



# Health IT and Electronic Health Records: More Complicated Than You Thought

**February 19, 2009**

**Karen M. Bell, MD, MMS**

Former Director, Office of Health IT Adoption  
Office of the National Coordinator for  
Health Information Technology (ONC)

Courtesy of Karen Bell. Used with permission.

# Today's Agenda

- 2014 Goal and Vision for Health IT (HIT)
- Definitions
- Where we are today
- What it will take to realize vision
- Opportunities



# Health IT: A Vision for 300 Million

Appropriate and immediate access to secure and reliable comprehensive health information by appropriately authorized parties to:

- Coordinate safer, more effective and timely patient care among providers
- Communicate with and care for patients, whenever and wherever they may be
- Enable individuals to better manage their own health
- Support community health efforts through public health and enhanced research opportunities



# Office of the National Coordinator/HHS

**Identify barriers and enablers of widespread national adoption of HIT and coordinate Federal activities which will address these barriers and enablers through:**

- Legislation, regulation, and guidance
- Reimbursement
- Procurement (contractual conditions)
- Grants, pilot projects, demonstrations
- Partnerships and collaborations



# HIT Infrastructure: Key Components



**Electronic Medical Records (EMR)** – providers *within one health care organization* create, store, and use clinical information for patient care






**Electronic Health Records (EHR)** – providers create, *import*, store, and use clinical information for patient care, *according to nationally recognized interoperability standards*



**Personal Health Records (PHR)** – individuals create, import, store, and use clinical information to support their own health



# HIT Infrastructure: Key Components

-  **Health Information Exchange (HIE)** – the electronic movement of health-related data and information among providers, patients, and other entities according to agreed upon protocols
-  **Health Information Organizations** – oversee and govern the exchange of health related information among multiple specific entities according to nationally recognized standards
-  **National Health Information Network (NHIN)** – standards and specifications (“dial tone”) which allow information to be widely shared securely and reliably among multiple authorized parties, and HIOs.

# Current State EHR (EMR) Adoption: US Physicians, 2008

Desroches et al: NEJM July 3, 2008

- Range up to 30% using some functions
- 17% with electronic note keeping, lab and med orders, and ability to obtain lab results
- 9% of solo physicians
- 30%, 11-50 physicians in practice
- 50%, >50 physicians in practice
- 3X more prevalent in metropolitan areas



# Current State of Adoption

- **Hospitals:** 11% fully implemented (not full MD use), but >80% can view lab/radiology results
- **Regional Health Information Organizations (RHIO):** Handful exchanging lab and/or administrative data
- **Patients:** Very low uptake of PHRs, though high access to clinical data through portals into provider based EHRs.





# American Health Information Communities

## AHIC 1.0

- Public/Private Federal Advisory Committee to Secretary HHS
- Established 2005 with sunset clause
- Informed by 7 Workgroups
- Prioritized recommendations to advance the national HIT agenda

