Opportunities for Facilitating Electronic Health Information Exchange in Publicly Funded Programs:
Findings from Key Informant Interviews with Public Health Agency Leadership and Staff

Prepared by:
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Introduction

Health information technologies (HIT) and electronic health information exchange (eHIE) have been identified as essential tools needed to improve health care quality, effectiveness, and value. To facilitate the policy development processes for States to support these health care tools, the State Alliance for e-Health has charged the Health Information Communication and Data Exchange (HICDE) Taskforce to:

“Support the State Alliance on issues regarding the appropriate roles for publicly funded health programs in interoperable eHIE. Develop and advance actionable policy statements, resolutions, and recommendations for referral to the State Alliance to inform their decision-making process in addressing ways in which states can enhance Medicaid, employee health benefits, and public health through cooperative eHIE activities with the private sector.”

To support the HICDE Taskforce in its charge, the University of Massachusetts Medical School Center for Health Policy and Research, in collaboration with the NGA Center for Best Practices, is conducting a qualitative analysis of the opportunities and challenges for publicly funded healthcare programs to participate in and facilitate the use of HIT and eHIE.

This report, the second of three, presents an overview of the findings and recommendations from key informant interviews conducted with State and Local Public Health Agency leadership and staff members. This report is meant to assist the HICDE Taskforce in developing actionable recommendations for facilitating eHIE in public health agencies.

Methods

The HICDE Taskforce, during its deliberations in May of 2007, agreed that the eHIE and HIT challenges and opportunities for Medicaid/SCHIP, public health, and state employee health plans would be assessed using the following key principles:

- Leadership
- Interoperability
- Consumer Involvement and Information Sharing
- Financial and Contributory Responsibility
- Structure of the HIT/HIE Initiative (including alignment with other publicly funded programs)

To support this assessment, a semi-structured interview protocol was developed that incorporated these five principles and feedback from the HICDE Taskforce. Eleven state and local public health agencies that had implemented or had begun the implementation of eHIE and HIT related projects were identified. The agencies chosen represent states of varying size, demographic characteristics, and unique strategies in supporting HIT initiatives, including selected public health agencies exchanging data in an eHIE identified by the Association of State and Territorial Health Officers (ASTHO), selected Robert Wood Johnson Foundation (RWJF) Common Ground grantees, Health Information Management Systems Society (HIMSS) Davies Awardees, as well as initiatives funded by the Centers for Disease Control (CDC). These agencies were interviewed in September and October of 2007 (see Appendix 1 for a complete list of states and staff interviewed). Emergent themes from interview responses were then grouped into three categories: key success factors, key challenges, and recommendations at the state and federal level.
HIT and eHIE Success Factors Identified by Public Health Agencies

“If you want to travel fast, walk alone. If you want to travel far, travel together.” (African Proverb)

Public health agencies interviewed expressed the interest and desire to be full participants in eHIE efforts. Public health interviewees, like the Medicaid agency interviewees, understood that the goals and functions of health information exchange are broader than any single organizational entity and therefore require collaboration at many levels. Accordingly, the success factors, challenges, and recommendations presented here represent the perspectives of the public health officials interviewed on how to achieve successful local, regional, state-wide, and national electronic health information exchange.

Public health interviewees presented many areas of success regarding their current HIT and eHIE related projects. Success factors identified by the public health agencies interviewed were similar to those identified by Medicaid interviewees and point to the need for integrated strategies to support the successful involvement of all publicly funded health care programs in eHIE / HIT initiatives. The cross-cutting success factors are presented below:

- **Vision and leadership from the Executive-level are vital to state eHIE efforts.** Governors, Mayors (in the case of local public health departments), and Health Commissioners who champion HIT and eHIE at the state level were viewed as crucial to the success of eHIE programs. Supporting roles include the mobilization of funds, fostering collaboration, and developing a broader vision for health care transformation across state agencies and other stakeholder groups. Specific products of executive leadership involvement included executive orders, roadmaps, and legislative and other committees.

