Massachusetts HIE/HIT Advisory Committee

Network Users Roundtable Discussion

January 19, 2012
Massachusetts statewide HIE program focuses on infrastructure and adoption

Massachusetts Technology Collaborative
HIT Council
Massachusetts eHealth Institute
HIE/HIT Advisory Committee
Secretary of Health and Human Services
MassHealth (Medicaid)

SDE
Regional Extension Center
ONC Cooperative Agreement
ONC Challenge Grants

HIT/HIE Adoption
HIE Infrastructure

CMS SMHP/MMIS
Multi-Stakeholder Governance Model

Chair: Secretary Judy Ann Bigby, MD

Co-Chairs:
- John Halamka
- Manu Tandon

Facilitator:
- Micky Tripathi

Business Analyst:
- Mark Belanger

HIT Council

HIE-HIT Advisory Committee

Co-Chairs:
- John Halamka
- Manu Tandon

Facilitator:
- Micky Tripathi

Business Analyst:
- Mark Belanger

Legal & Policy Workgroup
Co-Chairs:
- Wendy Mariner
- Gillian Haney
Facilitator:
- Ray Campbell
Business Analyst:
- Christina Moran

Technology & implementation Workgroup
Co-Chairs:
- John Halamka
- Manu Tandon
Facilitator:
- David Delano

Finance & sustainability Workgroup
Co-Chairs:
- Andrei Soran
- Steve Fox
Facilitator:
- Micky Tripathi

Consumer and public engagement workgroup
Co-Chairs:
- Jessica Costantino
- Kathleen Donaher
Facilitator:
- Christina Moran

Provider engagement & adoption workgroup
Co-Chairs:
- Michael Lee, MD
- Dirk Stanley, MD
Facilitator:
- Mark Belanger
Aligning Resources for Statewide HIE Services

MA Chapter 305 $11.9M

- Matching funds for ONC HIE programs
- Matching funds for CMS FFP

ONC Cooperative Agreement $12.6M

- PIN priorities and user adoption

ONC Challenge Grants $3.4M

- Leverage programs as relevant for adoption and infrastructure

CMS SMHP/MMIS $17.1M (Phase 1)

- SMHP/MMIS funds can be used only for infrastructure

Private funds ~ $472K annual (O&M)

Adoption program for Statewide HIE Services

Infrastructure program for Statewide HIE Services
The Massachusetts Statewide Health Information Exchange (Illustrative)
Eventually expect to transition to heterogeneous model with multiple, varied HISPs and decentralized shared services

Illustrative example
Phasing defines Roadmap for Statewide HIE Program

**Phase 1**

<table>
<thead>
<tr>
<th><strong>Information Highway</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Create infrastructure to enable secure transmission (&quot;directed exchange&quot;) of clinical information</td>
</tr>
<tr>
<td>• Will support exchange among clinicians, public health, and stand-alone registries</td>
</tr>
<tr>
<td>• Focus on breadth over depth</td>
</tr>
</tbody>
</table>

**Phase 2**

<table>
<thead>
<tr>
<th><strong>Analytics and Population Health</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Create infrastructure to facilitate data aggregation/analysis</td>
</tr>
<tr>
<td>• Will support Medicaid CDR and quality measure infrastructure</td>
</tr>
<tr>
<td>• Will support vocabulary translation services (lab, RX)</td>
</tr>
</tbody>
</table>

**Phase 3**

<table>
<thead>
<tr>
<th><strong>Search and Retrieve</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Create infrastructure for cross-institutional queries for and retrieval of patient records</td>
</tr>
</tbody>
</table>

---

*Increasing cost and complexity*
# Statewide HIE Services Overview

## Network functions

### Send/receive:
- Referral/Consult
- Admission notification
- Post-encounter summary
- Discharge Summary/Instructions
- Lab Order/Results
- Death Notification
- Uniform Transfer Form
- Public health (SS, Imm., ELR)
- Provider address search

## Network participants

### Hospitals (inc. labs and imaging)

### PCP or Specialist

### Health plans

### Long-term care facilities

### Other care setting

### Patients*

### Quality Reporting Service *

### Public health*

## Additional network functions

### Send/receive:
- Public Health Alerts
- Quality Measure Reports
- Patient-matching service
- Vocabulary normalization service

