District of Columbia
Health Information Exchange
Strategic Road Map

A PATHWAY FOR THE FUTURE OF THE DC HEALTH INFORMATION EXCHANGE

Department of Health Care Finance

Introduction

The District of Columbia Health Information Exchange (HIE) Policy Board is a twenty-one (21) member volunteer Advisory Board appointed by the Mayor of the District of Columbia. The Board includes members who represent hospitals, clinicians, payors, consumers and District of Columbia government agencies.

The Department of Health Care Finance (DHCF) is an agency of the District of Columbia Government that is responsible for administering the Medicaid program and for implementing provisions of the Health Information Technology for Economic and Clinical Health (HITECH) Act.

The HIE Policy Board was originally convened to, among other things, advise the Department of Health Care Finance (DHCF) regarding a grant from the U.S. Department of Health and Human Services (HHS), Office of the National Coordinator for Health Information Technology (ONC) under the State Health Information Exchange Cooperative Agreement (State HIE) Program to plan and implement statewide Health Information Exchange (HIE). The District used cooperative agreement funds to support hospitals in enrolling with the Chesapeake Regional Information System for our Patients (CRISP) and to expand connectivity of District public health systems.

In 2014, after the funding from the HITECH Act had expired, DHCF and the HIE Policy Board initiated a process for creating a set of policy recommendations to govern the continued operation, maintenance and sustainability of HIE in the District. The process included:

- one-on-one interviews during the summer of 2014 with a range of HIE stakeholders;
- a DC HIE Summit in September, 2014; and
- a series of meetings of the HIE Policy Board in late 2014 and early 2015.

The HIE Policy Board convened three subcommittees, each covering a topic significant to the future development of the HIE: governance, technology and finance. Each subcommittee was chaired by an individual from the Policy Board. This document reflects the recommendations that grew out of the subcommittee and full HIE Policy Board discussions and represents a starting point for continued conversation on how to develop, operate and sustain HIE in the District.

Guiding Principles

A set of guiding principles was put forth by the governance subcommittee and adopted by the Board in order to provide a foundation for its future direction.

Governance of HIE in the District must be inclusive of multiple stakeholders. HIE touches and affects many individuals and organizations within the District. They must have input on development of the HIE policy moving forward.

Goals for HIE should be aligned with District goals for the health of patients. The advantages to a functional and sustainable health information exchange are significant for patients. At the same time, HIE is most effective when it is aligned with other strategies such as payment policy and public health investment. Aligning HIE functionality with payment incentive for providers will produce the most widespread HIE adoption.

Operations of HIE in the District must be flexible to both address and adapt to changes in the marketplace. The state of technology is constantly changing and improving, and the HIE operations must be able to respond to advances in technology, changes in health policy (such as reporting on national quality programs), changes in legal issues (such as those regarding privacy and security of personal health information) and potential new mandates regarding issues such as care coordination or disease surveillance.

Any efforts to expand HIE must coordinate with existing HIE programs within the District. There are a number of HIEs (with various functionality and funding sources) currently operating within the District, each with its own network of patients, providers and stakeholders. (See the Appendix for a table a few selected HIE in the District.) It is important that the efforts to expand HIE build on this work and be coordinated in order to avoid redundancy.

Innovation must be accelerated. Any governance approach to HIE should serve as catalyst for innovations in the way information is exchanged, collected and used.

The privacy and security of personal health information must be preserved. The exchange of personal health data is significant and the appropriate protections, both from a legal and technical standpoint, must be implemented.

In order to operationalize these principles, the DC HIE Policy Board makes the following recommendations:

Recommendations

The recommendations below were adopted by the DC HIE Policy Board.

Governance

Considerations of the Governance Committee

The Governance Committee considered what would be the most appropriate governance model to best serve the DC HIE and its various stakeholders. At the outset of their work, the governance committee drafted a set of guiding principles and also outlined the activities for which the governance entity should be responsible.

In developing their recommendations, the committee examined the pros and cons of the current governance model of HIE activities, the governance models of existing HIE initiatives in the region, and best practices from around the country.

Recommendations in the Area of Governance

The District needs a local coordinating entity to support the development and pursuit of the District's HIE goals. This coordinating entity should adequately represent public and private stakeholders. Private stakeholders should include the right payers, providers and consumers, with consideration given to inclusion of those who would be contributing data and financial support of HIE in the District.

