Maine Health Information Exchange: Vendor Selection

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Political Environment

The Maine Health Information Exchange is an independent organization that was established in 2010 with the goal to improve the quality of care for the residents of the state of Maine by developing and implementing a HIE. A board of directors has been appointed including a CEO, CFO, CIO and CCO. Working closely with the Governors office the vision has been defined and the planning phase is underway.

The Governor strongly desires an HIE vendor that can support his position on improving the economic status of minority owned firms. His preference would be to select a vendor that comes from the State of Maine, and barring that possibility would have a requirement to hire subcontracted personnel within our State. He fully realizes that Maine is not a populous state, but knows that with strong academic institutions, such as Bowdoin and Colby located in the State it should be feasible to utilize residents of this great State.

The Indian Health Service (HIS) has been allocated via the HITECH Act grant funding to pursue a federal HIE and as a part of that funding is willing to support state level grants for an extended period, greater than 3 years. One of the conditions for this money is that minority owned HIT vendors be employed and preferably Indian Tribe minorities. In light of this funding and the expressed interest in a minority vendor by the governor this project is aggressively

Change Management

As the SOW is written, no single stakeholder has the capability to amend for the benefit of their own priorities. A Change Control Board (CCB) will be established including stakeholders from all realms, specifically the CEO, CFO, CIO, CCO, the project manager, and a representative from the Governor's office. This will allow representation from all areas including the company itself, along with the governor's staff to keep everyone's interest in

mind. If these members are not available, an individual appointed by seat-holder for the specific meeting will stand in their place and vote in their absence. The meetings will occur weekly, and any stakeholder may bring issues of contention forth. The proposed change must be presented to the CCB, after which a discussion will take place regarding impact (both political and company-wide), resources, etc. Immediately following the discussion, all members of the CCB will vocally vote to approve the requested change. Unanimous approval must be given in order to implement the change. Once approved, the project manager is responsible for updating the current document control sheet indicating effective date and change description. Once a new SOW has been approved, the SOW will be officially adopted and emailed to all stakeholders with highlighted changes.

Analysis of Vendor Responses

See Appendix A

Criteria Used for Vendor Evaluation

See Appendix B

Preliminary Budget Estimates

Total cost < $1,000,000. For itemized budget see appendix A.

Role in Decision Making

Clinical

The CCO will assess the ability of the vendor to meet the basic and core clinical requirements. He/she will determine if the vendor is providing laboratory data as specified in the RFP as well as any and all other data that will achieve the desired clinical outcomes of improved population health, enhanced provider to patient communication and satisfaction with care. The CCO will monitor Meaningful Use criteria and collaborate with developers to modify the system if necessary.

Information Technology

The CIO will assess and provide a selection decision based on consideration of the vendor's ability to provide state of the art software and hardware that meets the requirements of the State today and into the foreseeable future. He/she will make decision based on their assessment of the capability of the vendor to fulfill the State's information requirements with the expertise and experience the vendor presents in their respective responses.

Finance

The CFO will assess the financial data provided by the vendor and ensure that the vendor has financial viability and can reasonably be expected to fulfill the requirements of the contract within the State's budget limit. He/she will make a decision on vendor selection not only based on best price but ability to achieve required outcomes within the costs provided by the vendor.

Legal

The CEO in consultation with counsel will ensure that the vendor will be in compliance with all applicable federal and state laws regarding privacy and security. This team will ensure that ownership of data and the future use of that data is clear to both parties prior to go live dates. The legal team will draft the contract for the chosen vendor.

Vendor Size

Maine HIE requires a vendor with significant prior experience and a proven track record in projects similar to ours. The political climate demands that this project be successful from initial launch and will meet timelines that provide the Governor tremendous leverage in the upcoming election. An ASP or Cloud vendor that has already created the necessary infrastructure to support data exchange is critical to the rapid deployment of the Maine HIE. The

State reserves the right to review at least three past projects of the same type by the vendor and can reject based on the best interest of the State.

