

Trends in Clinical Informatics: A Nursing Perspective

NENIC 8th Annual Symposium Waltham, MN 21 May 2010



Building Tomorrow's HIT Nursing's Vital Contribution

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Building Tomorrow's HIT Nursing's Vital Contribution

Purpose

Describe the synergy between meaningful use, information exchange, certification of EHRs, and protection of privacy and the role of nursing informatics and nurse informaticians to enhance HIT transformation

Objectives

- Describe a brief overview of the ARRA 2009 related to HIT;
- Illustrate how HIT advancement depends upon the interrelationship of meaningful use, information exchange, EHR certification, and privacy protection; &
- Discuss nursing's unique contribution to the transformation of HIT to empower health and transform the health system.



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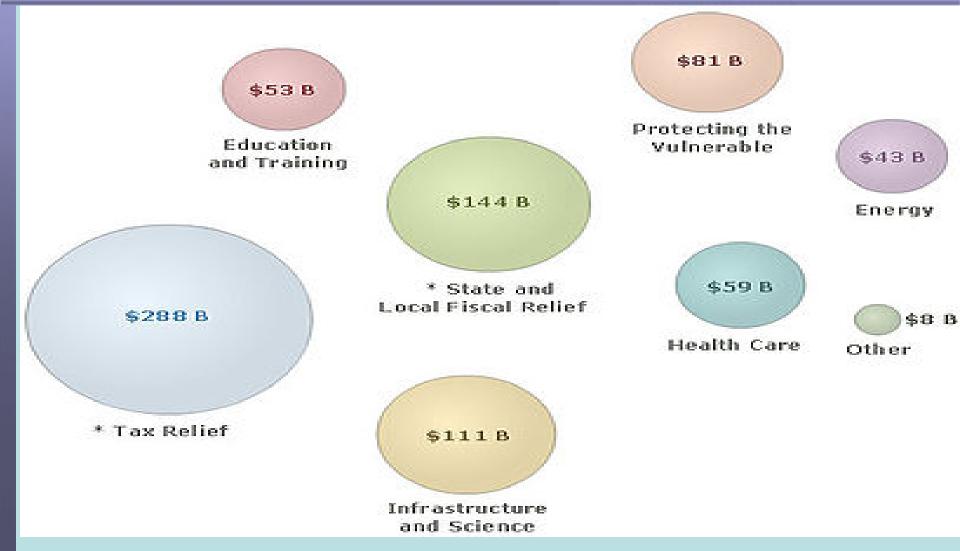
The American Recovery and Reinvestment Act of 2009 (Pub. L. 111-5)

Expectation:

Improve health care quality;
Prevent medical errors;
Reduce health care costs;
Increase administrative efficiencies;
Decrease paperwork; and
Expand access to affordable care



Composition of the Act





Healthcare

>11% (\$147.7 billion) allocated to help states with Medicaid

- More than \$86.6 billion for <u>Medicaid</u>
- \$24.7 billion to provide a 65 percent subsidy of health care insurance premiums for the unemployed under the <u>COBRA</u> program
- \$19 billion for <u>health information technology</u>
- \$10 billion for health research and construction of National Institutes of Health facilities
- \$1.3 billion for medical care for service members and their families (military)
- \$1 billion for prevention and wellness
- \$1 billion for the <u>Veterans Health Administration</u>
- \$2 billion for <u>Community Health Centers</u>
- \$1.1 billion to research the effectiveness of certain healthcare treatments
- \$500 million to train healthcare personnel
- \$500 million for healthcare services on <u>Indian reservations</u>



HITECH Programs

<u>State Health Information Exchange Cooperative Agreement</u> <u>Program</u>

grant program to support States or State Designated Entities (SDEs) in establishing health information exchange (HIE) capability among healthcare providers and hospitals in their jurisdictions.

Health Information Technology Extension Program

grant program to establish Health Information Technology Regional Extension Centers to offer technical assistance, guidance and information on best practices to support and accelerate health care providers' efforts to become meaningful users of Electronic Health Records (EHRs).



Funding Opportunities

Beacon Community Cooperative Agreement Program Curriculum Development Centers

Community College Consortia to Educate Health Information Technology Professionals

Program of Assistance for University-Based Training

Competency Examination for Individuals Completing Non-Degree Training

Strategic Health IT Advanced Research Projects (SHARP) Program



Federal Advisory Committees

Health IT Policy Committee

Makes recommendations to the National Coordinator for Health IT on a policy framework for the development and adoption of a nationwide health information infrastructure, including standards for the exchange of patient medical information.

