**

**Information on subcontractor(s): (> \_\_\_% of work was completed by subcontractor):**

**List Subcontractor names below:**

**General description of products / services required under the contract:**

## RATINGS

Please answer each of the following questions with a rating that is based on objective measurable performance indicators to the maximum extent possible. Commentary to support rating shall be noted on last page.

*Assign each area a rating of 0 (Unsatisfactory), 1 (Poor), 2 (Fair), 3 (Good), 4 (Excellent), or 5 (Outstanding). Use the attached Rating Guidelines as guidance in making these evaluations. Circle the appropriate rating. If you do not have enough personal knowledge or feedback from internal customers who directly received products and services from the Offeror to make a determination on any of the performance criteria below, please circle "N/A" (not applicable/no opinion).*

### QUALITY OF SERVICE

1. Compliance with contract requirements	0	1	2	3
		4	5	N/A
2. Accuracy of reports	0	1	2	3
		4	5	N/A
3. Effectiveness of personnel	0	1	2	3
		4	5	N/A
4. Technical Excellence	0	1	2	3
		4	5	N/A

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### COST CONTROL

1. Record of forecasting and controlling target costs	0	1	2	3
		4	5	N/A
2. Current, accurate and complete billings	0	1	2	3
		4	5	N/A
3. Relationship of negotiated costs to actuals	0	1	2	3
		4	5	N/A
4. Cost efficiencies	0	1	2	3
		4	5	N/A

---

### TIMELINESS OF PERFORMANCE

1. Met milestones	0	1	2	3
		4	5	N/A
2. Reliability	0	1	2	3
		4	5	N/A
3. Responsive to technical direction	0	1	2	3
		4	5	N/A
4. Completed on time including wrap-up and contract administration	0	1	2	3
		4	5	N/A
5. Met delivery schedules	0	1	2	3
		4	5	N/A
6. Timely, current & complete reporting, tracking & documentation	0	1	2	3
		4	5	N/A

---

### BUSINESS RELATIONS

1. Effective management, including management of subcontracts	0	1	2	3
		4	5	N/A
2. Reasonable/cooperative behavior	0	1	2	3
		4	5	N/A
3. Responsive to contract requirements	0	1	2	3
		4	5	N/A
4. Notification of problems	0	1	2	3
		4	5	N/A
5. Flexibility	0	1	2	3
		4	5	N/A
6. Pro-active vs. reactive	0	1	2	3
		4	5	N/A
7. Effective small disadvantaged business subcontracting program	0	1	2	3
		4	5	N/A

---

**CUSTOMER SATISFACTION**

- |   |                              |
|---|------------------------------|
| 1. The Offeror is committed to customer satisfaction. | Yes No ( <i>circle one</i> ) |
| 2. Would you recommend selection of this firm again?  | Yes No ( <i>circle one</i> ) |
- 

**ADDITIONAL COMMENTS**

## 9. RFP Forms

### 9.1 Certification

#### METROPOLITAN PORTLAND HEALTH INFORMATION EXCHANGE REQUEST FOR PROPOSAL

##### CERTIFICATION SHEET

As the official representative for the proposer, I certify on behalf of the agency that:

- a. They are a regular dealer in the services being procured.
- b. They have the ability to fulfill all requirements specified for development within this RFP.
- c. They have independently determined their prices.
- d. They are accurately representing their type of business and affiliations.
- e. They have acknowledged that no contingency fees have been paid to obtain award of this contract.
- f. The Prices in this offer have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other contractor or with any competitor;
- g. Unless otherwise required by Law, the prices which have been quoted in this offer have not been knowingly disclosed by the contractor and prior to the award in the case of a negotiated procurement, directly or indirectly to any other contractor or to any competitor; and
- h. No attempt has been made or will be made by the contractor in part to other persons or firm to submit or not to submit an offer for the purpose of restricting competition.
- i. They have not employed or retained any company or person (other than a full-time bona fide employee working solely for the contractor) to solicit or secure this contract, and they have not paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the contractor) any fee, commission percentage or brokerage fee contingent upon or resulting from the award of this contract.
- j. They (check one) operate \_\_\_an individual; \_\_\_a Partnership \_\_\_a non-profit (501 C-3) organization; \_\_\_a not-for-profit organization; or \_\_\_for Profit Corporation, incorporated under the laws of the State of\_\_\_\_\_.