The HIE Policy Board wishes to pursue a governance model that takes a public utility approach. The Board recognizes that both the public and private sectors have strengths needed to promote HIE in the District and the governance model should leverage both. While the Board considered the virtues of creating a new public-private entity, they ultimately took the view that a public-private approach to governance, procurement, and staffing could be pursued through a combination of a DC-based advisory board and partnerships with existing private entities, such as CRISP, Capitol Partners in Care, and others. Because this point generated considerable discussion on the Board, majority and minority views are attached to the Road Map to further explain the thinking behind each perspective.

The governance structure that evolves must ***take on the role of organizing and providing direction to all HIE activities*** in the District. The local coordinating entity should provide input and coordinate efforts across all health and human services cluster agencies.

The governance structure should participate in the following functions for HIE:

1. Develop policies that guide technical activities and how technology is used
2. Provide the guidance for stakeholder compliance with privacy laws (state, federal levels, etc.) and to promote security, access, and use (include patients and policy makers)
3. Convene stakeholders to coordinate HIE activity, address their concerns, and develop a plan for sustainability
4. Identify trusted sources for standards
5. Conduct information dissemination (including reporting and accountability to the public)
6. Act as a liaison with regional and national partners (other state HIEs)
7. Negotiate parameters of interconnectivity between state and other HIE partners
8. Monitor and evaluate performance and outcomes of HIE

Technology

Considerations of the Technology Committee

The Technology Committee considered their charge of making recommendations for a common technology strategy that begins to bridge the existing HIE organizations that already exist within the District. The Technology Committee identified five key HIE partners to include in the coordination of HIE efforts in DC: Capital Partners in Care, the Children's IQ Network, CRISP, Department of Health and iCAMS (see the Appendix for more detail)**.** The technology committee agreed that there are more HIE initiatives and organizations to include in the future, but that these five should be the focus of initial efforts. The committee reviewed the current technologies and services performed by these health information organizations in order to better understand the direction needed to develop a common technology strategy to facilitate the exchange of data among existing entities.

The Technology Committee also sketched out the current data flows among these organizations. Some of the key issues that they raised included the need to understand use cases to drive decisions about technology needs and decisions, the need for care management in ambulatory settings, and whether there is a need for a core infrastructure versus multiple individual interfaces.

The committee also considered some of gaps in the current data structure and flow. Some of the gaps that were identified by the Technology Committee included:

- Some current interfaces are one-way, meaning that data goes in but providers and organizations then cannot access data.
- CRISP data is not widely integrated into existing hospital and clinical EHR systems.
- Exchange capabilities do not provide access to ambulatory and visit history information for Medicaid patients.
- There is not a mechanism for patient matching or a provider directory.

The technology committee concluded that all recommendations must have the goal of making HIE easier, cheaper and more accurate for users and to provide care management, reporting and analytics capabilities.

Recommendations in the Area of Technology

The technology approach must build on existing HIE efforts in the District. The DC HIE Policy Board recognizes the important work being done by multiple stakeholder groups to promote the exchange of health information; any additional efforts should build on and further connect existing HIE approaches.

While continued work to prioritize use cases and populations to be served needs additional attention, the general approach should:

- ***Prioritize serving Medicaid beneficiaries.***
- ***Develop and prioritize use cases critical for the improvement of population health and the management of special populations.***
- ***Promote the sharing and use of patient histories in support of patient safety.*** One of the most promising advantages for HIEs is improved patient safety. Up to 18% of the patient safety errors generally and as many as 70% of adverse drug events could be eliminated if the right information about the right patient were available at the right time.
- ***Continue encounter notification services -*** The District should continue its partnership with CRISP, which provides an encounter notifications service (ENS) and access to a query portal.[1]
- ***Care provider report information -*** The District should promote the ability of providers to share structured reports on patient care management to promote coordinated care, quality improvement programs, performance reporting, and public health initiatives, among other items.
- ***Radiology/special imaging information –*** Significant savings and reduced risk to patients can be achieved through sharing of radiology and imaging information.
- ***Closed loop referrals for transitions of care*** – There should be improved ways to offer referral summaries and follow up visit status reports for individual patients.

[1] Taken from http://www.crisp.org on December 9, 2014.

- ***HIE to support medication management –*** There should be improved access to information on the prescription drugs patients are using to improve patient care and prevent adverse drug interactions.
- ***Increased access to Medicaid claims data*** – Claims data can provide valuable information about patient treatment history that may not be available elsewhere. DHCF should work to make this data available to providers in a private and secure manor.

National data standards should be promulgated to promote interoperability within the District.

Policies and technical safeguards should be developed to protect personal health information.