• Health IT Standards Committee

Focuses on the standards to implement the policies recommended by the Health IT Policy Committee

Relationship to CMS



HIT Policy Committee

Meaningful Use

Privacy & Security Policy

Certification/Adoption

Information Exchange

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Strategic Plan



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HIT Policy Committee

Meaningful Use

Privacy & Security Policy

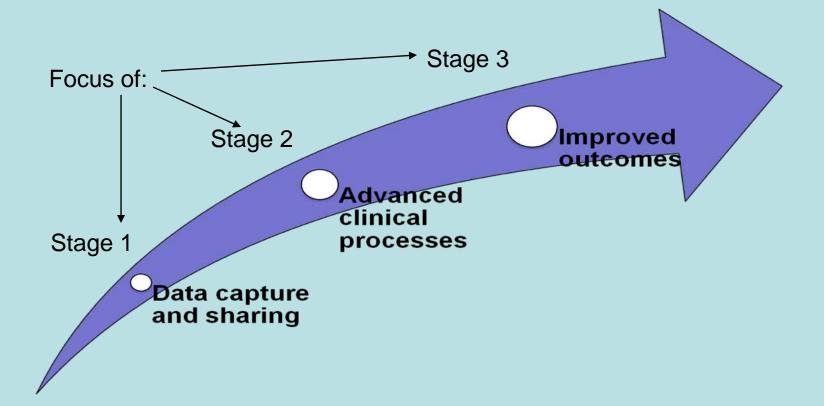
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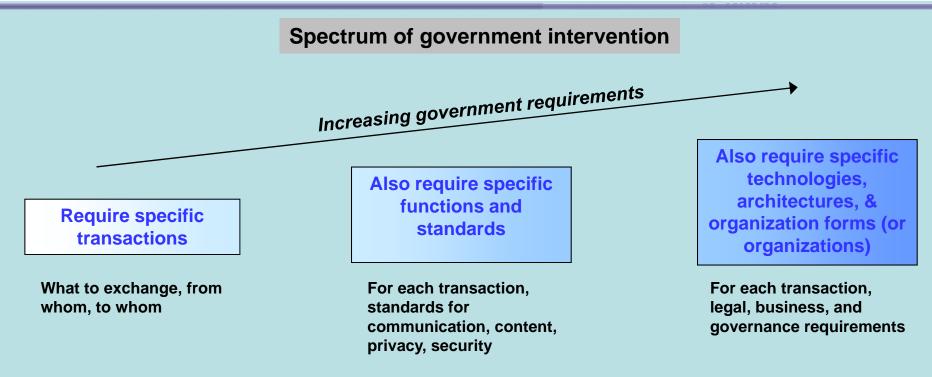
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Strategic Plan

Moving Forward: Reminder of Staging of "Meaningful Use"



How much intervention should be applied to facilitate achievement of these MU objectives?



• Want to strike balance

- Too little structure would do nothing to resolve some of the significant barriers that exist today
- Too much structure would stifle innovation by locking in what exists today and artificially channeling product development toward specific technologies or architectures

Meaningful Use objectives requiring health exchange



Increases volume of transactions that are most commonly happening today

- Lab to provider
- Provider to pharmacy

Substantially steps up exchange

- Provider to lab
- Pharmacy to provider
- Office to hospital & vice versa
- Office to office
- Hospital/office to public health & vice versa
- Hospital to patient
- Office to patient & vice versa
- Hospital/office to reporting entities

Starts to envision routine availability of relatively rich exchange transactions

- "Anyone to anyone"
- Patient to reporting entities

HIT Policy Committee MU Workgroup: Patient/Family Engagement Hearing

- Public hearing held April 20
- FACA (Federal Advisory Committee) blog
 - 49 comments as of 5/17
 - Input still accepted at http://healthit.hhs.gov/blog/faca/
- Part of planning trajectory for evolution of MU definition (Stages 2 & 3)

HIT Policy Committee MU Workgroup: Patient/Family Engagement Hearing

Panel 1:

MU of HIT in the Real Lives of Patients & Families

Panel 2: Incorporating Patient-Generated Data in MU of HIT

Panel 3: Policy Challenges & Infrastructure Requirements to Facilitate Consumers' MU of HIT

Themes Emerging from Hearing & Blog

- Time for incremental change is over; move beyond status quo
- Demand universal and immediate patient access to data
 - Incorporate patient-generated data into EHR
- Engage with the public about MU
 - Consider re-orienting MU criteria to what's meaningful to patients
- Encourage innovation
 - Consider a bold initiative (e.g., 50% of care rendered at home) for patient engagement
- Create sense of community among patients & with health team
 - Achieve 4 Es: engage, educate, empower, and enable
 - Meet needs of diverse population
- Focus more on patient outcomes measures
 - vs. traditional process measures