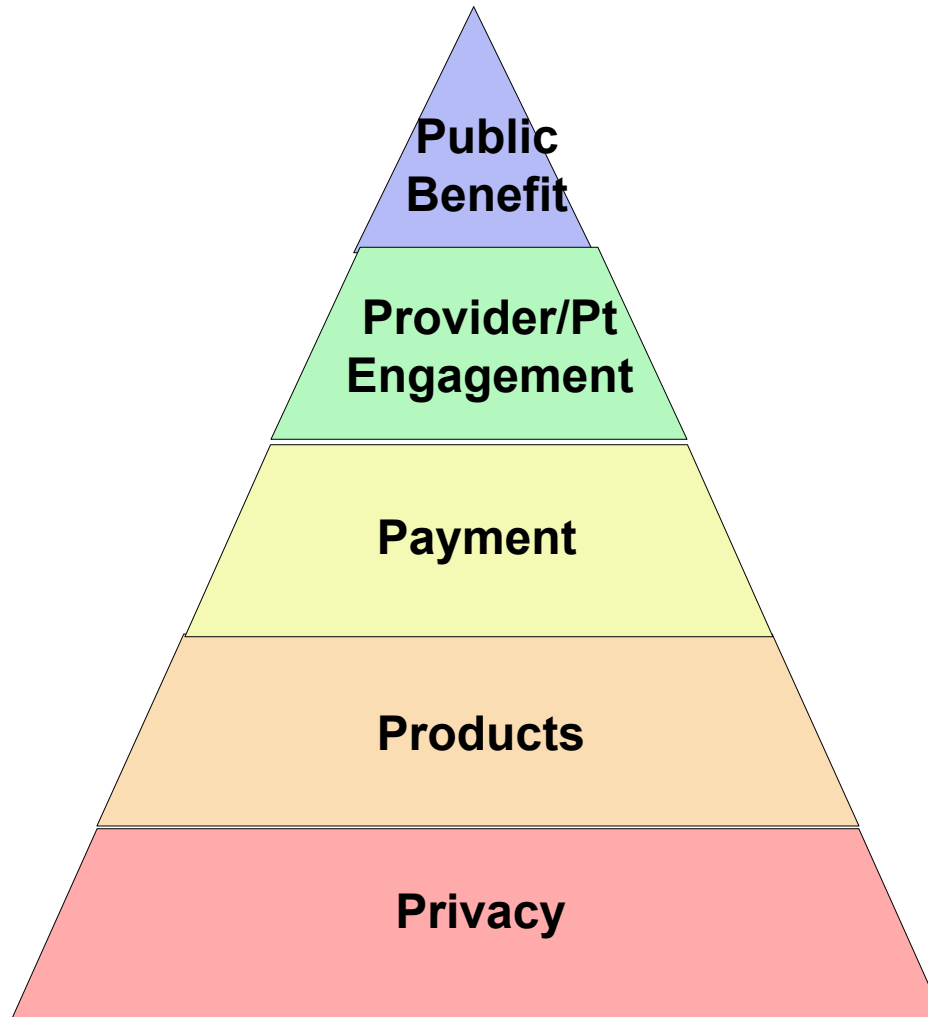
## AHIC 2.0

- Private entity: the National e-Health Collaborative
- Established 2008, operational 2009
- Focus on interoperability standards and NHIN governance
- Multi-stakeholder representation
- Financially self-sustaining

## New FACA?

- Continue to advise the Federal Govt re national policy?

# A Hierarchy of Needs for Successful HIT Adoption



# A Privacy Framework

- Principles
- Policies
- Procedures
- Protections

**Privacy**



# Privacy

- Privacy Principles published by HHS, Dec 09
- Principles and Policies for Secondary Uses of Information developed by NCVHS
- Guidelines for disclosure published Dec 09
- Health Information Portability and Accountability Act
- State Harmonization of Privacy Rules and Regulations with respect to Privacy
- Protection from discrimination based on disclosure of genetic information (GINA)

No regulation on non-HIPAA covered transactions

No protections from breach of non-genetic information

# Opportunity for Certification to “Guarantee” Products

**Interoperable (Health IT Standards Harmonization Panel)**

**Secure (EHRs and PHRs)**

**Functional requirements for CDS, e-prescribing, data organization, mitigation of medical legal risk, etc. in EHRs**

**Usable (EHRs)**

**Stable (EHRs)**

**Products**

**Privacy**

- Principles
- Policies
- Procedures
- Protections

# The Certification Commission for HIT (CCHIT)

- Founded in 2005, a Recognized Certifying Body
- Multi-stakeholder public/private partnership with a public process
- Criteria for functionality, security, and interoperability (accepted by Secretary, DHHS)
- First ambulatory EHR products certified 2006
- Currently covers 75 to 80% of installed market
- Over 25% of ambulatory EHRs now in use have been certified
- Ongoing process: new functionalities, new interoperability standards, specialty EHRs, new settings, PHRs, interoperable networks



# Interoperability

- **Use Case Development, Year One**
  - viewing lab results
  - public health reporting
  - “clip board” data and med history
- **HITSP Standards Harmonized and Recognized by Secretary HHS, Year Two**
- **Inclusion into CCHIT and HIE processes, Year Three**

**Problem: implementation guide development**



# Security, Usability, Stability, CDS Functionality

## Security for Health Information Exchange

- Authentication
- Authorization
- Patient Identify Proofing
- Master Patient Index

## Security Criteria for EHRs and PHRs

No criteria yet for usability

No information on company stability

AHRQ grant (to CITL) to ID and create MD friendly CDS functionality for the ambulatory EHR CCHIT process





# Use Case Priorities

2007

- Emergency Responder HER
- Consumer Access to Patient Summary
- Medication Management
- Quality Reporting

2008

- Remote Monitoring
- Secure Messaging
- Consultations and Transfer of Care
- Public Health Case Reporting
- Immunizations and Response Management

