

Staff Recommendations

A Citizen-Centric Health Information Exchange for Maryland

HIE Strategy

Health information technology can help improve health care quality, prevent medical errors, and reduce health care costs by providing essential information at the time and place of care delivery. There are two principle tasks required to achieve a more efficient and effective health care delivery system: assuring that the relevant clinical data (and decision support) are available at the time and place of care, and assuring that the information developed in the course of real-world treatment contributes to a provider's knowledge and shapes further practice.

Health information exchange (HIE) promises to transform the current health care system by ensuring that consumers have access to the highest quality, most efficient, and safest care by giving providers access to the right information at the right time. Building a successful HIE requires considerable planning in order to implement a business model that creates incentives for use, and recognizes the need for funding from those stakeholders that derive value and benefits for using technology to access and share electronic health information. A statewide HIE will create an interconnected, consumer-driven electronic health care system that enhances health care quality, safety, and effectiveness, and reduces health care costs.

The MHCC and the HSCRC implemented a two-phased approach to establishing a statewide HIE that consisted first of two different but parallel planning projects, followed by a single implementation project to build a statewide HIE. The purpose of the planning phase was to identify the best ideas submitted from the two multi-stakeholder groups working independently that could be merged into a single Request for Application (RFA) to build a statewide HIE that securely exchanges patient information across multiple provider settings. The nine month planning phase concluded in February 2009 and MHCC issued the RFA to build a statewide HIE in April.

The RFA Review Process

The MHCC and HSCRC convened a responder conference at the end of April to address specific vendor questions pertaining to the RFA. In June, staff received responses to the implementation RFA from CRISP (Chesapeake Regional Health Information System for our Patients), Deloitte, The Free State Joint Venture, and MEDNET. An evaluation committee consisting of representatives from the MHCC, HSCRC, and Health Care Information Consultants, LLC was convened to evaluate the responses to the RFA. The RFA contained the evaluation criteria along with the guidance for each section in developing an acceptable response. The evaluation committee concluded that CRISP and Deloitte were the only responders that met the requirements specified in the RFA. The review panel considered the submissions from the remaining two responders as insufficient and disqualified their proposals.

Key Assessment Categories

Organizational Infrastructure. CRISP plans to establish a Board of Advisors with broad responsibility for ensuring that the interests and perspectives of all stakeholders are included in the exchange, and plans to incorporate two representatives from the legislature to their governance. Deloitte proposes to include 17 stakeholders to create a diverse representation in the governing body and assign each to one of three standing committees: clinical advisory, consumer advisory, and project management. CRISP included support letters from 24 stakeholder groups, while Deloitte included 3 in their response. CRISP proposes to outsource many of the organizational functions until the volume of work and revenue supports hiring staff. Deloitte plans to recruit for eight positions to support the infrastructure of the organization. *The evaluation committee gave preference to the organizational infrastructure design of the CRISP proposal.*

Privacy and Security. CRISP and Deloitte indicated a commitment to work with the MHCC Policy Board to develop specific policies related to privacy and security.¹ CRISP plans to use the policy identified during the HIE planning phase as a framework for developing more robust policies. Deloitte plans to use HIPAA, the Maryland Confidentiality of Medical Records Act, and the Medicare Electronic Prescribing Rule as basic policies for the HIE. CRISP and Deloitte cited similar auditing functions for the HIE, where centralized auditing is a key feature. Provider access to the exchange is role-based in both designs. CRISP plans to authenticate users through a username and strong password that meets the requirements of the National Institute of Standards and Technology for authentication. Deloitte plans to implement a username and password for entry to the exchange and was not specific in their password design. CRISP proposes to use government issued identification at the point of care for authenticating consumers. Deloitte plans to implement identity proofing through an external identity provider, custom web-based application, or a web portal. *The evaluation committee gave preference to the privacy and security approach in the CRISP proposal.*

Fundamental Design and Technical Architecture. CRISP and Deloitte proposed a decentralized hybrid infrastructure with a record locator service and master patient index. CRISP plans to identify technology partners through a competitive process where the Commissions would have veto authority over the selection. Deloitte identified *Medicity* as the technology partner in their response and plans to use a service-oriented architecture and incrementally deploy design features of the exchange. CRISP proposes to use the Healthcare Information Technology Standards Panel's *Continuity of Care Document C32*, which contains about 17 identifiable modules for storing patient specific information. The technology partner chosen by Deloitte complies with all *Integrating the Healthcare Enterprise* technical framework standards, and Deloitte plans to identify the use of appropriate profiles with the governing body. CRISP proposes to give consumers access to their health information through health record banks. Deloitte proposes to support third party personal health record applications. *The evaluation committee gave preference to the fundamental design and technical architecture of the CRISP proposal.*

Exchange Functionality. CRISP proposed specific Use Cases grouped into categories based upon clinical value, the ease of implementation, and financial sustainability. Deloitte plans to base the Use Case selection on stakeholder value, technical challenge, implementation timeframe, and ROI, and would involve stakeholders in the selection process. CRISP proposes a staggered implementation of the Use Cases based on the sustainability of the HIE. Initially, CRISP plans to implement medication, labs, and

¹ MHCC plans to identify members of the Policy Board in August.

discharge summaries. CRISP proposes to select additional Use Cases to pursue, with the guidance of the exchange Board of Advisors and the Policy Board. Deloitte proposes to develop a detailed Use Case implementation strategy upon receipt of the award. *The evaluation committee gave preference to the exchange functionality of the CRISP proposal.*