MU Workgroup 2010 Tentative Timeline

- Upcoming MU Hearings:
 - Disparities (June 4)
 - Care Coordination (tentatively summer)
 - Population & Public Health (tentatively summer)
- September: MU WG discusses preliminary Stage 2 & 3 criteria
- October: MU WG presents proposed Stage 2 & 3 criteria to HITPC
- November: HITPC issues RFI on preliminary Stage 2 & 3 criteria
- 2Q11: HITPC finalizes recommendations to ONC



HIT Policy Committee

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HIT Policy Committee

Privacy & Security Workgroup Update

May 19, 2010



Broad Charge

To make short-term and long-term recommendations to the Committee on privacy and security policies and practices that will:

- help build public trust in health information technology and electronic HIE
- enable their appropriate use to improve healthcare quality and efficiency.



ARRA Privacy and Security Related Provisions

- Business Associates (OCR)
 - Certain HIPAA Privacy & Security Rule requirements apply to business associates (BAs)
 - Entity that provides data transmission of personal health information (PHI) to a covered entity (CE) or BA, and requires routine access, and vendor that provides PHR as part of an EHR, must have a BA agreement
- New breach notification requirements
 - For covered entities and business associates (OCR)
 - For vendors of PHRs and other non-covered entities (FTC)
 - Guidance on technologies/methodologies for rendering PHI unusable, unreadable, or indecipherable (ONC/OCR)



- Provides individual right to restrict disclosures to:
 - a health plan for payment or health operations
 - for items and services paid "out of pocket"
- Requires CE to limit use, disclosure and requests for PHI to limited data sets, as possible, or minimum necessary
- CEs and BAs to provide accounting of disclosures through EHRs for treatment, payment, operations
- CE must provide copy of PHI in electronic format to individual or other designees if CE has an EHR



- Prohibits CE/BA from remuneration for PHI without authorization (with some exceptions for exchanges)
- Limits other CE/BA communication about products or services when entity received remuneration
- Regulations to require clear opt-out for CE fundraising communication with individual
- Study and recommendations to Congress for privacy and security (P&S) requirements for non-CE PHR vendors (ONC/FTC)



ARRA Privacy and Security Related Provisions

- Enforcement:
 - Extends HIPAA civil and criminal penalties to BAs
 - Changes civil penalty structure
 - Provides State Attorneys General (AGs) with authority to enforce HIPAA
 - Provides that employees/individuals can be criminally liable
 - Requires periodic audits to ensure compliance



ARRA Privacy and Security Related Provisions

- Studies and reports:
 - Annual report on compliance with HIPAA Rules (OCR)
 - Report on protections for non-HIPAA CEs (ONC)
 - Report on best practices related to the disclosure among health care providers of PHI for treatment (Comptroller General)
 - Guidance on implementation of de-identification provisions (OCR/ONC)
 - Study definition of "psychotherapy notes" (SAMHSA)
- Education
 - Regional privacy advisors to provide education (OCR)
 - National outreach and education (OCR/ONC)



ARRA P&S Topics for HITPC

- Technologies that protect the privacy of health information and promote security in an EHR, including:
 - Segmentation and protection from disclosure of specific and sensitive IIHI with the goal of minimizing the reluctance of patients to seek care
 - Use and disclosure of limited data sets
- Infrastructure that allows for accurate exchange
- Technologies for an accounting of TPO disclosures
- Technologies that allow IIHI to be rendered unusable, unreadable, or indecipherable to unauthorized individuals
- Methods to facilitate security access to PHI by an individual or person assisting in care



Privacy and security for electronic health information exchange

- Privacy and security foundational to achieving meaningful use of health IT.
- A comprehensive set of privacy and security protections that build on current law and more specifically implement the principles in the Nationwide Data Sharing Framework is critical to building the foundation of trust that will support and enable meaningful use by providers, hospitals and consumers and patients.
- Individual consent is an important component (but only one component) of a framework of policies that govern exchange.
- Electronic health information exchange to meet "meaningful use" may take place in a number of ways, and what is needed to build and maintain public trust may vary based on how exchange occurs.