Acceptance Testing

Role

Acceptance testing is the most critical aspect in the lifecycle of the HIE development and implementation plan. This is where the system is subjected to intense scrutiny by the end-users. The successful completion of acceptance testing is a major milestone in the process reflecting the users satisfaction that the product has demonstrated it's ability to perform at the level expected and provides the result required to satisfy all stakeholders.

The vendors plan for acceptance testing is an important factor in the decision process as to which vendor will best meet the needs of the organization. All of the criteria requested from the vendor are inconsequential if the system does not perform as expected.

Acceptance Testing Methods

A structured comprehensive acceptance-testing plan will be implemented to guide the end-users through the acceptance testing process. The purpose of the process is to allow users to test all case scenarios and determine if the expected results are achieved. Each scenario will have well defined prerequisites, expected results, conditions under which the testing will occur and defined responsibilities of the users. Since the HIE will be used by individual medical providers as well as hospitals, pharmacies, laboratories, insurance providers and patients, each entity will be included in the acceptance testing process with a criteria plan tailored to their specific venue.

The preference of our management team is that the test site will be established in the environment where the ultimate use will take place. The user will enter real patient data that has been de-identified and coded for test purposes. All features required in the RFP will be tested.

Performance capacity will be evaluated at times of anticipated peak performance and normal

load, a third party software may be used to simulate different load conditions. Metrics will be

defined for acceptability for performance functionality and down time. Security features

including the ability to log on and authorize users along with testing of firewalls and security of

the data along the entire pipeline from the end-user to cloud storage and back. Compliance with

HIPAA and JACHO standards will be evaluated at this juncture.

All interfaces will be tested for functionality and accuracy. Once the individual models

have all be tested and have satisfied testing criteria, testing will evaluate the integration of all

modules verifying their functionality interoperability, performance and reliability. Finally

system failure will be tested measuring how quickly the system is restored, the data recovery

process, validation of data integrity as well as cost evaluation associated with the down time.

Timeline for Acceptance Testing

The acceptance testing process will occur for a period of three months prior to the

schedule of " Go Live". Throughout the process weekly reviews will include stakeholders

input, documentation of test results, documentation of fixes, retesting with results.

Finally all stakeholders must sign off that this phase of acceptance testing is completed

satisfactorily. The SOW states that a test group of 10 sites will be instituted prior to widespread

rollout of the HIE. An additional similar form of acceptance testing on a wider scale will take

place at this phase and we expect the same standards and criteria to be followed.

Unacceptable Outcomes of Acceptance Testing

The Acceptance testing criteria must be met in totality prior to signing off with the

vendor. There is no one feature that will lead to the system being unacceptable. All areas

outlined in the plan must be completed and satisfy the required criteria within the specified time

frame. Having come this far in the process, our goal is to have a reliable functional system with

seamless integration among users. If the vendor cannot adequately remedy the issues discovered in the testing phase satisfactorily within a specified time frame, financial penalties will ensue as outlined in the contract. If within a four month period after notification the vendor is unable to provide the required fixes the HIE has the option to discontinue the project and requires all monies paid to the vendor plus 10% to be returned as specified in the contract.

Cost Considerations in Vendor Selection

Comparing the costs associated with the different areas of the proposal, it is necessary to first view the overall cost to determine if they are reasonably close, then break it down and look at all aspects individually. Starting with overall cost of the proposal, a high level look shows similarities in prices with the difference being around $50K. In a project projected to cost around $900,000, the difference falls between 5% and 10% in savings on the bottom line in selecting the cheaper vendor. Because those savings fall in different areas of the solution, it is necessary to look at the cost breakouts in labor, hardware, and software.

Labor costs are important, and can be negotiated once a vendor has been selected. Rates should be considered acceptable if within a certain range, but it is critical to check the labor hours of each team member to get a feel for who is actually doing the work, and if the resources are sufficient in both leading and working on the project.

The hardware and software costs are broken out and vary significantly based on the concept of having a cloud-based solution versus a localized network solution.   With two completely different solutions, it is important the review team understand the methodology of both and where the costs could be inflated. One specific area to look into is the maintenance hours/cost scheduled over the life of the contract. Because this cost includes training, it is

important to get an understanding of exactly what is going to be provided and what services will be billed to this cost point.

