# Work Session Overview

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<th>Work Session</th>
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| **May 8**    | 1) Obtain agreement on approach, schedule, and work group membership  
2) Obtain agreement on scope  
3) Review potential use case options and discuss how they align with and support one another  
4) Organize use cases into primary and supporting  
5) Decide upon specific use case on which to focus (including supporting)  
**Homework:** Ask group members to consider workflow and identify barriers for next meeting | 1) Document use cases and develop general use case outlines (schematics to support descriptions)  
2) Prepare deck outlining the above information  
3) Document open questions and issues |
| **May 15**   | 1) Review draft workflow for agreed-upon use case  
2) Review open questions and issues  
**Homework:** Ask group members to think about how policies could work within individual organizations | 1) Develop detailed workflow for specific use case |
| **June 12**  | 1) Review workflow in the context of developing policies | 1) Incorporate findings from Policy workgroup: these should have decisions that influence workflow at this point |
Agenda: Friday, May 8th

• Meeting Objectives
• Background
• Workgroup Structure, Process and Membership
• Potential Use Cases
• Conceptual Use Case Organization
• Workflow Considerations and Schematics
• Conceptual Architecture
• Homework
• Next Steps
Meeting Objectives

• Understand the background of the work that has been done to date
• Frame the context of this initiative in terms of the benefits, Stimulus Package (ARRA) and other considerations
• Discuss use cases that have been proposed
• Reach agreement on organizing the use cases into primary and supporting roles
• Consider workflow implications
• Discuss prioritization of use cases to pursue
• Provide framework for contributing thoughts on workflow implications for each primary use case
• Identify homework / action items to prepare for next meeting
The Eastern Massachusetts Healthcare Initiative
Working Together to Improve Performance of the Region’s Health Care System

• Launched in 2006 by a committed group of hospital, health plan and university leaders to explore the possibility of working together to improve the performance of the region’s health care system

– Hospitals and Medical Groups
  • Atrius Health
    – Harvard Vanguard Medical Associates
  • Beth Israel Deaconess Medical Center
  • Children’s Hospital Boston
  • Dana-Farber Cancer Institute
  • Lahey Clinic
  • Massachusetts Eye and Ear Infirmary
  • Partners HealthCare System, Inc.,
    – Brigham and Women’s Hospital
    – Massachusetts General Hospital
    – Partners Community Healthcare, Inc. (PCHI)
  • Tufts Medical Center
  • Winchester Hospital

– Health Plans
  • Blue Cross Blue Shield of Massachusetts
  • Harvard Pilgrim Health Care
  • Neighborhood Health Plan
  • Tufts Health Plan

– Universities
  • Brandeis University
    – Heller School for Social Policy and Management
  • Harvard University
    – Department of Economics
    – Division of Health Policy and Research
    – Harvard Interfaculty Program for Health Systems Improvement
    – Harvard Medical School
    – Harvard School of Public Health
  • Tufts University
    – Tufts University School of Medicine
Outcomes of the Planning Effort

• Consensus that the two initiatives originally identified by EMHI are worthwhile and do-able, but one is more attractive
  – Improving provider handoffs / CCD-based clinical summaries has near-universal appeal
  – Handling medication information / e-prescribing generates less enthusiasm for a community solution
• Agreement on leveraging the NEHEN / MA-SHARE architecture and learning
• Cost estimates have been developed for incremental investment
• Federal stimulus funds may both significantly defray costs and justify spending

Recent Developments

• Enactment of the stimulus package on February 17 as the American Recovery and Reinvestment Act (ARRA)
  – $30B+ for health information technology
  – Incentives to individual provider organizations payable through CMS
  – Specific direction on health information exchange (HIE) with funding expected shortly
• Merger of NEHEN and MA-SHARE targeted for June 1
  – Recognized as among the leading organizations for interoperability in the nation
  – Better positioned as a merged organization for state and federal HIE funding
  – All EMHI participants already participate in NEHEN – should simplify contracting and funding arrangements
Achieving State-wide IT Interoperability

National Stimulus Package:
$30B in HIT funding

State Task Forces:
$35M for state-wide HIE

Regional Initiatives:
EMHI, NEHEN, MA-SHARE

Business Drivers:
Quality Reporting, Continuity of Care, Coordination of Care

State-wide HIE
As envisioned by state, Federal Stimulus and regional initiatives
Integrated Timeline

Implementing clinical information exchange needs to address organizations at various stages of implementation. Clients will range from those at very early stages of implementation planning to select organizations with pilot studies in place.