- One-to-one exchange is closest to present circumstances.
 - provider directly sends information to another provider to facilitate treatment
 - no entity in the middle with any access to identifiable patient information
 - if entity facilitating exchange has ability to access information (either in the message header or the content) that includes information that either directly or by inference includes patientlevel information - workgroup has concerns
 – even in one-toone models.
- Not clear that current law adequately addresses activities of exchange "facilitators" (with "facilitators" potentially playing a range of roles)



- What would a reasonable patient expect?
- All levels of exchange should be subject to specific policies and technology requirements that are adequately enforced regardless of whether patient consent is required.
- Consent may be particularly important in new (unexpected) or uncertain scenarios.
 - individuals should have some choice with respect to whether their information is exchanged - where exchange not governed by clear rules that are adequately enforced
 - some models may be so "new" that even with some protections, may want to still give individuals some sort of choice (i.e., database, and query/response).



Recommendations

- 1. We need specific policies, as well as technology requirements, to govern all forms of electronic health information exchange.
 - Implement the Nationwide Privacy and Security Framework principles.
 - Work should take place ideally before, or at least in conjunction with, technology standards work.
 - Technology should implement policy and not make it
 - Fill gaps in current law.
 - Address "facilitator" access to identifiable information
 - o Constraints on collection, access, and use of identifiable data
 - Constraints on data retention and re-use
 - Security requirements



Recommendations (cont.)

- One-to-one exchange from one provider to another provider for treatment purposes – even with no "facilitator" - must be governed by policies that <u>at least</u> include:
 - Encryption (no ability for facilitator to access content)
 - Encryption ideally should be required when potential for transmitted data to be exposed (mandate through meaningful use/certification criteria or HIPAA security rule modification)
 - Limits on identifiable (or potentially identifiable) information in the message
 - Identification and authentication
- 3. If strong policies are in place and enforced, above scenario needs any additional individual consent beyond what is already required by current law.



Questions to Resolve – Enforcing Requirements on "Facilitators"

- Could be limits to reach of business associate provisions
- Meaningful use/certification criteria does not reach entities not participating in incentive program
- What role can/should states play?
- NHIN governance will be important question to resolve
- Role of DURSA (Data Use and Reciprocal Support Agreement) ?



Further work

- Drilling down on specific policies and technology requirements for all models of exchange
 - In conjunction with IE and NHIN Workgroups
 - Work more closely with NHIN Direct technical group
 - Work closely with ONC staff working on state HIE grant requirements
- Role consent plays in non-direct models such as central database and query/response
- Consent at more granular level (such as by data type)
- Transparency for patients
- "De-identified" data



Office of the National Coordinator for Health Information Technology

HIT Policy Committee

Meaningful Use

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EHR certification

Source: HIT Policy Committee August 14, 2009



Proposed Definition of HHS Certification

HHS Certification means that a system is able to achieve the minimum government requirements for security, privacy, and interoperability, and that the system is able to produce the Meaningful Use results that the government expects.

HHS Certification is not intended to be viewed as a "seal of approval" or an indication of the benefits of one system over another.



- 1. Leverage Certification process to improve progress on Security, Privacy, and Interoperability
- 2. Focus Certification on Meaningful Use
- 3. Improve objectivity and transparency of the certification process
- 4. Expand Certification to include a range of software sources: Open source, self-developed, etc.
- 5. Develop a Short-Term Certification Transition plan



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Information Exchange

Source: HIT Policy August 14, 2009 April 2010 May 2010



The state of health information exchange today

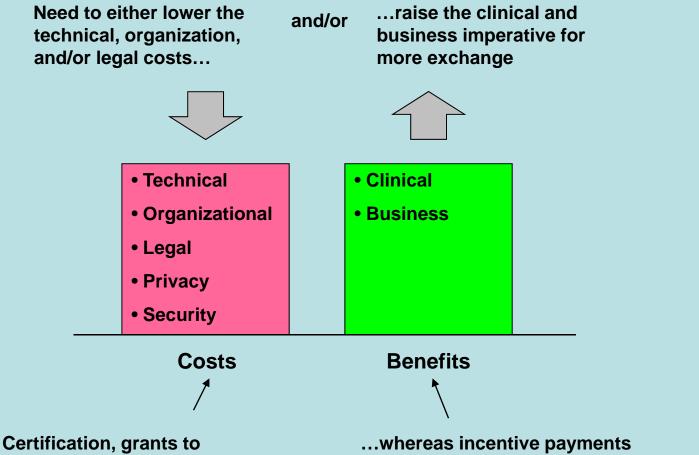
- Health reform goals will not be met without broader and deeper information exchange across the entire health delivery system
- The current state of health information exchange today is spotty and piecemeal
 - vast majority occurs in a narrow set of transaction silos, such as labs and medication prescriptions
 - even silos penetration is very low (e.g. 4% of eligible prescriptions and 12% of office-based prescribers)
 - direct exchange of data between EHRs and exchange through organized state/regional health information exchange entities occurs, penetration is extremely low, highly variable across implementations
 - Electronic reporting for public and population health measurement and improvement is almost non-existent today