- **A collaborative ehealth governing body is essential for convening and coordinating state-level eHIE.** Public health interviewees consistently emphasized the role of an ehealth leadership/governing body that is able to engage stakeholders (e.g., Medicaid, state public health, local public health, providers, payers, and consumers) to collaborate on a unified vision for eHIE. An ehealth governing body may:
  - Serve as a conduit for communicating and developing consensus on the need for and roles of public health involvement in eHIE efforts
  - Facilitate community-wide involvement, including rural and underserved areas
  - Facilitate collaborations among program, planning, IT, and project management staff from each stakeholder group
  - Empower non-governmental participants to have a controlling stake and role in the eHIE initiative to build trust between often competing health care entities

- **State Legislatures are active and supportive in updating antiquated laws and regulations.** Legislative support and recognition that appropriate eHIE is for the “common good” has helped to address the legal issues related to data sharing.

- **Funding from multiple sources facilitates Public Health participation in eHIE efforts.** The funding mechanisms for HIT/eHIE made available by the CDC (NEDSS, PHIN and others), RWJF, and other organizations have been necessary to facilitate public health HIT/eHIE project development. Yet difficulty was expressed that the program and time limitations of these mechanisms promote siloed rather than collaborative projects.
Challenges Encountered by Public Health Agencies

Each state and local public health agency interviewed presented challenges and obstacles related to their respective HIT/eHIE initiatives. Despite the number of challenges, there was consensus on the positive impact of their state’s involvement with eHIE. All the interviewees recognized that health information exchange, in the broadest sense, is an essential function of public health. Interviewees expressed many market based issues that pose indirect challenges to their involvement in eHIE, in addition to the direct public health challenges. These distinct groupings are presented here separately.

**Market Based Challenges**

- **Limited provider adoption of HIT.** Most providers in the U.S. have limited IT infrastructure. Interviewees expressed the need for both federal and state action to support provider adoption.

- **Lack of a common eHIE architecture/framework.** Many interviewees indicated a lack of needed specificity in eHIE architecture planning at both the state and federal levels. More than one interviewee expressed concern that the current American Health Information Community (AHIC) use cases are academic and do not provide the specific information necessary to design an appropriate IT architecture.

- **Lack of common definitions and standards.** Common language definitions (e.g., what is the difference between an electronic health record, an electronic medical record, and a personal health record; what exactly does the term ‘eHIE’ encompass; does ‘eHIE’ also include the sending of faxes; what is public health informatics?) were frequently cited as lacking. Because most people are not closely involved with the technical aspects of HIT/eHIE, they often do not precisely comprehend the meaning of many HIT/eHIE related terms, which can lead to communication difficulties.

- **Lack of common standards for data creation and exchange.** Limited national standards for specific clinical data and data exchange were also said to be a significant challenge. Interviewees expressed concern that state and local efforts, by necessity, needed to move forward and develop data and exchange standards that have not already been addressed at the federal level. In these circumstances agencies have attempted to anticipate federal action, but the uncertainty was viewed as a barrier to moving forward.

- **Sustainability models are not available and cost “savings” may cut revenue for some stakeholders.** Except for a sustainable telehealth network described in one state, sustainability issues ranked as a primary concern for interviewees. ROI studies are needed, as the available studies conducted to date lack specificity. Multiple interviewees also expressed concern over the fact that some stakeholder revenue streams will be negatively affected by cost savings from eHIE. For example, if the numbers of hospital laboratory tests are reduced by 10-20% due to fewer duplicate tests being ordered as a result of a hospital’s participation in an eHIE project, then that hospital will face a reduction in revenues. The anticipation of reduced revenues may impede some hospitals and other stakeholders from participating in eHIE efforts.

- **Security and privacy risks.** Common issues expressed include: Who shoulders the cost and risks? Technology cannot manage opt-out very well across state lines or even outside of local communities. Consent authorization is a big challenge - what happens when one state has opt-in and another opt-out? How to manage the sharing of “high-risk” population data (mental health, HIV, etc.) if each state has different regulations.
The difficulty in educating consumers and getting them to participate as stakeholders. Educating, convening, and promoting consumer involvement in eHIE and HIT initiatives was a common challenge cited.