May 09
MA-SHARE / NEHEN merger

Dec 09

EMHI Leadership Team is comprised primarily of the EMHI IT Advisory Committee, with ad hoc EMHI Planning Committee members as needed.
Workflow and Use Case Workgroup* Process

Clinical and Operations Staff from all EMHI Member Orgs

Institutional SMEs

Review & ID Issues

EMHI Workflow & UC Workgroup

Review and Revise

Resolve Issues

Draft Workflows for Five Use Cases

Prepare Workflow Documents

Consolidate and Clarify issues

Finalize & Publish Workflow Impact Assessment

Use MA-SHARE Push Pilot processes as basis

* Workflow & Use Case Workgroup
Workflow and Use Case Workgroup List of Current Members

- Gerald Greeley, Chief Information Officer, Winchester Hospital
- John Halamka, Chief Information Officer, Beth Israel Deaconess Medical Center
- Marvin Harper, Chief Medical Information Officer, Children’s Hospital
- Joseph Imbimbo, Vice President of Technology, Tufts Health Plan
- Michael Lee, Medical Director of Clinical Informatics, Atrius Health
- Larry Markson, Beth Israel Deaconess Medical Center
- Judy Melin, Chief Medical Services Officer, The Lahey Clinic
- John Quackenbush, Dana-Farber Cancer Institute
- Harley Ramelson, Corporate Manager, Clinical Informatics Research and Development, Partners HealthCare
- Pat Rubalcaba, Information Systems, Partners HealthCare
- Bill Shickolovich, Chief Information Officer, Tufts Medical Center
- Michael Wagner, Chief of Internal Medicine, Tufts Medical Center
- Tammy Wright, Director of Health Information Services, Massachusetts Eye and Ear Infirmary
Use Cases for Consideration

• Visit / Discharge Summary Exchange:
  – PCP to Specialist
  – Specialist to PCP
  – ED to PCP / Specialist
  – PCP / Specialist to ED

• Referrals

• Admission notification to payers and providers

• Laboratory results

• Standardized quality data

• Community Provider Directory
Conceptual Use Case Organization

• Primary Use Cases:
  – Visit / discharge summary
  – Referrals
  – Admission notification

• Supporting Use Cases:
  – Community provider directory (all)
  – Lab results (visit summary and referrals)
  – Standardized quality data (all)
What Can IT Interoperability Do for You?
Provide Structure, Manage Your Connections and Deliver Information

• What scope should an interoperability solution encompass to be complete?
  – Provide address lookup?
  – Pickup your message?
  – Secure your message while in transit and check permissions for sending it?
  – Provide routing and tracking?
  – Store your message for pickup or delivery?
  – Print or present your message for viewing?
  – Set rules for how the receiver uses your message?

• What should a community solution’s boundaries be in order to provide value?
  – Negotiate standard formats?
  – Move it from doorstep to doorstep?
  – Store it at the receiver destination for routing within the organization?
  – Provide tracking, viewing and printing services?
  – Handle translation to and from standard formats at one or both ends?
  – Provide services for routing within the organization?

Interoperable Health Information Exchange
Visit/Discharge Summary Exchange
Send / push / route hospital data to interested parties

1. Patient visits PCP or specialist and establishes trusted relationship and consents for release of data
2. Consents and provider routing preferences are sent to HIE service
3. As a result of a referral, admission, or emergency, patient registers in hospital
4. Patient receives care and details are noted in hospital medical record
5. Patient is discharged from hospital
6. Standard format discharge summary or ER report is transmitted to HIE network
7. HIE service checks provider directory for routing instructions
8. HIE service routes discharge summary to PCP, specialist or other interested and trusted party (e.g., health insurance case manager)
Referrals
Send / push / route visit and other data in support of referral consultation

1. Patient visits PCP or specialist and establishes trusted relationship and consents for release of data; consents and provider routing preferences are sent to HIE service.