{ Certification page 2 }

- k. The referenced Bidder has neither directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this bid submitted this date to Metropolitan Portland Health Information Exchange.
- l. The referenced bidder agrees that the signed delivery of this bid represents the bidder's acceptance of the terms and conditions of this invitation to bid including all specifications and special provisions.
- m. They (check one): \_\_\_\_\_are; \_\_\_\_\_are not owned or controlled by a parent company. If owned or controlled by a parent company, enter name and address of parent company:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Violations and Penalties:**

Each contract entered into by an agency for professional services shall contain a prohibition against contingency fees as follows:

- 1. The firm offering professional services swears that it has not employed or retained any company or person working primarily for the firm offering professional services, to solicit or secure this agreement by improperly influencing the MPHIE or any of its contractors or employees in the professional service procurement process.
- 2. The firm offering the professional services has not paid or agreed to pay any person, company, corporation, individual or firm other than a bona fide employee working primarily for the firm offering professional services, any fee, commission, percentage, gift, or any other consideration contingent upon or resulting from the award or making of this agreement; and
- 3. For the violation of this provision, the agency shall have the right to terminate the agreement without liability and at its discretion, to deduct from the contract price, or otherwise recover the full amount of such fee, commission, percentage, gift or consideration.

{ Certification page 3 }

**The following conditions are understood and agreed to:**

No charges, other than those specified in the cost proposal, are to be levied upon the MPHIE as a result of a contract.

The MPHIE will have exclusive ownership of all products of this contract unless mutually agreed to in writing at the time a binding contract is executed.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature and Title of Official Representative

\_\_\_\_\_  
Type Name of Official Representative

9.2 Bidder's Signature Form

NAME OF BIDDER: \_\_\_\_\_

SIGNATURE OF AUTHORIZED PERSON: \_\_\_\_\_

TYPE IN NAME OF AUTHORIZED PERSON: \_\_\_\_\_

TITLE OF AUTHORIZED PERSON: \_\_\_\_\_

STREET NAME AND NUMBER: \_\_\_\_\_

CITY, STATE, AND ZIP CODE: \_\_\_\_\_

CONTACT PERSON: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

FAX NUMBER: \_\_\_\_\_

DATE: \_\_\_\_\_

BIDDER'S FEIN: \_\_\_\_\_

F.O.B: \_\_\_\_\_

TERMS: \_\_\_\_\_

THE FOLLOWING MUST BE COMPLETED BY THE VENDOR:

AS CONSIDERATION FOR THE AWARD AND EXECUTION BY METROPOLITAN PORTLAND HEALTH INFORMATION EXCHANGE OF THIS CONTRACT, THE (COMPANY NAME) \_\_\_\_\_  
HEREBY GRANTS, CONVEYS, SELLS, ASSIGNS, AND TRANSFERS TO THE METROPOLITAN PORTLAND HEALTH INFORMATION EXCHANGE ALL OF ITS RIGHTS, TITLE, AND INTEREST IN AND TO ALL KNOWN OR UNKNOWN CAUSES OF ACTION IT STATES AND THE STATE OF OREGON RELATING THE PATROLLER GOODS OR SERVICES PURCHASES OR ACQUIRED BY THE METROPOLITAN PORTLAND HEALTH INFORMATION EXCHANGE PURSUANT TO THIS CONTRACT.

## **10. RFP Terms & Conditions**

### **Financial Information.**

If annual and quarterly financial statements of Contractor are not available from SEC filings, Contractor shall provide comparable financial information to MPHIE prior to execution of the Agreement for the period then most recently ended and thereafter promptly after the end of Contractor's fiscal year and each fiscal quarter during the term of the Agreement. Contractor shall represent and warrant that such financial information is accurate and complete and fairly represents Contractor's financial condition and results of operations for the applicable periods in accordance with generally accepted accounting principles.

### **Exceptions**

Offerors may elect to take minor exception to the terms and conditions of this RFP and must clearly state each exception in the offeror's cover letter. MPHIE will evaluate each exception according to the intent of the terms and conditions contained herein, but MPHIE shall reject exceptions that do not conform to MPHIE requirements and/or create inequality in the treatment of Offerors. Exceptions shall be considered only if they are submitted with the proposal or before the date and time of the proposal opening.

### **Offeror Responsibility**

MPHIE will enter into a contract with the successful Contractor. The successful Contractor shall be responsible for all products and services as required by this RFP. Subcontractor, if any, shall be clearly identified in the financial proposal.