**Public Health Specific Challenges**

- Public health agencies face great challenges regarding staffing issues. Public health agencies (local and state) expressed the concern that these technologies require new informatics skills and education for both leadership and front-line staff. The current workforce is already strained. The average age of the public health workforce is increasing and many experienced employees are nearing retirement. States are limited in their ability to hire experienced staff as they cannot offer competitive compensation. In addition, some state regulations impede the hiring of public health staff for federally funded projects.
  - The science of public health informatics, the systematic integration of core functions of public health with information technology, is poorly understood by most public health agency staff and leadership.
- Public health disaster systems are not integrated into the daily workflow of most employees. To successfully use integrated IT platforms in the event of a disaster, staff need to be competent in the use of these response systems. The best way to achieve this is by integrating the use of these systems into the daily workflow of staff.
- Public health agencies face internal operational issues with respect to HIT/eHIE initiatives. Public health agency business processes will change due to eHIE. Interviewees cited a lack of internal resources for strategic planning and policy related to eHIE. In addition, in regard to implementation, difficulties with project management and the RFP process were often cited.
- There is no consensus on what types of public health data are appropriate for eHIE. Interviewees expressed varied challenges in regard to appropriate data sharing. There was no consensus on how specific clinical and population health data should be used by public health agencies, and there were multiple requests for the creation of a “practical minimum data set for public health”. Specific data sharing challenges for public health included:
  - Receiving pharmacy, mental health, and high risk population data
  - Secondary uses of clinical data from EMR/EHRs
  - Competitive stakeholders' access to data (both at the individual and population level)
  - Interstate data sharing
  - The potential for siloed data because of different personal health records distributed by vendors, hospitals, and other stakeholders
  - Difficulties in sharing data with federal agencies (HRSA, AHRQ, CMS, VA, DoD)
- Narrowly focused and/or one-time federal funding grants do not promote integrated systems development across the core functions of public health. Public health agencies have multiple core functions (surveillance and response, health monitoring, population based clinical care, health communications and education etc.) and multiple legacy IT support systems (one state reported 156 separate public health IT systems). Grants such as those distributed by CDC and other federal agencies are too specific and do not
allow time or flexibility for designing systems across multiple public health programs or multiple state agencies, let alone state-wide eHIE initiatives.

- **Inconsistent use and promotion of eHIE standards by Federal Agencies.** Public health agencies expressed concern that federal agencies were not being consistent or appropriately prescriptive in promoting data and data exchange standards. An example given was related to the CDC Public Health Information Network (PHIN), where inconsistent communications led to the adoption of now obsolete HL7 standards by some states. Concern was also raised over how ICD-10 coding might affect existing eHIE systems.

- **EHRs, as currently being implemented at most provider sites, do not include public health functionality.** EMR and EHR software systems need to incorporate public health data needs in order to achieve improved population health. This includes defining required standard data elements, registry functions, automated clinical quality measurement for priority health issues, decision support tools and reminders at the point of care, patient self-management tools, and linkages to public health information systems (immunization registry, school health, disease surveillance, Medicaid medication history).
  
  - Interviewees expressed the need to educate providers on the value of sending and receiving public health data electronically to improve their patients' health. As one interviewee reported, the financial value of providers reporting public health data electronically is low right now compared to current costs of reporting.

- **State and local public health agencies do not collaborate enough with one another.** Interviewees expressed the need for improved and/or more frequent collaborations between state and local public health departments in order to leverage shared resources and effectively address the broad scope of public health functions across state(s).

- **There is a lack of standardized applications and reporting standards for vital statistics and reportable diseases.** Interviewees cited the lack of a standard application and reporting requirements from the National Center for Health Statistics for tracking vital statistics such as births and deaths as a challenge to integrated public health eHIE. In addition, many interviewees cited the lack of common disease reporting requirements and standards in states as a barrier to intra-state and inter-state eHIE.

**Recommendations from Interviewees for the Health Information Communication and Data Exchange (HICDE) Taskforce**

*“Don’t let perfection get in the way of the possible.”*

The public health agencies interviewed were given the opportunity to make specific recommendations to the HICDE Taskforce on the state and federal levels to address the challenges cited above and promote eHIE in public health programs. The recommendations below represent a summary of the responses we received.

