Standards and Interoperability: The DNA of the EHR

Electronic Health Record Task Force
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Electronic Health Record

Electronic Health Records (EHRS) are needed that maximize the amount of information available to healthcare providers—While not creating new work flow or cost issues

President’s Information Technology Advisory Committee Draft Report, April 13, 2004
And the beat goes on.....

“.... most Americans will have electronic health records within the next 10 years”

- President George W. Bush  April 26, 2004

In a public address to the American Association of Community Colleges, the President outlined a plan whose goal is to assure better delivery of healthcare in the United States.
The EHR … defined

- Is a secure, real-time, point-of-care, patient-centric information resource for clinicians
- Aids clinicians’ decision making by
  - Providing access & decision support
- Automates and streamlines the clinician’s workflow
  - Closes the loop in communication
- Supports the collection of data for uses other than direct clinical care
  - Billing, quality management, public health surveillance and reporting

Source: HIMSS Electronic Health Record Definitional Model Version 1.0 2004
A Framework for Interoperability

Integrating the Healthcare Enterprise:

- Improves patient care by harmonizing healthcare information exchange.
- Provides a common standards-based framework for seamlessly passing health information among care providers, enabling local, regional and national health information networks.
- Promotes the coordinated use of established standards—HL7, ASTM, DICOM, W3C, IEEE, etc.—to address specific clinical needs.
- Sponsored by Professional Societies – HIMSS, RSNA, ACC, ACCE, Canada Health Infoway and others worldwide.
Standards are critical but alone are not enough

- Standards offer generality, ambiguity and alternatives
- Standard Implementation Guides are focused on a single standard
- Increasing complexity
- IHE Technical Framework is in the public domain

IHE provides a standard process for implementing multiple standards!
Connecting standards to care

- Care providers work with vendors to coordinate the implementation of standards to meet their needs
  - Care providers identify the key interoperability problems they face
  - Drive industry to develop and make available standards-based solutions
  - Implementers follow common guidelines in purchasing and integrating systems that deliver these solutions

What is the effective way to establish those “standards” for how to implement standards?
IHE 2006 – Nine Active Domains

Over 100 vendors involved world-wide, 5 Technical Frameworks
37 Integration Profiles, Testing at Connectathons
Demonstrations at major conferences world-wide
What IHE is NOT?

- Not a standard, *although it leverages them*
- A vendor initiative, *although they participate*
- Not a certifying authority, *although IHE provides testing that should be leveraged by certification*
- Not simply a demonstration project
  - Demos are only one means to the end: *Adoption*
  - Backed up by documentation, tools, testing, and publication of Technical Frameworks and Product Integration Statements.
**Four Steps of the IHE Process**

- **Identify Interoperability Problems**
  - Clinicians and IT experts work to identify common interoperability problems.

- **Specify Integration Profiles**
  - Healthcare IT professionals identify relevant standards and define how to apply them to address the problems.

- **Test Systems at the Connectathon**
  - Vendors implement IHE integration profiles in their products and test their systems for interoperability at the annual IHE Connectathon.

- **Publish Integration Statements for use in RFPs.**
  - Vendors publish IHE integration statements to document the IHE integration profiles their products support.
IHE Strategy for RHIO Infrastructure

- Leverages existing standards to allow deployment in 2006 but plan for future
  *Pragmatic for 2006 & Ease of Evolution*

- Enables architectural freedom (centralized vs. decentralized, patient vs. provider centric)
  *Flexibility of RHIO configuration*

- Supports breakthrough use cases: variety of care settings, care coordination, public health, PHR, EHR
  *Interoperability for broad constituencies*

*Offers consistent, standards-based and functional record sharing for EHRs & other ancillary systems*
Sharing and Accessing Electronic Health Records

- IHE offers interoperability for local, regional, specific, or national health information exchange

- Goal is to enable exchange between provider’s EHR systems and ancillary IT systems (Lab, Pharmacy, Payers) and personal health record systems

- Objective is to empower the consumer in having “shared EHR information” between all of its potential healthcare providers (if authorized) and self

- IHE goal is not:
  - To create a “consolidated health record”, the truth about a patient health
  - To create an other health record, next to the one(s) managed by the provider and the consumer
300+ participants, 120+ systems
60+ vendors
Four Domains:
Cardiology, Radiology, IT Infrastructure, Patient Care Coordination
Visit the Interoperability Showcase to:

- Experience an environment where health information is seamlessly passed among care providers – enabling enterprise, community, regional and national health information exchange.
- View a Regional Health Information Infrastructure Organization (RHIO) in operation.
- Simulate the power of connectivity by creating and accessing your own personal health record across multiple healthcare settings within a RHIO structure.
- Meet over 45 providers of healthcare IT products who will show you how their technology incorporates the latest interoperability standards for optimal information flow across the patient care continuum.
- Witness clinical scenarios that demonstrate how these technologies collectively implement a standards-based Integrating the Healthcare Enterprise (IHE) interoperability framework.

Booth #7319 at the Sails Pavilion
Results

- Over 3000 attendees visited the HIMSS RHIO Showcase
- 37 vendors demonstrated 48 systems
- 700 attendees created and tracked their own health record
- 63 educational sessions were presented
- 5 International delegations
- 3 VIP tours
- 16 clinical scenarios were demonstrated
Introduced at HIMSS in 2005: IHE-XDS

Community or sub-network

Hospital Record

Clinic Record

Specialist Record

Repository of Documents

4-Patient data presented to Physician

Clinical Encounter

Aggregate Patient Info

Reference to records

3-Records Returned

2-Reference to Records for Inquiry

Index of patients records (Document-level)
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Discussion

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