- The main barriers to health information exchange today are:
 - Too much uncertainty about legal issues
 - Too little business and clinical imperative to exchange more information
 - Too much technical and organizational difficulty of setting up and maintaining business- and clinically-relevant electronic exchange
- Getting over these barriers will require:
 - Incentives and/or penalties to help increase business demand for exchange and encourage a plurality of exchange architectures that are cost-effective and sustainable
 - Actionable standards
 - Monitoring and enforcement mechanisms to ensure adherence to standards

There are many barriers to health information exchange today, and there is thus no single solution to getting more exchange





states, RHITECs, and NHIN governance authority can all help to lower the difficulty of health exchange... ...whereas incentive payments (and penalties) tied to Meaningful Use can create a business imperative for more information exchange



- •Of the various levers available to the government, Meaningful Use criteria are by far the most influential
 - ~\$45B in incentives vs ~2B in discretionary ONC programs
 - Directly affects the value proposition at the point of purchase
- ONC can create enablers for robust incentive criteria that would inform and allow robust incentive rules requiring health exchange
 - Meaningful use criteria (objectives and measures) that require standards-based exchange
 - Definition of core requirements for exchange to meet recommended meaningful use criteria
 - Certification of interoperability components that adhere to such requirements



HIE Trust Framework: Recommendation

- Adopt an overarching trust framework at the national level to enable health information exchange that includes these essential elements:
 - Agreed Upon Business, Policy and Legal Requirements / Expectations
 - Transparent Oversight
 - Accountability and Enforcement
 - Identity and Authentication
 - Minimum Technical Requirements



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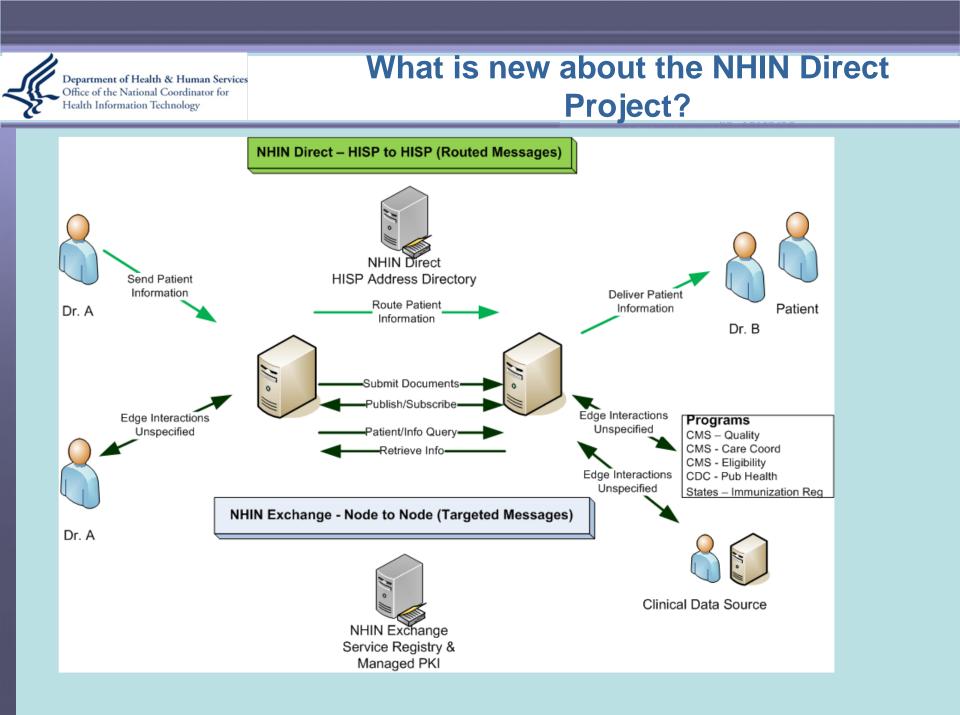
Strategic Plan



What is the NHIN Direct Project?