**State Level Recommendations**

- **Executive leadership at the state, city, and local level should prioritize and champion the use of HIT and eHIE to improve population health.** With many of the functions of public health occurring at the city and local level, public health leaders have to promote collaborations among all governmental public health agencies and help them to prioritize the use of HIT/eHIE.
• **Executive leadership should support multi-year cross-agency funding models for public health informatics and other HIT/eHIE projects.**

• **Governors should support the creation of a collaborative ehealth governing body to convene, facilitate, and direct state-wide eHIE efforts that include public health.**

• **Executive leadership and state ehealth governing bodies should ensure that all eHIE and HIT projects appropriately integrate public health.**
  
  o For the population to fully benefit from eHIE, all eHIE projects need to incorporate public health disease, vital statistics, population monitoring, biosurveillance and quality reporting data requirements and standards into the charter and/or regulations for existing and future infrastructure developments
  
  o Jurisdictional issues between local, city, and state public health departments have to be addressed to assure that data collection and reporting is integrated rather than siloed.

• **Executive leadership should make eHIE and HIT a priority across all levers of purchasing power for states, not just Medicaid.** Public health officials suggested that states use all the levers of purchasing power to support eHIE including Medicaid, public health (surveillance and response, health status and disease monitoring, population based clinical care, and health communications and education), employee benefits, schools, and correctional systems to promote HIT adoption and eHIE participation.
  
  o Improve bargaining/regulatory power with vendors and influence the inclusion of needed data within software packages (e.g. public health reporting functionalities, vital statistics, quality reporting in an EHR)
  
  o Support and fund integrated informatics training, project management, policy development, and project maintenance across state agencies
  
  o Use language that gives payment preference to providers who have EMR/EHR and connect to eHIE
  
  o Mandate state and local public health collaboration at multiple levels
  
  o Remove barriers for interstate data exchange

• **State public health agencies should work with Medicaid and the legislature to remove legal barriers and challenges around “high risk” population data sharing.** Each state has differing laws and regulations around sharing data for high risk populations. States and the federal government need to work together to assure that the proper protections are given to sensitive data while allowing persons with a high level of health care needs to benefit from full participation in eHIE.

• **State public health agencies need to develop return on investment studies that demonstrate the value and sustainability of eHIE for state legislatures.** Improve the transparency on the reasons for HIT/eHIE (i.e. it is about improving value (health outcomes/$ spent) and decreasing the rising health care cost trend).

• **State public health agencies need to support and initiate leadership and staff training both within their agencies and across other state agencies on the roles and responsibilities related to public health informatics.**
  
  o Developing a business case
  
  o Project management and planning
  
  o Project monitoring
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- State public health agencies should ensure that new IT systems are integrated with the daily workflow of staff to bolster staff competency in times of need. A specific example mentioned the need for integrating disaster response systems into daily routines so that in times of need, staff are competent to operate such systems.

Federal Level Recommendations

- The Department of Health and Human Services (DHHS) should support broad, flexible funding models that allow for integrated IT systems development. Flexible funding models that are not time or program limited are consistently cited by interviewees as being necessary for building a successful eHIE that will improve individual and population health outcomes. Funding aimed at a single system or program does not promote interoperability or sustainability. Other federal funding priorities identified by interviewees included:
  - Supporting public health informatics workforce development
  - Conducting rigorous ROI studies that demonstrate eHIE sustainability across the core functions of public health
  - Supporting the adoption of basic IT infrastructure, including connectivity, for hospitals and other providers
  - Using innovative funding mechanisms to support provider adoption of HIT

- DHHS should be more prescriptive on eHIE/HIT public health standards development. Many interviewees identified the need for specific federal guidelines to set the stage for a “practical minimum data set for public health”. In addition there was consensus on the need for federal support for specific:
  - Uniform national laboratory public health reporting standards (public health reporting standards for 50+ states inhibit interoperability)
  - Uniform vital health statistic reporting systems and data sets across all states and territories
  - Uniform disease reporting standards across all states and territories
  - Consensus on disease classification terminology (e.g. ICD-9 or ICD-10)
  - Development of public health data sets for inclusion in eHIE beyond the reportable diseases (e.g. negative laboratory results, prevalence rates, antibiotic rates etc.) that assist in broader public health monitoring and surveillance

- DHHS, ONC, and other federal agencies should provide guidance to states on privacy standards beyond HIPAA that involve sharing data on “high risk” populations and from the evolving field of genomics.