When evaluating costs, not only are we checking the proposed cost, but also where we can negotiate and save later. The vendor proposal is written to the benefit of the vendor, and this must be recognized by checking numbers against market value. Profit margins are specifically listed in the proposals received, and hidden in other cost items such as labor. Coming out of the cost evaluations it is necessary to weigh the vendor selection on the proposal, and realize the proposal will not necessarily be the final cost.

Based on the criteria developed to evaluate the RFP proposals, the board has selected vendor # 1 as the preferred vendor. Vendor # 1 cumulative score = 1099. Vendor # 2 cumulative score = 916. Not only did vendor # 1's cost come in lower than Vendor # 2, it uses a cloud solution which will allow for more rapid deployment of the HIE. In addition, there was a potential conflict of interest with vendor # 2 in regards to employees and relations to staff in the Governor's office.

Appendix A: Analysis of

Vendor Responses

DIRECT LABOR			Vendor 1 08/2012 to 08/2013			Vendor 2 08/2012 to 08/2013	
Vendor's Labor Category (NOTE 1)	**Person's Role**	**Base/Hours**	**Rate**	**Extended $**	**Base/Hours**	**Rate**	**Extended $**
Senior Professional	Principal, Information Systems	1,280	$110.00	$140,800.00	900	$150.00	$135,000.00
Senior Professional	Sr. System Development Architect	1,280	$80.00	$102,400.00	1,048	$75.00	$78,600.00
Professional	System Development Engineer	1,280	$65.00	$83,200.00	850	$55.00	$46,750.00
Professional	System Development Engineer	1,280	$65.00	$83,200.00	850	$40.00	$34,000.00
Professional	Project Manager	640	$60.00	$38,400.00	1,280	$65.00	$83,200.00
Professional	Programmer Level 3	780	$50.00	$39,000.00	500	$45.00	$22,500.00
Professional	Programmer Level 2			$0.00	400	$43.00	$17,200.00
Professional	Security Specialist			$0.00	400	$40.00	$16,000.00
Total Direct Labor Costs		**6,540**		**$487,000.00**	**6,228**		**$433,250.00**
Fringe Benefits		$60,000		$60,000.00			
Total Fringe Benefit Costs				**$60,000.00**			**$0.00**
Networking Overhead - On Site		$75,000		$75,000.00	$100,000		$100,000.00
Total Labor Overhead Costs				**$75,000.00**			**$100,000.00**
None proposed				$0.00			$0.00
Total Subcontract Costs				**$0.00**			**$0.00**
None proposed				$0.00			$0.00
Total Consultant Costs				**$0.00**			**$0.00**
Software	*See Materials software*			$105,000.00			$158,000.00
Hardware	*See Materials Hardware*			$15,300.00			$98,000.00
Total Other Direct Costs				**$120,300.00**			**$256,000.00**

			Qty	Unit Price	Total	Qty	Unit Price	Total
Training/Maintenance			250	$100.00	$25,000.00	100	$100.00	$10,000.00
Total Training/Maintenance Costs					**$25,000.00**			**$10,000.00**
G&A								
Total G&A Costs					**$0.00**			**$0.00**
					$767,300.00			$799,250.00
Profit			$767,300	6.000%	$46,038.00	$799,250	8.000%	$63,940.00
Total Cost					**$813,338.00**			**$863,190.00**

MATERIALS -Software

Item	Description of Software	Qty	Unit Price	Total Price
Vendor1				
1	IronClad Security	10	$1,000.00	$10,000.00
2	Deltek Expense Reporting/Timekeeping	1	$50,000.00	$50,000.00
3	Microsoft Office	10	$500.00	$5,000.00
4	eConnect (installed for all to connect to network)	1,000	$40.00	$40,000.00
Vendor2				
1	eConnect (installed for all to connect to network)	1,000	$40.00	$40,000.00
2	SQL Server 2008	6	$3,000.00	$18,000.00
3	SAS	2	$50,000.00	$100,000.00
4				$0.00
			TOTAL V1	**$105,000.00**
			TOTAL V2	**$158,000.00**