### **Covenant Against Contingent Fees**

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees. For breach or violation of this warranty, MPHIE shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

### **Affirmation**

The Contractor must affirm that within the past five (5) years the firm or any officer, controlling stockholder, partner, principal, or other person substantially involved in the contracting activities of the business is not currently suspended or debarred and is not a successor, subsidiary, or affiliate of a suspended or debarred business.

### **Pricing**

The Contractor agrees to provide MPHIE with Most Favored Customer Pricing for all Deliverables under this Agreement. Most Favored Customer Pricing shall mean that the Contractor represents and warrants that the price for the sale and license of each Deliverable shall be at least as favorable to MPHIE as the purchase price provided to any other customer purchasing goods substantially similar to the Deliverables in similar quantities. If at any time during the Agreement, the Contractor's selling price of substantially similar Deliverables in

similar quantities is lower than the applicable purchase price under this Agreement, the Contractor shall promptly notify MPHIE of such lower price and the purchase price of such Deliverable shall be reduced retroactively for any Deliverable not yet delivered or paid for. The MPHIE reserves the right to procure hardware on its own, should it deem such action to be cost-effective.

**Subcontracts**

Subcontracting is permitted under this RFP and the resulting contract; however, every subcontractor shall be identified in the Proposal and agreed to in writing by MPHIE or as are specifically authorized in writing by MPHIE during the performance of the contract. Any substitutions in or additions to such subcontractors, associates, or consultants will be subject to the prior written approval of MPHIE.

The Contractor(s) shall be responsible for compliance by the subcontractor with all terms, conditions and requirements of the RFP and with all local, State and Federal laws. The Contractor shall be liable for any noncompliance by any subcontractor. Further, nothing contained herein or in any subcontractor agreement shall be construed as creating any contractual relationship between the subcontractor and MPHIE.

**Confidentiality**

Specific attention should be given to the identification of those portions of the proposal, which are deemed to be confidential and proprietary information and which should not be disclosed. Offerors are advised that upon request from a third party, MPHIE will make an independent determination as the information may be divulged to a third party.

## Appendix A – Background, Sources, Related Documents

The MPHIE Mobilization Planning effort was commissioned and financed by the Oregon Business Council's Health Information Exchange Leadership Group. The project leadership team (Tiger Team) provided oversight and leadership in guiding the development of the planning included:

Andrew Davidson, Oregon Association of Hospital and Health Systems  
 Janice Forrester, PhD, The Regence Group  
 Dick Gibson, MD, PhD, MBA Providence Health Systems & Legacy Health Systems  
 Jody Pettit, MD, Oregon Health Care Quality Corporation & Office for Oregon Health Policy and Research

The Mobilization Planning effort was staffed by Oregon Health Care Quality Corporation. Staff and sub-contractors who contributed to various portions of this report include:

Nancy Clarke  
 Jody Pettit, MD  
 Tom Ricciardi, PhD  
 David Witter, Witter & Associates

For More Information please contact:

Oregon Business Council  
 1100 SW 6<sup>th</sup> Avenue, Suite 1508  
 Portland, OR 97204  
 Denise Honzel, honzelde@aol.com,  
 (503) 860-1278

Oregon Healthcare Quality Corporation  
 619 SW 11<sup>th</sup> Avenue, Suite 221  
 Portland, Oregon 97205  
 Nancy Clarke, nancy.clarke@q-corp.org  
 (503) 241-3571

The Mobilization Planning effort builds upon the report to the Oregon Business Council (OBC) Data Exchange Group titled “Oregon Health Information Exchange Options” dated May 15, 2006 available at <http://www.q-corp.org/q-corp/images/public/pdfs/OR%20HIE%20Options.pdf>.

The Mobilization Planning effort report relies on a number of sources of information including published studies, publications and reports of major organizations involved in health information exchange, and information collected from other regional health information organizations (RHIOs) and health information exchanges (HIEs) and interviews and discussion with clinicians and other stakeholders in the community.

Key Mobilization Planning documents include

- MPHIE Final Report
- Metropolitan Portland Area Health Care Environment.
- MPHIE Technology Plan.
- MPHIE Privacy and Security Assessment.
- MPHIE Governance Plan.
- MPHIE Business Plan.
- MPHIE Operations Plan.