Finance

Considerations of the Finance Committee

The Finance Committee met to consider recommendations for high level principles on financing options for both the development of, but more importantly, the long term sustainability of an HIE program in DC. The subcommittee examined various financing models that are used for HIE programs, as well as those that are being leveraged within the District to create recommendations for financing. The committee considered information on transaction fees, subscription fees, legislation for local appropriated funds, and Medicaid 90/10 funds.

In developing their recommendations, the committee also considered what the short-term, intermediate and long-term needs would be and how different sources could be leveraged in defining a pathway for sustainability. The committee also identified potential value drivers for HIE participation for some stakeholders, such as reducing readmissions for hospitals or care management and care coordination for payors. The committee considered questions of whether users should pay for services they might utilize or whether all participants should make contributions to support all services. The committee also briefly considered whether legislation or an opt-out strategy should be considered.

Recommendations in the Area of Finance

While start-up resources may be necessary, ***any HIE approach should have a plan for achieving long-term financial sustainability.*** The District should pursue federal 90/10 match for the development of HIE strategies that could serve the Medicaid population.

The Policy Board should ***determine what the value drivers*** are to encourage HIE participation from private stakeholders.

The Policy Board should being ***to lay out options for subscription and transaction fees*** as a source of financing consistent with best practices from other HIEs.

Use Cases

At several points – both before and during the process for developing this Road Map – DHCF HIE program staff have queried various audiences about what types of HIE use cases they would find most valuable. This question was posed in a survey presented to DC health professionals (doctors, nurses and pharmacists) in February 2013 with about 1,000 responses, a series of semi-structured discussions with approximately twenty key stakeholders in July and August of 2014, and a poll conducted of the audience of approximately 150 at the HIE Community Summit in September, 2014.

The results of the most preferred services are summarized in the table below. Across the three surveys, both hospitals discharge summaries and medication history appear in the top three results in in all three surveys suggesting that they may be the best candidate use cases to consider developing for HIE users in DC. Additionally, use cases such as disease management, lab and pathology results and continuity of care documents appeared multiple times in the top five results.

	DC Health Professionals HIE Survey	One-on-one Stakeholder Interviews	HIE Summit
1	Hospital discharge summaries	Medication history	Hospital Discharge Summaries
2	Medication History	Lab and pathology results	Continuity of Care Documents
3	Disease management	Hospital discharge summaries	Medication History
4	Hospital admission, discharge and transfer notifications	Continuity of care documents	Disease Management
5	Lab and pathology results	Referral information	Patient Portal
6	Radiology reports and images	Public health reporting	Public Health Information and Reporting
7	Patient demographic	Hospital admission, discharge and transfer notifications	Lab and Pathology Orders and/or Results
8	e-prescribing link	Disease Management	Patient Demographic Information /Insurance Coverage
9	Continuity of care documents	Radiology images and reports	EHR Lite
10	Referral reports		Hospital Admission, Discharge, and/or Transfer Notifications

Conclusion

Continued development of HIE functionality has the potential to fundamentally transform how health care delivery is practiced within the District. Exponential advances in computing power; the rise of independent HIEs throughout the District; and the integration of public and population health into the HIE have the potential to put significant and needed information in hands of providers, payors and consumers in order to improve health outcomes. It is essential to harness the power of this technology to help create a more modern and advanced health care system within the District – one that is efficient, effective and focused on improving the delivery of health care services to its citizens.

Appendix A: Existing HIE Landscape in DC

	iCAMS	DC DOH	CRISP	Capitol Partners in Care	Children's IQ Network
Data	Behavioral health data only	Immunizations/Vaccines ELR (reportable) Syndromic Surviellence Cancer Reporting Communicable Reportable Disease Clinical Information (hypertention related)	Admissions, Discharge and Transfer (ADT) feeds Labs Ordered Radiology reports D/C summary ENS	Clinical Encounter data (Progress Note, Diagnoses, Medications, Allergies, Immunizations, Labs, DI, etc.) Care Plans generated by CHWs	Pediatric only
Participants	All Mental Health Rehab Services providers (34), 26,000 covered lives	All hospitals participating Ambulatory Care providers (Unity, DCPCA, etc.)	GWU, Howard, Washington Hospital center, Georgetown university Hosptial, providence Hiosopital	Providence Hospital Health Services, Community Health Centers (FQHCs and others), other ambulatory care providers	CNMC, partipcating NOVA clinics.