## Additional network participants

### More providers and payers and quality reporting services

### Commercial diagnostic facilities
- Imaging centers
- Labs

## Additional network functions

### Search and retrieve:
- Patient record
- Patient consent/authorization

---

*single-direction exchange
Leveraging existing and new MassHealth infrastructure

HIE Users (Medicaid and non-Medicaid)

EHR (Direct enabled)
- XDR or SMTP
- Labs (HL7)
- Clinical documents (CDA)

EHR (not Direct enabled)
- Web portal
- Labs (HL7)
- Clinical documents (CDA)

No interoperable EHR
- Web portal
- Clinical documents

Architecture and usage patterns identical for all users

~80K users already using Virtual Gateway

Virtual Gateway
- Other Existing Enterprise Shared Services
- AIMS* (Access and Identity Management)
- Clinical Gateway* (HL7 Interfaces)
- PKI** (Public Key Infrastructure)
- Provider Directory**

Security and Provider Directory services leveraged for Statewide HISP

Security and Provider Directory services leveraged for Statewide HISP

Provider Online Service Center
- Claims Engine

MMIS
- MMIS Base Application

MMIS Shared Service
- Virtual Gateway

AIMS (Access and Identity Management)
- Other Existing Enterprise Shared Services

AIMS (Access and Identity Management)
- Clinical Gateway (HL7 Interfaces)

PKI (Public Key Infrastructure)
- Other Existing Enterprise Shared Services

Syndromic Surveillance
- CBHI (Children’s Behavioral Health Initiative)
- Immunization
- Electronic Laboratory Reports

Medicaid & Public Health Applications

Direct Gateway**
- Statewide HISP

EHR (Direct enabled)
- EHR (Direct enabled)
- XDR or SMTP
- Labs (HL7)
- Clinical documents (CDA)

EHR (not Direct enabled)
- EHR (not Direct enabled)
- Web portal
- Labs (HL7)
- Clinical documents (CDA)

No interoperable EHR
- No interoperable EHR
- Web portal
- Clinical documents
ACA driven MA IT Initiatives

ACA heavily promotes the use of information technology as a differentiator to achieve quality improvements and cost containment in the healthcare system.

In Massachusetts three major ACA driven IT related initiatives are being executed in parallel.

- Statewide Health Information Exchange (HIT) phased in from 2012-2015
- ACA compliant Health Insurance Exchange (HIX) by 2014
- Integrated Eligibility System (IES) at EOHHS by 2015
Summary of Features

- **HIX** • is about getting residents access to healthcare
- **IES** • is about getting residents access to comprehensive health and human services with effective data sharing amongst programs
- **HIT** • is about giving residents, care providers, and public agencies timely access to consented information needed to enhance quality and contain costs in the healthcare system.

While each has its own mission, the three initiatives provide considerable cross leverage opportunities.

- Maximizing FFP, each project enhances coordination with federal agencies.
- They all leverage the Virtual Gateway providing a common face for these services.
- Built in cohesion, the incremental cost for each project is lower.
- They provide an opportunity to coordinate "transition of care" with "transition of coverage".
- Ability to share consented data across entities allows for coordinated care and an effective programmatic case management.
- A linked provider directory and patient record locator services allows for effective handoff between clinical and administrative exchanges.

Jointly they take us on a journey from episodic care to coordinated care to patient directed care. We're moving from fee for service to bundled payments/capitation. Our IT systems are evolving from segmented to integrated to community based.
Complement infrastructure with a multi-pronged Last Mile Adoption Program

**ONC Cooperative Agreement (last-mile services)**

- Managed procurement of interfaces
  - Hospital/ambulatory EHR vendor
  - LTC/BH/other vendors
- Grants/technical assistance to under-resourced providers
  - Small practices
  - LTC/BH/CAH
- Web portal recruitment and training
  - Small practices
  - LTC/BH/other