MATERIALS - Software

Item	Description of Hardware	Qty	Unit Price	Total Price	Competitive /Sole Source (Note 3)	Vendor/Source (If known)	Basis of Estimate (Note 4)	Supporting documentation has been provided (Y/N) (Note 3 and 4)
Vendor1	Cloud Based							
1	Storage Space (1TB)	Start with 3, pay as you grow	$100/Unit/Year	$300.00		Verizon		
2	Firewall	1	$10,000.00	$10,000.00				
3	Wireless Network	1	$5,000.00	$5,000.00				
4								
Vendor2	Server Based							
1	Servers (16GB Ram, 1TB Storage)	12	$5,000.00	$60,000.00		Cisco	Dev, QA, Prod	Necessary for security and backup purposes
2	Networking Cables	20	$1,000.00	$20,000.00				
3	Personal Computers	8	$1,500.00	$12,000.00				
4	Routers	5	$1,200.00	$6,000.00				
			TOTAL V1	**$15,300.00**				
			TOTAL V2	**$98,000.00**				

Previous Contract Information

Previous Contract Information		Vendor1	Vendor2	
Previous Contract 1				
	Name	Government Solutions	US Department of Health	
	Address	Annapolis, Maryland	Washington DC	
	Contact Name	Jim Smith	Edna Willard	
	Contact Position	Director	Vice President IT	
	Contact Email	jims@govsol.com	willard@usdoh.gov	
	Contact Phone	410-555-4578	202-863-1345	
	Contract Length	12 Months	18 Months	
	Company Size	150	5000	
From Source:	Recommendation (1-10)	9	10	
	Would Work Again?	Yes	Yes	
	Overall Positive Feedback	Yes	Yes	

Previous Contract 2				
	Name	Northrop Grumman	Center for Disease Control	
	Address	Washington DC	Washington DC	
	Contact Name	Sally Vincent	Brian Jenkins	
	Contact Position	Project Manager	Director - Infectious Disease	
	Contact Email	Vincent.Sally@ng.com	jenkins@cdc.gov	
	Contact Phone	202-837-1234	202-786-3254	
	Contract Length	36 Months	6 Months	
	Company Size	10000K+	4500	
From Source:	Recommendation (1-10)	7	10	
	Would Work Again?	Pending Specialty	Yes	
	Overall Positive Feedback	Yes	Yes	
Previous Contract 3				
	Name	State of Delaware	Office of the Governor	
	Address	Wilmington, DE	Augusta, Maine	
	Contact Name	John Dexter	Christina Barlow	
	Contact Position	Assistant to the Governor	Chief of Staff - Governor	
	Contact Email	JD@delaware.gov	cbarlow@maine.gov	
	Contact Phone	304-212-1876	102-367-9354	
	Contract Length	28 Months	24 Months	
	Company Size	500	50	
From Source:	Recommendation (1-10)	4	3	
	Would Work Again?	Maybe	No	
	Overall Positive Feedback	No	No	

Appendix B: Criteria Used for Vendor Evaluation

The following criteria were used to evaluate the vendors. The total score in each section is multiplied by the section weight.

1- Very Dissatisfied, 2- Dissatisfied, 3-Satisfied, 4-Very Satisfied, 5-Excellent