A project to create the set of standards and services that with a **policy** framework enable simple, directed, routed, scalable transport over the Internet to be used for secure and meaningful exchange between known participants in support of meaningful use







Over 175 Implementation Group Participants

• PHR

- Microsoft (HV/Amalga)
- EHR
 - Allscripts
 - Cerner
 - eClinicalWorks
 - Epic
 - GE
 - ____McKesson (through RelayHealth)

HIE Technology

- RelayHealth (also PHR)
- Axoloti
- Mirth
- VisionShare
- GE
- MedAllies
 CSC
- CSC
 Medicity
- Kryptig
- IBM/Open Health Tools
- Secure Exchange Solutions
- Informatics Corporation of America
- Microsoft (HV/Amalga)
- Oracle Health Sciences
- Carespark/Anakam
- Carespark/Mobile MD

HIT Association

- Clinical Groupware Collaborative
- » Medical Associations
- American Academy of Family Physicians

State/Regional HIO

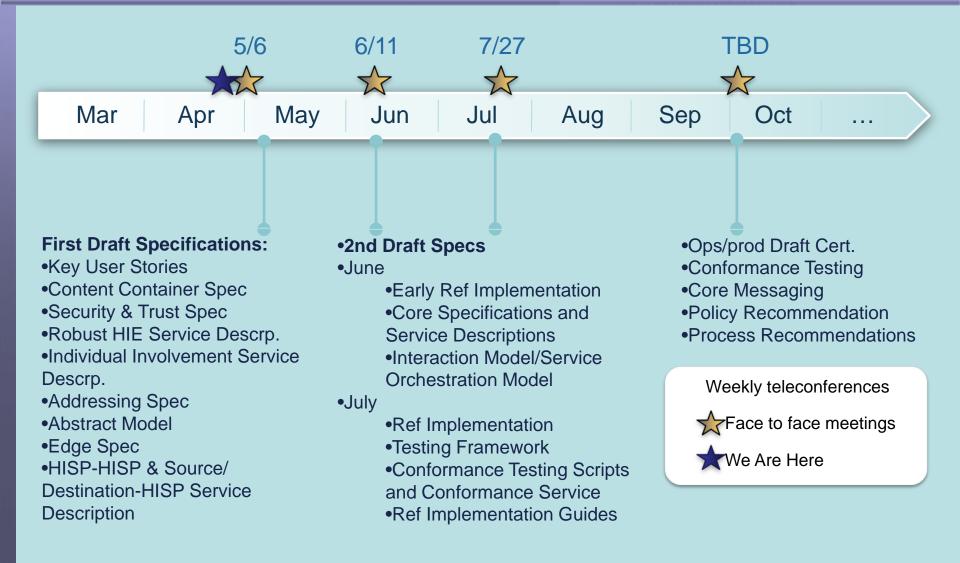
- CA (Jonah and David Lansky)
- CA (Redwood MedNet)
- TN (CareSpark)
- MA (NEHEN-CSC)
- MAeHC
- NY (HIXNY)
- NY (Hudson Valley) (through MedAllies)
- HITOC (Oregon Health Information Technology Oversight Council)
- RIQI (Rhode Island Quality Institute)
- Carespark
- HealthBridge
- IDN
 - Kaiser
 - BIDMC/CareGroup
- Consulting
 - Gartner
 - Carespark/CGI Federal
 - Carespark/Serendipity Health
 - HLN Consulting

National Network

- SureScripts
- Medplus/Quest
- Federal
 - Veteran's Administration
 - Social Security Administration
 - National Institutes of Health



Timeline is aggressive



Department of Health & Human Services Office of the National Coordinator for Deliverables span specifications to policy

Specifications & service descriptions including

Health Information Technology

- Formalized models
- Core specifications and service descriptions
- Conformance testing scripts and conformance service
- Reference implementation guides for edge systems and routing systems (including sample code, testing and conformance documentation, legal and policy documentation, etc...)
 - Implementation guide for CONNECT users



Process recommendations

- » Use of NHIN Direct Projects a model (positive or negative)
- Formalized modeling process recommendations

Policy recommendations

- Recommendations on Federal role, states, etc...
- Policy recommendations for trust enablement Marketing/awareness
- Core messaging **»**
- Placements in industry journals, key social media **》** outlets, etc...