	iCAMS	DC DOH	CRISP	Capitol Partners in Care	Children's IQ Network
Financing	Funded through federal and local government resources	Funded through federal and local government resources.	Hospitals charged based on intricate formula (inputs: bed size, patient population, and annual revenue). Ambulatory providers receive services for free.	Currently funded through CCIN grant and future funding will come from CMS Innovation grant won by GWU. Participants have agreed to pay to sustain the network following the end of the grants, though currently exploring mechanisms to leverage Medicaid funds	Run and financed by CNMC.

	iCAMS	DC DOH	CRISP	Capitol Partners in Care	Children's IQ Network
Technology Infrastrucutre	Combined web-based EMR, claims/billing, practice management system, business intelligence, CCD	Health Clinical Portals, Clinical Data Repository, Health Business Intelligence, CCD, Case Management, EMPI, , transmission of public health data, and population health surveillance ; clinical data	Query portal, Prescription Drug Monitoring Program (PDMP, currently Maryland only), Encounter Notification Service, Family Reunification portal access (currently DC only)	Longitudinal record for patients built on the eHX server and allows for exchange of anything in a CCD (demographics, procedures, meds, etc.). Allows for integration with CCIN's Case Management system. Integrated with eCW EHR at facilities; ability to access record through eHX portal (for hospitalists, referring providers)	Longitudinal record for patients built on the eHX server and allows for exchange of anything in a CCD (demographics, procedures, meds, etc.). Also allows for Single Sign On to eHX and interoperability with EPIC and Cerner. Connection to DC Immunization Registry

	iCAMS	DC DOH	CRISP	Capitol Partners in Care	Children's IQ Network
Governance	DBH is a cabinet level Agency within the District of Columbia Government	DC DOH	Governed by a board of directors, though most work is conducted by staff. A standard participation agreement based on the DURSA (developed by Security and Privacy Officer and Legal Counsel) is used for working with hospitals, providers, and HIEs. State involvement is provided by participation on Board.	Currently governed by CCIN board (sole funder at this point in time); a Capital Partners in Care governance committee is in the process of developing a governance structure for the HIE to include participation from all stakeholders.	Run and financed by Children's National Health System

Appendix B: Majority Viewpoint on HIE Governance

Summary:

On Wednesday, April 8, 2015, the DC Health Information Exchange Policy Board met in open session to consider and vote on the proposed HIE Road Map. During the consideration of this document, the Board could not come to consensus on a recommendation for DC HIE governance structure that the HIE Policy Board would put forth in the "Road Map." The majority of those board members present and voting supported the continuation of the DC HIE advisory board governance structure that is currently housed within an existing governmental agency to serve as the District's HIE coordinating entity going forward. A minority of board members argued in favor of establishing a new entity along the lines of a public benefit corporation.

Describe how the coordinating approach would work.

In recognition of the existing independent HIEs currently or imminently functioning in the District, the majority determined that the critical need is for an advisory board structure to guide the implementation of HIE services in the District . The advisory board should work to coordinate how and what information is exchanged in the District with the goal of improving health outcomes. Existing HIEs would maintain their own governance and purchasing roles and the mission of the Advisory Board would be to grow connectivity between existing entities and to guide HIE policy so that there is coherent approach to data exchange across the District.

Why is that approach preferable?

The majority felt that an advisory board structure was the most efficient, effective and economical way to oversee the coordination of HIE activities in the District. The majority concluded that an independent quasi-governmental entity would not provide sufficient benefits to justify the expense and resource allocation needed to establish the entity and in the end would not be a sustainable model. The majority believed that there was little desire or ability in the provider community to support an additional subscription fee to pay for the operations of a quasi-governmental board. Instead, the majority felt that leveraging existing governmental resources to support an advisory HIE Policy Board would provide the most sustainable and efficient way to guide the delivery of HIE services in the District with limited overhead. The majority made it clear that role of the board should be one that facilitates the sharing of information and connecting of HIE services in the District. The majority believed that the advisory board would provide the best avenue to ensure the necessary stakeholders and consumers would be part of the dialogue in shaping the uses and connections of HIEs in the District.

How can risks/challenges with this approach be overcome?

One of the challenges experienced with the current HIE Policy Board is some decline in participation over the three years of the Board's activity and particularly lack of credible consumer input. With terms of some current Board members expiring, this will present an opportunity to improve consumer representation and to find replacements for some Board members who have not continued participation due to changes in employment or other priorities. One important way to maintain strong participation on the Advisory Board is to ensure the Board is consistently consulted and deferred to in the development of HIE policy. DHCF and District leadership should commit to a model of serious and sustained consultation with the HIE Policy Board. Another challenge presented by the Advisory Board model is how to achieve Road Map goals of procurement strategies that 1) can move at the speed of technology and 2) reinforce existing resources and assets in the District. Thus, the HIE Policy Board has instructed DHCF to research ways to establish formal and legal partnerships with existing HIE entities in order to facilitate ongoing investment in these resources.