2009 Gaps and Extensions



# The Business Case for Adoption

**Alignment**

**Reimbursement reform**

**Incentives**

**Pay for Reporting**

**ROI**

**Pay for e-consults/e-visits**

**Payments/Resources:**

**Products:**

- **Functionality**
- **Interoperability**
- **Usability**
- **Security**

**Privacy:**

- **Principles**
- **Procedures**
- **Policies**
- **Protections**

# Business Case: Concerns of the Delivery System

- Physician office average cost: \$20,000/user of software, installation, loss of productivity – hardware additional
- Recent findings suggest no financial ROI for most physician providers in today's environment
- ROI accrues to payers of health care



# Business Case for Delivery System: Opportunities

- Stark amendment and anti-kickback relief allowing hospital donations to physicians
- HRSA grants to rural and community based federally qualified health centers
- Malpractice fee credits
- Selected private and public (CMS demonstration project) insurer incentives based on adoption and effective use of EHR functions
- Stimulus Package !!!!!!!

Need for: value analyses, reimbursement for virtual care, offset of reporting costs

# Support for efficient and effective implementation and use of HIT

**Education**

**Outreach**

**Workforce Development**

**Workflow redesign**

**Medical legal risk mitigation**

**Patient/Provider Engagement:**

**Payments/Resources:**

- Business Case
- Incentives
- Return on Investment
- Reimbursement Reform

**Products:**

- Functionality
- Usability
- Interoperability
- Security

**Privacy:**

- Principles
- Policies
- Procedures
- Protections

# Provider Engagement

- Need for guidance on what to purchase, how to contract, efficient implementation, effective use
- Staff education and engagement
- Medical informatics training programs
- AMIA's 10 by 10 Program
- Dept of Labor classification changes



# Patient/consumer Engagement

- Privacy Protections
- Educate re existing privacy issues and concerns
- Transparency
- Value, Value, Value



# Health Information Exchange for Public Benefit

## Public Benefit:

- Public health
- Research
- Emergency response
- Post-market surveillance

## Provider/Patient Engagement:

- Workforce
- Medical Legal
- Workflow
- Education/Outreach

## Payments/Resources:

- Business Case
- Incentives
- Return on Investment
- Reimbursement Reform

## Products:

- Functionality
- Usability
- Interoperability
- Security

## Privacy:

- Principles
- Policies
- Procedures
- Protections





# Health Information Exchange

- Multiple efferent and afferent nodes
- Multiple types of users and uses
- Multi-stakeholder governance
- Incorporates HITSP interoperability standards
- Requirements for master patient index, patient identity proofing, authentication, authorization
- Consistent statutes and regulation across state lines
- An elusive business case at the local level



# National Health information Network

- Network (dial tone) of HIE's all using the same standards and specifications
- Integrates private and public health data systems
- Multiple trial implementation sites funded
- Designed for widespread access to de-identified data for secondary use (research, public health, disaster response, post-marketing surveillance)
- No privacy protections in place
- No national governance structure in place



# Other Concerns: e-Discovery

## April 13, 2006 amendment to Federal Rules of Civil Procedure

- Discovery of electronic information equal to discovery of paper based information
- Must be organized per the requester
- Includes anything relevant to a case beyond provider organization's definition of legal record (metadata)



# Metadata

Auditable information about and around the clinical data

- Source
- Who entered and when
- Who viewed and when
- Who and when modified

Statistical Analyses about how data was used  
(jamcollsurg.2008:405)



# Personal Health Records

- NOT patient portals into an EHR, smart cards, or thumb drives
- About to be: certified, secure, data bases of interoperable information managed and maintained by the individual.
- Information presented through various user-specific applications
- NO privacy protections
- NO clear value proposition for most



# Future Opportunities, Focus on Patient Care

- New, stronger, privacy protections
- More usable, functional products
- More emphasis on interoperability necessary to support patient care
- Restructured reimbursement for health care services, including virtual care
- Financial AND office system support for more widespread adoption of EHRs



# Future Opportunities, Focus on Patient Care (cont'd)

- New academic programs focused on HIT, HIT incorporated in all clinical ed programs
- New ways to measure value of HIT
- Support for local HIE
- Emphasis on Personalize Health – market driven and federal
- Unintended consequences



**For More Information:**  
**<http://healthit.hhs.gov/>**





MIT OpenCourseWare  
<http://ocw.mit.edu>

1HST.921 / HST.922 Information Technology in the Health Care System of the Future`  
Spring 2009

For information about citing these materials or our Terms of Use, visit: <http://ocw.mit.edu/terms>.