

A Community-shared Clinical Abstract to Improve Care



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Outline

- The Agency for Healthcare Research and Quality's (AHRQ) HIT Program
- Proposing a plan to plan for HIT
- Why are interoperability and health information exchange so important?
- Executing our plan to plan
- Our proposed HIT implementation

Health Info. Technology (HIT): a panacea for healthcare?

- As many as 98,000 people per year die from medical errors that occur in hospitals
- Information technology may be key to improving patient safety
- The Leapfrog group has focused on CPOE with alerts



To Err is Human: Building a Safer Health System, 2000, NAP
Crossing the Quality Chasm: A New Health System for the 21st Century, 2001, NAP



What was AHRQ looking for?

- RFA-HS-04-010 Transforming healthcare quality through information technology – Planning Grants
- Purpose
 - Assist healthcare systems & partners in planning for activities that will lead to successful implementation of health information technology (HIT)
 - To promote and improve patient safety & healthcare quality
- Objective
 - Support community-wide planning across multiple healthcare orgs within an area that will enable them to develop HIT infrastructure
 - HIT infrastructure should provide for effective exchange of health information within the community
 - Enable participants to compete for future funding for implementation activities



Our Response

- Focus: fill information gaps that occur at care transitions
 - Patients presenting to Emergency Departments
 - Patients with chronic illness presenting in other acute care settings
- How: compute a community-shared clinical record abstract in near real-time deliverable to the point of care
 - Elements of a clinical abstract depend on the clinical situation being addressed
 - Some candidate elements: list of problems & conditions, recent visit history, recent vital signs, list and types of recent procedures & assessments, allergies & adverse reactions, current medications, a focused subset of most recent lab values, last EKG &/or chest x-ray conclusion, and immunizations
 - Use a federated model of contributing clinical databases not a centralized one
 - Leverage partners' use of a common EHR vendor, Epic



Information Gaps in ED

- Gaps are frequent in ED (32%) & are consequential
 - Very important or essential 48%
 - Somewhat important 32%
 - Potentially helpful but not essential 20%
- Patients with gaps:
 - experience prolonged stay in ED which can lead to patient dissatisfaction & overcrowding
 - Of those not admitted with gaps, average ED LOS was 1.2 hours longer (1.5 hours if gap info was essential or very important)
 - Experience increased costs; redundant testing & repeated MD assessments
 - Are more likely to be admitted (25% vs 11%) – no longer significant after adjustments for age, severity, & need for monitoring

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A Planning Grant Submitted to
Agency for Healthcare Research & Quality (AHRQ)



Healthcare Partners:

Allina Hospitals & Clinics
Fairview Health Services
HealthPartners

Principal Investigator: Barry Bershaw

Planning Director: Donald Connelly

Submitted on April 22, 2004



Office of the National Coordinator for HIT

- 4/27/04 - Federal executive order established the Office of the National Coordinator for Health Information Technology (ONCHIT)
- David J. Brailer, MD, PhD named coordinator
- Reports to HHS secretary
- 7/21/04 – Framework for Strategic Action was released



Framework for Strategic Action: Goals 1 & 2

- Inform Clinical Practice
 - Incentivize electronic health record (EHR) adoption
 - Reduce risk of EHR investment
 - Promote EHR diffusion in rural and underserved areas
- Interconnect Clinicians
 - Foster regional collaborations
 - Develop a national health information network
 - Coordinate federal health information systems



Two big challenges



- Adoption gap
 - Large practices - >50% likelihood of MD use
 - Small practices (<10 MDs in group) - < 10% use
- Today's EHRs cannot communicate with each other
 - Information is not standardized
 - Security rules and practices are not harmonized
 - We lack the network infrastructure to share
 - info is power and those with it want to use it to build market power

Why is interoperability so important?



- Clinicians everywhere can have a longitudinal medical record
- Patients will have better information about their health status
- Patients can more easily move among clinicians
- Payers benefit from the economic efficiencies, fewer errors, and reduced duplication that arise from interoperability
- Meaningful public health reporting, bioterrorism surveillance, quality monitoring, and advances in clinical trials depend on information exchange
- Without it, EMR adoption will strengthen existing info silos



What is interoperability?