Appendix C: Minority Viewpoint on HIE Governance

Based on the DC "HIE Summit" Governance Committee recommendation, the "DC Community Vision for HIE" proposed a "public benefit corporation" (PBC), called the "Care Management Optimization Trust (CMOT)". The CMOT would serve as an HIE governing structure to create a public-private partnership, where DC agencies and community stakeholder representatives would serve as co-equals and enjoy a shared sense of ownership for improving DC health outcomes, while decreasing inappropriate Medicaid patient care utilization and costs.

The primary goal of using a PBC structure for the CMOT is to establish a governing structure that would be directly accountable TO the DC government, but NOT encumbered BY the internal government regulations regarding procurement, hiring and rulemaking--- that have plagued the current HIE Board. A PBC provides community-wide accountability and enable recruiting and providing a private sector-level salary to an HIE Chief Executive--- who has the health IT system architecture expertise that is essential to ensure ongoing interoperability of DC's current HIEs, while advancing a vision for expanded HIE services. A PBC is also crucial for seeking private grants.

The clearest benefit of using a PBC model is that it engages governing board members with a sense of shared ownership--- in a way that simply giving input via an advisory board cannot achieve. The CMOT Governing Board was proposed to include senior level agency leaders, with C-suite level community stakeholder leaders, to promote direct leadership communication as well as broad community buy-in. The major CMOT committees would have managers from those groups, who would bring expertise to promote coordination in how the District's HIE-supported care management activities will be conducted.

Accountability to DC Government would be achieved as follows:
1) CMOT will be chartered into DC law by DC Council / DC Mayor, like the DC Youth & Investment Trust Corp.;
2) CMOT will make Annual Performance Reports to the DC City Council/Mayor for Public Accountability;
3) CMOT will be funded as DC Budget Line item (i.e. as a "Public Good") w/ Annual budget process review;
4) CMOT Board Chair will be the DHCF Director - To ensure that the CMOT supports the DHCF Mission;
5) CMOT Vice-Chair, Secretary & Treasurer are appointed by the Mayor, with limited, renewable terms;
6) DC Depts. of Health, of Health Care Finance and of Human Services will be seated on CMOT Board;
7) DC Depts. of Health, of Health Care Finance and of Human Services will serve on CMOT Sub-Committees;
8) The DC Vision raised the issue of having the DC Atty. General's Privacy Officer on CMOT board/committee;
9) The DC Vision raised the issue of having a rep from the Office of the CFO on the CMOT finance committee;

10) CMOT will have Spending/Contracting Financial Limits to ensure DC government fiscal oversight.

Costs to Set Up and Operate:
Consultation with HIE experts indicates the CMOT will need an operating budget of about $2 million per year, including special support to ensure ongoing stability of DC's FQHC HIE infrastructure. Because connecting DC's current HIEs would be the initial CMOT activity, the CMOT could be "phased in" over the next year. The initial governance for ensuring current DC HIE interoperability could start with just four appointed CMOT officers, an HIE Chief Executive and minimal staff for the first 3-6 months. Initial HIE connectivity, to include the Medicaid MCOs, community providers, DBH, DOH and DHCF could be potentially supported by federal and/or private funding.

The DC Medicaid MCOs would be expected to pay connection fees for access to the CMOT's comprehensive patient clinical record--- to enable more coordinated and effective care management activities (as is standard across the country). A full Return-on-Investment (ROI) would be achieved after just a 5% (135) reduction in readmissions.* Providers would NOT be charged for HIE participation, but would be able to subscribe for special services…

There is a clear ongoing role for a DHCF Advisory Committee. Consistent with DHCF's State Innovation Model grant, the DHCF could research the "best practices" in care management strategies and also the alignment of financial incentives to promote active DC care provider participation in the CMOT. **However, the role of overseeing "HIE services to support enhanced care management" is bigger than any one DC agency--- and needs to reside in a PBC, where the full community is engaged, with a sense of shared ownership & accountability…**

** A 5% reduction = 135 out of 2878 "potentially preventable re-admissions" – based on $15,000 per Readmission - As reported in the June 30, 2013 DHCF Readmission Report.*