Attribute	Criteria	Evaluation Points	Vendor 1	Vendor 2
Strategic and Corporate Fit	Vendor's vision, values, and mission	Vision statements, strategic goals, and objectives	4	3
	History	Years in business	3	4
	Organization structure and profile	Organization chart; management team	4	2
	Client profile	Key clients, segments, and industries	3	3
	Industry recognition	Industry awards	5	3
Weight 1	Legal	Pending legal disputes; legal dispute history	4	4
	Thought leadership	Examples of proactive solutions	5	4
	Focus on ethics	Enforcement of ethics in the organization	4	3
	Protecting clients' Intellectual Property	Processes in place to protect clients' Intellectual Property rights	4	2
	Growth strategy	Plans for future growth (market segments, services, etc.)	5	3
	Key services and differentiators	Unique features, products, or services	5	5
	Profitability and financial management	Viability of the business; auditor information	4	4
	Sources of revenue	Revenue by geographies, businesses units, products, and services	3	4
	Location	Locations of contact centers and ease of travel to sites	4	3
Engagement Governance Model	Governance model	Description of governance models used for similar engagements	5	4
	Benefits of the model	Derived benefits	4	2
Weight 1	Track record	Client case studies with emphasis on similar activities and geographies	5	3
	Relationship manager profile	Sample profiles of relationship managers for contact center activities	4	4
Cost Benefits	Pricing models	Experience with various pricing models—per agent hour, risk reward models, etc.	5	3
Weight 3	Ability to deliver cost benefits	Structural advantages that allow it to achieve lower costs	5	4
	Flexibility and scalability	Innovative pricing models	5	3
	Licensing Strategy	Flexibility and scalability of licensing options	5	4
Technology	Resource profile	Access to technology experts	4	4
Weight 4	Technology integration	Compatibility with existing systems and integration experience	5	4
	Technology road map	Approach toward institutionalizing new technologies	5	3
Data Analysis	Directory Services	Master Provider List, Patient Locator system	4	4

Weight 3	Data Repository	Provides consistent, reliable data repository	5	3
	Vocabulary Provision	Standardized vocabulary services for appropriate domain, LOINC, SNOMED, RXNORM	3	4
Data Integrity	Provide offsite data storage options, include cost breakdown as to amount of storage with cost and define any increasing capacity needs	Cost breakdown of data storage; including level of storage capacity and cost per unit. Data storage cost per unit shall not increase with the volume of data	5	4
Weight 4	Defined, periodic data backup	Data backup plan including test protocols to verify accuracy of backup. Plan for redundancy in the network	4	4
	Describe solutions and protocol for data retrieval	Data recovery disaster plan.	5	3
	Real-time data collection and transfer (provide speeds of transmission with guarantees)	Verification of transmission speeds of 768 Kbps; not less than 384 Kbps	4	4
Basic Services	Basic Web/Internet related services	Provision of high-speed Internet, E-mail and other web service solutions	3	4
	Remote access solutions	Provision of VPN and secured web portal	5	4
Weight 3	Provide and maintain network structure	Proposed network structure, routine maintenance & enhancement plans	4	4
	Provide support to all services including break-fix, maintenance and enhancements	Provide description of issue response time at various tiers, enhancement, maintenance & critical break-fix to maintain required 99.9% uptime	4	3
	Clinical messaging	Examples of clinical messaging systems	4	3
	Clinical alerts/notification	Examples of Clinical alert system for patients and providers	4	4
Privacy Requirements	Privacy and security policies HIPAA compliant, with current and future standards	Vendor and all business associates to comply with all State and Federal data protection laws and regulations, both current and future	4	4
	Breach notification	Vendor provides breach notification: define procedures for breach notification including timeframe for notification	5	3
Weight 4	User authentication and access management	Provide descriptions and policies for access management	5	4
	Security and Breach policies	Define security and breach procedures	5	3
	Patient consent policies	Provide policies and procedures utilized to validate patient identification and consent	4	4
Security	Data Encryption	Encryption of data moving along the exchange, and authentication of Users onto the exchange. Data encryption to meet current and future HIPAA guidelines for strictest state guidelines	4	4
Weight 4	Audits	Sample audit logs with triggers to alert abnormal trends	5	4
	Reliability	Protocols for testing security and reliability of the system	3	4
	Performance	Review of audit impacts to the system and plan for revision & updates	4	3
Technical	Architecture and performance measures	Data interoperability assurances	4	4