**CMS SMHP/MMIS (infrastructure)**

Synergies with MeHI REC

Statewide outreach, recruitment, and training

Managed procurements, grants, and PM/technical support
## Timeline

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Completion date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submit IAPD and SMHP to CMS</td>
<td>Complete</td>
</tr>
<tr>
<td>Submit draft SOP to ONC</td>
<td>Complete</td>
</tr>
<tr>
<td>EHR/HIE Vendor Roundtable</td>
<td>Dec 16, 2011</td>
</tr>
<tr>
<td>Network Users Roundtable</td>
<td>Early Jan 2012</td>
</tr>
<tr>
<td>CMS approval of APD-U/SMHP (all signs indicate)</td>
<td>By end-Jan, 2012</td>
</tr>
<tr>
<td>ONC approval of SOP and SOP budget (expected)</td>
<td>By early Feb 2012</td>
</tr>
<tr>
<td>RFR for Phase 1 services released to Infrastructure Vendors</td>
<td>Week of Feb 6, 2012</td>
</tr>
<tr>
<td>Infrastructure Vendor selected</td>
<td>Mar 30, 2012</td>
</tr>
<tr>
<td>Infrastructure Vendor under contract</td>
<td>Apr 26, 2012</td>
</tr>
<tr>
<td>Go-live for phase 1 “Information Highway” (Direct Gateway)</td>
<td>Oct 15, 2012</td>
</tr>
<tr>
<td>Go-live for Last Mile program</td>
<td>Oct 15, 2012</td>
</tr>
<tr>
<td>Go-live for Impact program</td>
<td>Oct 15, 2012</td>
</tr>
<tr>
<td>Go-live for phase 1 Public Health Gateway (CBHI, SS)</td>
<td>Dec 14, 2012</td>
</tr>
</tbody>
</table>
Vendor Roundtable Review

• **EHR vendor roundtable held on December 16, 2011 at MMS**
  – Over 20 vendors participated in 4-hour session
  – Mix of ambulatory, hospital, and HIE vendors

• **Goal was to understand vendors current and near-future interoperability capabilities and get feedback on MA approach**

• **Findings**
  – There is wide variation in vendor interoperability capabilities
  – Few if any vendors have production Direct-enabled systems in place today
  – There are no standardized approaches to integration with centralized provider directories or PKI infrastructure
  – All of the vendors supported a centrally coordinated approach to interface development and deployment
Q and A

• What do you think of the overall approach?
  – Service offerings
  – Infrastructure phasing and priorities
  – Last Mile Adoption Program

• Will this meet some of your expected interoperability needs? How can it be modified to better meet your needs?

• What do you think are the key success factors for the statewide HIE service? What do you think are the key failure factors?

• What are your biggest concerns with the statewide HIE approach?
Thank you!
Appendix
Vendor Questions

1. What native capability exists in your EHR (or HIE) application suite that enables it to connect via the internet to an external system?

2. Does this native capability come with “out of box” connectivity employing any of the following HIE standards:
   - Direct
   - IHE Standards as documented in the NwHIN Exchange Implementation Guide
   - IHE Standards implemented differently than the NwHIN Exchange Implementation Guide
   - CAQH Implementation Guides

3. Specifically with regard to Direct:
   - Can you send and receive clinical content within the EHR using SMTP/SMIME?
   - Can you send and receive clinical content within the EHR using XDR?
   - Can you send and receive clinical content within the EHR using some other standard or approach?
Vendor Questions (continued)

4. What configuration activities are required in order to establish connectivity to a single node (point to point)?
   – What configuration activities are required in order to establish connectivity to an exchange gateway and/or hub router?

5. How does your connectivity capability handle the following:
   – Certificate installation
   – Certificate maintenance- renewal, revocation, etc.
   – Certificate distribution and receipt
   – To what degree are any of the above automated?

6. Do your connectivity capabilities have the ability to engage in federated logging and auditing of exchange activity?

7. If standards-based connectivity doesn't exist in your product, is it part of your near-term development plan?
8. How do you manage client/individual authentication in your system?

9. How do you orchestrate the process of message receipt at the system level and subsequent routing of messages to the individually targeted addressee?

10. Do you natively offer internal message routing integrated with configurable payload workflow in your product? If not, do you offer integrated payload workflow using a third party vendor?

11. Do you have specific capabilities incorporated into your product to support HIE integration; in particular participating in a "network of networks"?
   
a. If you have multiple instances of your software implemented independently at various customer sites within Massachusetts, can/will you provide a single integration node (or gateway) through which multiple customers can connect to the statewide HIE?