- DHHS through its certification bodies should promote eHIE between providers and public health departments. It was recommended that DHHS and CDC use the certification process and their respective policy leverage to require both reportable and non-reportable clinical data useful to public health agencies be collected by and standardized within certified EHR and related tools. In addition, it was recommended that population level reporting from public health agencies also be programmed into certified EHR and related tools. By doing so, certified EHRs would allow bilateral seamless health communications between public health and clinicians.
### Appendix 1: Public Health Interviews

Public health programs from nine states and two cities were selected for interviews:

- The HICDE Taskforce specifically requested that Los Angeles and New York City public health departments be interviewed.

#### States Interviewed

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<tr>
<th>State/City</th>
<th>Interview Date</th>
<th>Participants</th>
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| Indiana          | September 21, 2007 | • Roland Gamache, Director, Indiana State Health Data Center  
|                  |                | • Joe Hunt, Assistant Commissioner, Information Services and Policy Commission, Indiana State Department of Health |
| Los Angeles      | October 10, 2007 | • Jim Green, Chief Information Officer, Los Angeles County Department of Public Health |
| Louisiana        | September 21, 2007 | • Christina Streb, HIT Strategist, Executive Office, Louisiana Department of Health and Hospitals  
|                  |                | • Anita Milling, Supervisor, Project Management Office, Louisiana Department of Health and Hospitals  
|                  |                | • Mike Schmidt, PHIN Project Manager, Louisiana Department of Health and Hospitals  
|                  |                | • Edward Driesse, Chief Information Officer, Louisiana Department of Health and Hospitals |
| Minnesota        | September 7, 2007 | • Martin LaVenture, Director, Center for Health Informatics, Division of Health Policy, Minnesota Department of Health  
|                  |                | • Bill Brand, Deputy Director, Center for Health Informatics, Division of Health Policy, Minnesota Department of Health |
| Nebraska         | September 25, 2007 | • Joann Schaefer, Chief Medical Officer for Nebraska & Director, Division of Public Health, Nebraska Department of Health & Human Services  
|                  |                | • David Lawton, Public Health Assurance, Nebraska Department of Health and Human Services  
|                  |                | • Dennis Berens, Director, Office of Rural Health, Nebraska Department of Health and Human Services  
<p>|                  |                | • Jackie Miller, Deputy Director, Health Services, Nebraska Department of Health and Human Services |
| New York City    | October 2, 2007  | • Farzad Mostashari, Assistant Commissioner and Chair Primary Care Information Project, New York City Department of Health and Mental Hygiene, Division of Health Care Access and Improvement, New York |</p>
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<tr>
<th>State</th>
<th>Date</th>
<th>Participants</th>
</tr>
</thead>
</table>
| New York   | November 7, 2007 | • Lori M. Evans, Deputy Commissioner, Office of Health Information Technology Transformation, New York State Department of Health  
• Ivan J. Gotham, Director, Bureau of Healthcom Network Systems Management, New York State Department of Health  
• James Figge, Medical Director, Office of Medicaid Management, New York State Department of Health |
| Oklahoma   | November 7, 2007 | • Kelly Baker, Director, Center for Health Statistics, Oklahoma Department of Health  
• Mike Ewald, Director, Record Evaluation & Support, Community Health Services, Oklahoma Department of Health  
• Robn Mitchell Green, HIPAA Privacy Officer, Oklahoma Department of Health  
• Keith Lindsey, HIT Software Development, Oklahoma Department of Health |
| Rhode Island | September 5, 2007 | • David Gifford, Director, Rhode Island Department of Health  
• Amy Zimmerman, Chief of Rhode Island Health Information Exchange project  
• Stephanie Kissam, Director’s Office, Rhode Island Department of Health |
| Tennessee  | October 31, 2007 | • Susan R. Cooper, Commissioner, Tennessee Department Of Health  
• Antoine Agassi, Director and Chairman of the State’s eHealth Advisory Council  
• Mike Newman, Director, Office of Information Technology, Tennessee Department Of Health |
| Utah       | September 10, 2007 | • Barry Nangle, Director, Center for Health Data, Utah Department of Health  
• Wu Xu, Director, Office of Public Health Informatics, Utah Department of Health |
Appendix 2: Public Health Interview Protocol