- Definition: Interoperability is the ability of two or more systems or components to **exchange information** and to **use the information** that has been exchanged.
 - **functional interoperability** – the ability of two or more systems to exchange information (so that it is human readable by the receiver)
 - **semantic interoperability** – the ability for information shared by systems to be understood so that information is computer processable by the receiving system.
- Health information exchange (HIE)

The Need for Health Information Exchange



- *Access to Information* – 30% of the time, physicians could not find information previously recorded in a paper chart
- *Duplicate testing* – same drug or radiology exam was ordered 11% of the time, with patients complying with the duplicate 50% of the time
- *Incomplete information* – physicians were not aware of 1 in 4 prescriptions that a patient had been given
- *Uncertainty* – 1 in 7 admissions and 1 of 5 lab tests and radiology exams was ordered due to retrieval barriers
 - Typical physician receives test results from 5 or more locations
- *Data collection/transfer costs* – include cost of tracking down and obtaining information on the data user/originator sides respectively (range from \$12 - \$28 per visit)

Health information exchange motivation



- **Medical error, patient safety, and quality issues**
 - 98,000 deaths related to medical error
 - 40% of outpatient prescriptions unnecessary
 - Patients receive only 54.9% of recommended care
- **Fractured healthcare delivery system**
 - Medicare beneficiaries see 1.3 –13.8 unique providers annually, on average 6.4 different providers/yr
 - Patient's multiple records do not interoperate

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Health information exchange motivation (continued)

- **Providers have incomplete knowledge of their patients**
 - Patient data unavailable in 81% of cases in one clinic, with an average of 4 missing items per case.
 - 18% of medical errors are estimated to be due to inadequate availability of patient information
 - Missing information may adversely affect care in 220 M outpatient visits/yr & clinicians waste 5 or more minutes in unsuccessful searching nearly half the time (New!)
- **An 'unwired'system**
 - 90% of the 30B healthcare transactions in the US every year are conducted via mail, fax, or phone

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The Value of Healthcare Information Exchange and Interoperability (HIEI)

- Standardized, encoded, electronic healthcare information exchange would:
 - Save the US healthcare system \$337B over a 10-year implementation period, and \$78B in each year thereafter
 - Total provider net benefit from all connections is \$34B
 - Net benefits to other stakeholders:
 - Payers \$22B- Pharmacies \$1B
 - Laboratories \$13B - Public Health \$0.1B
 - Radiology centers \$8B
- Dramatically reduce the administrative burden associated with manual data exchange
- Decrease unnecessary utilization of duplicative laboratory and radiology tests

J Walker et. al. *Health Affairs*, January 2005.



Our Response – The Sequel

- Oct 04 Planning Grant was awarded
- Nov 04 **Surprise!!** Implementation Grant RFA announced with a due date of April 14, 2005
- Dec 04 Steering Committee refined focus: Identify shared high priority clinical improvement targets
 - Use HIE to fill information gaps at care transitions
 - Patients with congestive heart failure
 - Support of the associated medication reconciliation process



Our Response – The Sequel

- Jan-Mar 05 Accelerated Planning Team activities
 - Work groups activated:
 - Clinical & Operations
 - Technology & Infrastructure
 - Research and Measures
- Mar-Apr 05 Implementation proposal drafted
 - Baseline with 2 HIE intervention levels
 - Thorough formative & summative evaluation of HIE effects
 - Demonstrate exchange with non-Epic using healthcare systems in Yr 3
- 4/14/05 Proposal delivered to AHRQ
- Sep 05 Complete our planning phase
- Oct 05 Our proposed implementation project start date



Some issues still pending

- Identify components of the clinical abstract
- Select outcome measures
- Integrate prescription claims information
- Complete technical strategy for interoperating with other Minnesota EHRs

An ISSUE still pending



- Survive clinical summary standards duel
 - ASTM & Continuity of Care Record (CCR)
 - HL7's CDA & Care Record Summary (CRS)
 - HIMSS EHR Vendors Association supports
 - A single patient summary exchange standard
 - Use of document sharing standards
 - An extensible solution

How does HIE change patient experience?

- Largely, TBD
- Expected effects
 - More informed clinical decisions
 - Reduced medical error
 - Improved care quality
 - Reduced duplicative tests and procedures
 - Improved service delivery efficiency
 - Improved patient convenience
 - Reduced healthcare information management labor costs





Questions



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EHRs, RHIOs and the NHIN

- Regional Health Information Organizations (RHIOs) – will facilitate health information exchange between organizations' EHRs via coordination, standards, and operations
- National Health Information Network – nationwide utility to support health information interchange
- EHR adoption strategy



ONCHIT Working Definition for "RHIO"

- RHIOs: financially viable multi-stakeholder governance entities within communities that oversee the secure exchange of health care information across care settings and providers
- Objectives of a RHIO include:
 - Support and promote health information sharing and technology adoption on behalf of patients and providers and practitioners
 - Promote and support quality and safety goals within the community
 - Support deployment of technical architecture and interoperable applications needed to facilitate health data exchange
 - Build public trust around privacy and security for health data exchange
 - Serve as a reliable mechanism to access the Stark and Anti-Kickback safe harbors
 - Aggregate resources for HIT implementation and support in physician offices

From J Marchibroda's address to AHQP eHealth
Advisory Panel, 2/24/05