Response Comparison Table

A Consumer-Centric Health Information Exchange for Maryland		
Leading Attributes		
Categories	CRISP	Deloitte
Financial Model and Sustainability		
Revenue Sources	\$10 million state funds, participating provider subscription fees, with potential to secure additional investments	\$10M state funds, provider and payer transaction, subscription, or membership fees, Medicaid participation
Budget	Year: 1. (\$4.8M); 2. (\$3.6M); 3. (\$1.8M); 4. (\$343K); 5. \$730K	Year: 1. (\$3.8M); 2. (\$3.4M); 3. \$11.6M; 4. \$27.9M; 5. \$49.3M
Organization Infrastructure		
Ownership Model	Non-stock corporation, 9 Board of Directors, will seek 501(c)(3)	Will seek not-for-profit 501(c)(3)
Policy Board	Yes - convened by MHCC	Yes - convened by MHCC
Governance Composition	21 from RFA, suggest including 1 House and 1 Senate. Board of Advisors that will organize into 3 Committees: 1) Exchange Technology; 2) Clinical/Use Cases; and 3) Finance/Community	Board of Directors with Chair and 17 members, 3 Committees: 1) Clinical Advisory Committee; 2) Consumer Advisory Committee; and 3) Project Management Committee
Operational Structure	President, Clinical Assessment, Program Management Office, Provider/Patient Outreach Coordinator, Technical Operations, and Support Functions	Executive Director, Finance Manager, Technical Project Manager, Education and Outreach Manager, POC, Data Analyst, Administrative Assistant
Privacy and Security		
Access	Provider: Role-based access; Consumer: HRBs and PHRs	Provider: Access Control List; Consumer: PHRs (gateway)
Audit	Provider: Centralized auditing; Consumer: none	Provider: Centralized auditing; Consumer: none
Authentication	Provider: Username and strong password; Consumer: ID	Provider: username and password; Consumer: none
Authorization	Provider: Role; Consumer: controls flow of information	Provider: Role-based access; Consumer: MPI
Outreach and Education		
Consumers	Consumer groups; materials in various languages/educational levels; define message; tailor message; engage providers; media	Grassroots - provider to patient, Community Advisory Committee
Providers	Medical trading area study (MTA), Provider Outreach Coordinators (POC), deploy physician feedback mechanism	POC solicit agreements from providers, provide training, follow-up, and monitoring of HIE use.
Fundamental Design		
Data	Master Patient Index (MPI), edge servers	MPI. SOA, edge servers, data pointers
Request for Data	No info on opt-outs	No info on opt-outs
Exchange of Data	CCD C32: meds, allergies, PMH, labs, and D/C & clinical summaries	Real-time HL7 for clinical data
Publishing Data	Results delivery	Web-based and direct TCP/IP, results delivered to "inbox"
Technical Architecture		
Infrastructure	Decentralized hybrid infrastructure, MPI, and data registry	Decentralized hybrid, RLS, edge server.
SOA	Yes	Yes
Interstate HIE	Focus on statewide HIE and then national connections	NHIN standards for inter-HIE exchange of data
Underserved	Many advocacy groups engaged	Not defined
Interoperability	HITSP endorsed IHE standards for interoperability	Platform routes results into EMR, integrates order entry
PHR	PHR vendor interface	PHR vendor interface
EHR	Provider portal solution to access information	Web portal
Exchange Functionality		
Use Cases	Grouped (Chronological - A, B, C)	RFA Criteria for Use Case Selection, no defined plan
HIE Services	In chronological order - Group A: 1. Med Hx -> ED, 2. Lab Results; Group B: 1. Hospital Discharge Summaries (HDS) to ED, 2. HDS to Physicians/Clinics; Group C: 1. Chart Summary (CS) to ED, 2. CS to Physicians/Clinics, 3. Radiology Reports Delivery.	Utilize RFA Criteria and Standard Project Management Institute basics to determine Use Cases
Initial Use Cases	Final Use Case of Group A will be operational in late 2010	Outlined RFA Use Cases and timeline
Analytics/Reporting		
Analytics/Reports	Public Health, Care Management, Quality Improvement	Chronic Care, Utilization/Costs, Public Health

Staff Recommendations

CRISP proposes a technical approach for a statewide HIE that is flexible and includes policy that is protective yet not prohibitively restrictive, along with a financial approach that is sustainable. The statewide HIE will be a valuable resource to improve quality, increase safety, and ultimately decrease the cost of health care in Maryland. ***Staff proposes the Commission recommend to the HSCRC that it fund CRISP for developing a statewide HIE through an adjustment of up to \$10 million through the hospital all-payer rate setting system.***

CRISP Proposed Implementation Plan

Statewide Health Information Exchange Timeline																														
Task/Milestone	10/1/2009	1/1/2010	4/1/2010	7/1/2010	10/2/2011	1/1/2011	4/1/2011	7/1/2011	10/2/2011	1/1/2012	4/1/2012	7/1/2012	10/2/2012	1/1/2013	4/1/2013	7/1/2013	10/2/2013	1/1/2014	4/1/2014	7/1/2014	10/2/2014	1/1/2015	4/1/2015	7/1/2015	10/2/2015	1/1/2016	4/1/2016	7/1/2016	10/2/2016	
Core Team Selection	█																													
Technology RFP		█																												
Technology Award(s)		█																												
Develop Technology Project Plan			█																											
Master Data Use Agreement Development			█																											
Codify Initial Policies and Guidelines			█																											
Communication and Outreach Plan			█																											
Core Infrastructure Config and Roll-Out				█																										
Medication History Service				█																										
National Lab Results Availability																														
Hospital Lab Results Availability																														
Regional Lab Results Availability																														
Discharge Summary Availability																														
Clinical Summary Availability																														
National Radiology Report Availability																														
Hospital Radiology Report Availability																														
Local Radiology Report Availability																														
Key	█ Develop/Implementation of Task												█ Task Operational																	