General:

1. Introduction of the team and purpose of the interview: To make actionable recommendations to Governors for the facilitation of health IT (HIT) and electronic health information exchange (HIE) use and adoption in state Public Health Departments.

2. What is your position and role in the Department of Public Health?

3. Can you describe the organizational and reporting structure of the Health and Human Services agencies in your state?


5. Can you describe the HIT or electronic HIE efforts being planned or currently underway in the Department of Public Health? Please describe the goals of the project(s) (quality, cost, program improvement etc.) and expected outcomes.

6. Where are you in the implementation process? (Planning, Design & Development, Implementation, Fully Implemented)

Targeted Queries for Structure, Governance, Consumer Roles, Fiduciary Responsibility, and Interoperability:

1. Can you describe how your Department of Public Health became involved in this HIT/HIE initiative?

2. How is your project initially being funded? Are you taking advantage of federal funding in this project? State appropriation?

3. Have you conducted a needs assessment / return on investment (ROI) study? If so, please explain the methodology. (Are results available to be shared?)

4. In your opinion should the Department of Public Health be fiscally responsible for supporting HIE/HIT adoption at provider sites? How does this project(s) address provider HIT adoption challenges?


6. Who are the key stakeholders involved in the initiative? How are you building trust among the parties?

7. How have you incorporated stakeholder feedback in the planning and implementation phases?
8. Who are your consumers and how are they involved in the project? Are you pursuing targeted efforts to reach diverse populations including the uninsured? Is consumer education and outreach part of the project? If so, how is this being accomplished?

9. What is the governance model of the initiative?
   a. Transformational (i.e., traditional governance structures are being realigned significantly so as to bring about a new system that has the potential to greatly improve processes and outcomes through new structures, procedures, technologies)?
   b. Collaborative (i.e., governance is distributed equally among all stakeholders)?
   c. Coordinated (i.e., where one primary stakeholder has governing responsibility)?

10. Is the Department of Public Health leading the initiative?

11. How is the Governor / Governor’s office involved?

12. How does this HIE/HIT project relate to your current data systems?


14. What HIE technical standards are in use? Are there additional standards planned for the future? Are you involved with PHIN, Bio-sense, or other national initiatives?

15. What is the governance structure of the electronic HIE if you are participating in one? How is your organization represented?

16. How is your project addressing access control, audit protocols, and appropriate use of data?

17. Are there risk management strategies included in your project? Please describe.

18. Have you built in an evaluation plan? How are you measuring results?

19. What kind of sustainability plan do you have in place for this initiative? Financial? Programmatic (if a pilot project: future rollout)? Growth / Maturity? Maintenance of relationships and trust?

20. What are your plans for future HIT / HIE initiatives?

21. What are the primary challenges and barriers that you have encountered during the project to date? Cultural? Training/Workforce? Technological? Process or project management? Engagement with vendors? Engagement with Providers? Others?

Recommendations

1. What changes in Federal policies would be useful to support HIT / HIE in your Public Health Department?
2. What changes in State Public Health policies would be useful to support HIT / HIE in your Public Health Department?

3. What recommendations would you make to Governors to provide greater support and assistance for HIT / HIE initiatives in Public Health?

4. What other needs have you identified regarding HIE / HIT in Public Health that would require action?

5. What recommendations would you make to Governors to provide greater support and assistance for HIT / HIE initiatives in the Medicaid / SCHIP programs?

6. What other needs have you identified regarding HIE / HIT in Medicaid and SCHIP that would require action?
For more information, please contact:
Shaun Alfreds at (207) 228-8306

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