Weight 4	User portal	Patient portal to allow access to documents stated in the RFP. Online tutorial for patient training	3	4
	Existing data interfaces solutions	Maintain current interfaces including translation tables where appropriate	5	2
	Future data interface solutions	Have services available to assist with any future interface needs	5	4
	Core hardware performance	Maintenance, enhancement and support plan	4	4
	Core software performance	Maintenance, enhancement and support plan	5	3
Core Services	Provider Master List Directory	Example of Master List Directory	4	4
	Patient record locator system	Examples of 3 patient locator systems	4	2
Weight 3	Real-time Bi-directional Data Exchange	Verity accuracy and timeliness of data exchange as noted under transmission speeds	4	4
Value Added Services	Medication Reconciliation	Medication and allergy list development and action list for patients	5	4
	Allergy documentation	Accurate allergy document and consistency	5	4
Weight 3	Immunizations	CVX standards for immunization	4	3
	DX test reporting	SNOMED standards	3	1
	Lab results and normalization	LOINC standards	4	4
	Radiology criteria	Format American College of Radiology	5	4
	Standards	Labeling criteria, DICOM standards	5	5
	Electrocardiogram reports	Format, Written Report, EKG Tracings	3	4
	Patient Portal	Medication Management	4	3
	Rx Norm e prescribing	E-Prescribing interface	4	4
	Edit capabilities	Ease of edit process	4	3
	Log in Process, password retrieval	Log In Process, Password retrieval protocols	3	3
	Security measures	Detailed Security measures	4	4
	Interface with health insurance, Medicaid and Indian Health Services	Health insurance interface	4	4
	Integration with existing immunization registries	Immunization interface	5	4
Training	Super user training	Training program designed to train super users	5	4
	Classroom training	Classroom training for initial users	5	4
Weight 2	Web based computer training module with levels of proficiency	Developed online tutorial	3	3
	Online tutorial for patients	Developed online tutorial	5	4
	Self paced learning manuals for providers	Manuals	3	3
	Scenario based training	Manuals and on line	4	4
Infrastructure	Contact centers	Overview of centers (seating capacity, furnishings, amenities, etc.)	4	4

Weight 2	Communication infrastructure	Communication infrastructure details (Internet connections, firewalls, e-mail, video teleconferencing, telecommunications, etc.)	4	3
	Network infrastructure	Details including, network redundancy	4	4
	Security procedures	Security processes in place (physical security at contact center, card-based access, etc.)	4	4
	Business continuity plan	Business continuity and disaster recovery plan. Certified by a third-party auditor.	4	3
Process Maturity	Knowledge transition	Methodology for knowledge transfer, training, etc.	5	3
	Demonstrated benefits	Measured benefits of quality processes and customer benefits	4	4
Weight 2	Approach to metrics	Approach to metrics collection; monitoring and reporting mechanisms	5	4
	Escalation procedures	Escalation procedure definition	5	4
	Communication	List of communication mechanisms	5	4
People Development	Resource profile	Employee numbers across roles and designations	5	4
	Recruitment	Selection processes, background checks, and flexibility to work with clients	5	4
	People management	Appraisal system and rewards	5	3
Weight 1	Career development	Certification and career-path programs/options	5	3
	Attrition information	Attrition statistics for the past five years	4	3
	Employee satisfaction	Survey results and first-hand accounts	5	4
	Training	Technical and soft-skills training with focus on contact center activities	4	2
Culture	Change management	What is the approach toward change management?	5	5
Weight 2	Work culture	Description of the organization's work culture	5	4
	Cross cultural adaptability	How does the vendor impart cross-cultural adaptation?	5	4
Customer Satisfaction	Processes used	Steps enforced by the vendor to ensure customer satisfaction	4	4
	Third-party feedback/survey results	Analyze reports for the past several years	4	3
Weight 2	Repeat business	Repeat business as a percentage of annual revenues for past years	4	4
	Referrals	Current customers and recent customer departures	4	3
Phase 3	Quality Assurance	Reports available and under development for QA processes	4	4
	Bio-surveillance	Plan for collaboration with CDC for development	4	3
Weight 1	Medical device registry	Plan for collaboration with Medical device companies	5	3

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