- User Story Review WG: Provide consistent, vetted set of user stories available on the Wiki
- » **Concrete Implementation WG:** Recommend a high level concrete implementation or set of concrete implementations mapping to the abstract model and meeting all Must User Stories
- Content Packaging WG: Define a few workable alternatives, with pros/cons, for content packaging
- Security & Trust WG: Provide alternatives and highlight issues relating to security and trust enablement via technology (e.g., certificates and signatures)
- **Robust HIE Interoperability WG:** Define how to mix and match direct transactions and robust HIE/NHIN specifications and services (patient discovery and information access) capabilities at scale
- Individual Involvement WG: Clarify technology issues and policy implications for individual involvement in direct transport
- **Implementation Geographies WG:** Plan for early implementations demonstrating real-world information exchange following existing care delivery patterns
- Addressing WG: Define an implementation neutral mechanism for addressing that enables provider/individual identification and enabling organization routing
- Abstract Model Review WG: Review and finalize a formal abstract model that all WGs can use to define common vocabulary



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HIT Policy Committee Strategic Plan Workgroup

Health IT Strategic Framework

May 19, 2010

Strategic Plan Update Process

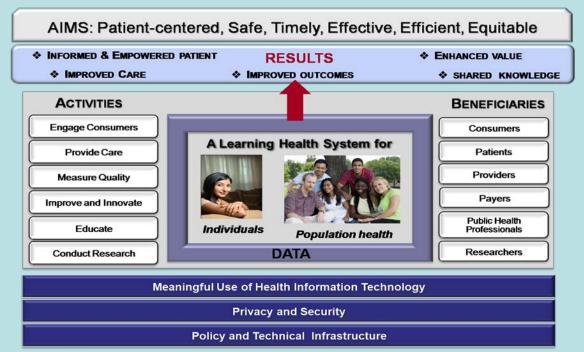


- Strategic Plan Workgroup
 - Developed Health IT Strategic Framework
- HIT Policy Committee
 - Review and recommend Strategic Framework to National Coordinator
- Office of the National Coordinator for Health IT
 - Will develop the Strategic Plan leveraging the Framework, solicit other agencies input, and guide the Plan through the clearance process

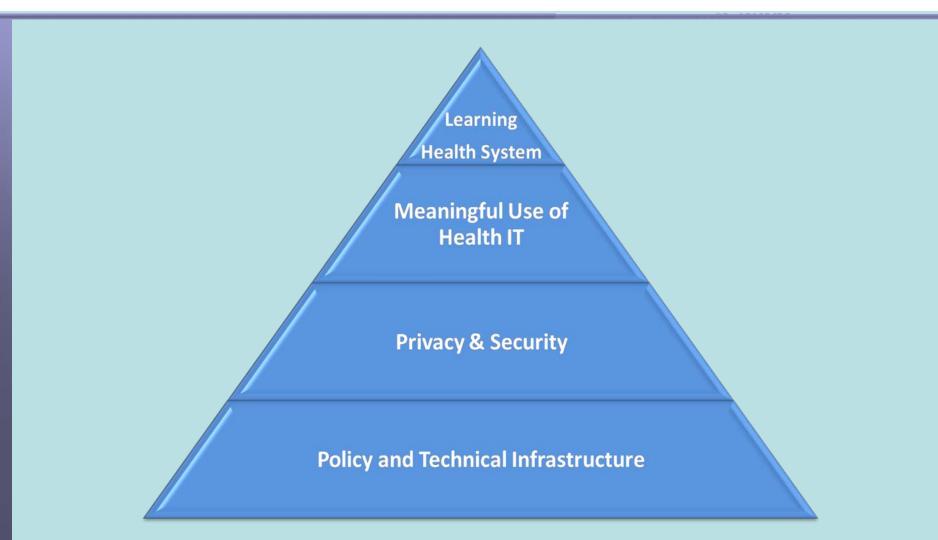
Our Vision

A system that is designed to generate and apply the best evidence for the collaborative health care choices of each patient and provider; to drive the process of new discovery as a natural outgrowth of patient care; and to ensure innovation, quality, safety, and value in health care. (Charter of the Institute of Medicine Roundtable on Value & Science-Driven Health Care)





Strategic Framework Goals



Policy and Technical Infrastructure Goal

Learning Health System

Meaningful Use of Health IT

Privacy & Security

Policy and Technical Infrastructure Enable management and secure exchange of electronic health information to meet goals for meaningful use of health information technology and a learning health system through the development and support of appropriate policies and technical specifications.

Privacy and Security Goal



Meaningful Use of Health IT

Privacy & Security

Policy and Technical Infrastructure Build public trust and participation in health information technology and electronic health information exchange by incorporating effective privacy and security solutions in every phase of its development, adoption, and use.

Meaningful Use of Health IT Goal

Learning Health System

Meaningful Use of Health IT

Privacy & Security

Policy and Technical Infrastructure Improve health outcomes, quality, patient safety, patient engagement, care coordination, and efficiency of the health care system through the adoption and meaningful use of health information technology.