2. Provider refers patient to a specialist, hospital or other provider for consultation or service.

3. HIE service submits referral authorization request to payer for approval and referral #.

4. HIE service checks provider directory for routing instructions and sends referral request with pertinent patient information / history, diagnosis and service requested to consulting provider; business rules can be stored in HIE service for elements of real-time decision support.

5. Patient visits consulting provider, receives services, and details are noted in patient chart, electronic medical record or other result is created (e.g., at lab).

6. Standard format visit summary with consultation notes transmitted to HIE network.

7. HIE service routes visit summary to PCP, specialist or other interested and trusted party (e.g., health insurance case manager).
Admission Notification
Send / push / route admission notification to payers and providers

1 Patient visits hospital or other provider and establishes trusted relationship and consents for release of admission notification data

2 Consents, provider routing preferences, and admission notification notice are sent to HIE service

3 HIE service checks provider directory for routing instructions and sends admission notification to patient’s preferred payer and provider

4 Authorized payers and providers are notified of patient hospital admission

Eastern Massachusetts Healthcare Initiative
Laboratory Results

1. Patient undergoes tests from his or her physician, establishes trusted relationship and consents for release of laboratory data.

2. Consents, lab results, and provider routing preferences are sent to HIE service.

3. HIE service checks provider directory for routing instructions and sends laboratory results to patient's preferred provider.

4. Authorized providers can access patient's laboratory results.
Standardized Quality Data

Send / push / route visit and other data for standardized quality reporting (and other reporting)

1. Patient visits PCP, specialist, hospital or other provider and establishes trusted relationship and consents for release of data

2. Consents, provider routing preferences and applicable data are sent to HIE service

3. Standard format visit summary or batch with data for determining quality metrics is sent to payer, government agency or other quality metrics organization based on patient consent and business rules in HIE service
Community Provider Directory

1. Provider organizations track and maintains internal provider directory

2. Provider information from each provider organization is sent to HIE service

3. HIE service consolidates organizational provider information into a single community provider directory

4. Authorized HIE users can access community provider directory
Architecture Overview

Local Gateway Participant
- EMRs and Other Enterprise Systems
- Interface Engine or Portal
- Published Patient Data
- Local Provider Directory
- HIE Application Server / Gateway
- Secondary Local System
  - E-Mail Server
  - Web Server
  - Fax Server
  - Summary / Results Viewer

- Local gateway users control integration, etc.
- Can leverage infrastructure for internal integration
- Interfaces can be direct or use interface engine or similar tools

Network Subscriber
- Summary / Results Viewer
- Web Server
- Fax
- E-Mail Server
- Printer

- No infrastructure support requirement – just Internet connection, fax or e-mail

Internet / Network
- CCD Standard Messages, e-mail or fax encapsulation

Hosted Portal
- Published Patient Data
- HIE Application Server / Gateway
- Community Provider Directory

- Hosted by service provider (MA-SHARE)
- Provides document / data storage, HTTP viewing for subscribers, and common provider index for dissemination to local gateway participants

Local Gateway Participant
- Published Patient Data
- Local Provider Directory
- HIE Application Server / Gateway
- Interface Engine or Portal
- EMRs and Other Enterprise Systems
- Fax Server
- Web Server
- E-Mail Server
- Secondary Local System
Homework and Next Steps

• Consider workflow implications from your institution’s perspective
  – Identify concerns and opportunities
  – Send any material to cstead2@csc.com and nho4@csc.com by May 12th so that we can prepare that material for the next meeting

• Prepare your recommendation on use case prioritization and supporting use cases
  – Articulate concerns via email to cstead2@csc.com and nho4@csc.com by May 12th for discussion at next workgroup meeting

• Share any relevant documents that your institution may already have for use cases and their supporting workflow considerations
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<th>Implementation</th>
<th>Operational</th>
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| **Awareness stage.** State-leadership recognizes the need for HIE in the state. | **Entity, initiative, or advisory body with statewide purview begins deliberations and planning for governance, financing, and technical components.** | **(1) Key roadmap implementation steps are undertaken;**  
(2) Pilot projects underway. | **A fully functioning state-level HIE fulfilling all the required governance and technical operation roles and conducting exchange of clinical data.** |

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1 State-level HIE Value and Sustainability: Approaches for Financing & Bringing Interoperable HIE to Scale, Interim Report, AHIMA FORE, Nov 5, 2008