Learning Health System Goal



Policy and Technical Infrastructure Transform the current health care delivery system into a high performance learning system by leveraging health information technology.

Next Steps



- HIT Policy Committee Strategic Plan Workgroup
 - Present the final Strategic Framework to the HIT Policy Committee
- HIT Policy Committee
 - Present the final Strategic Framework as a formal recommendation to the National Coordinator for Health IT



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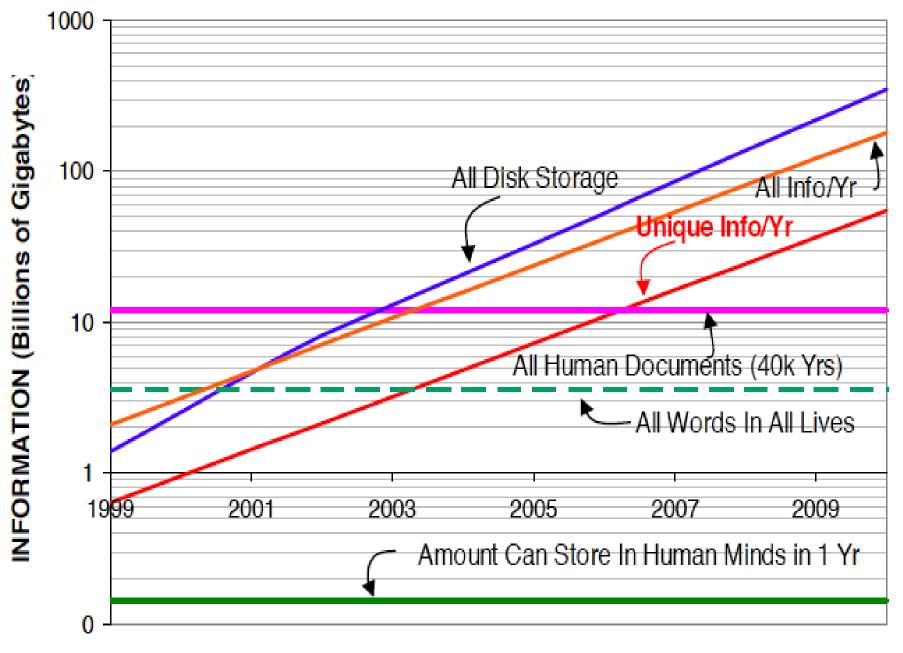
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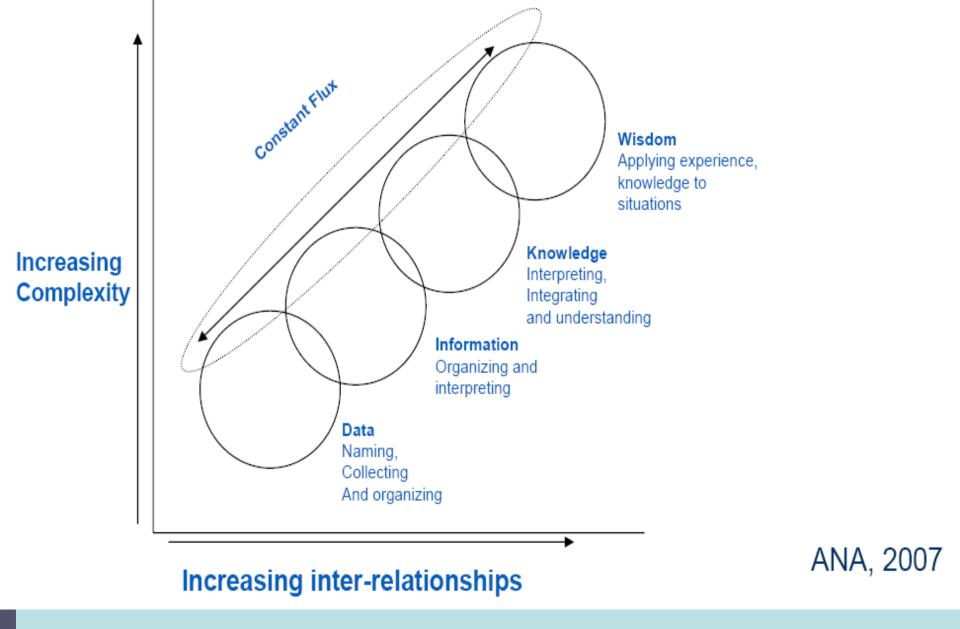
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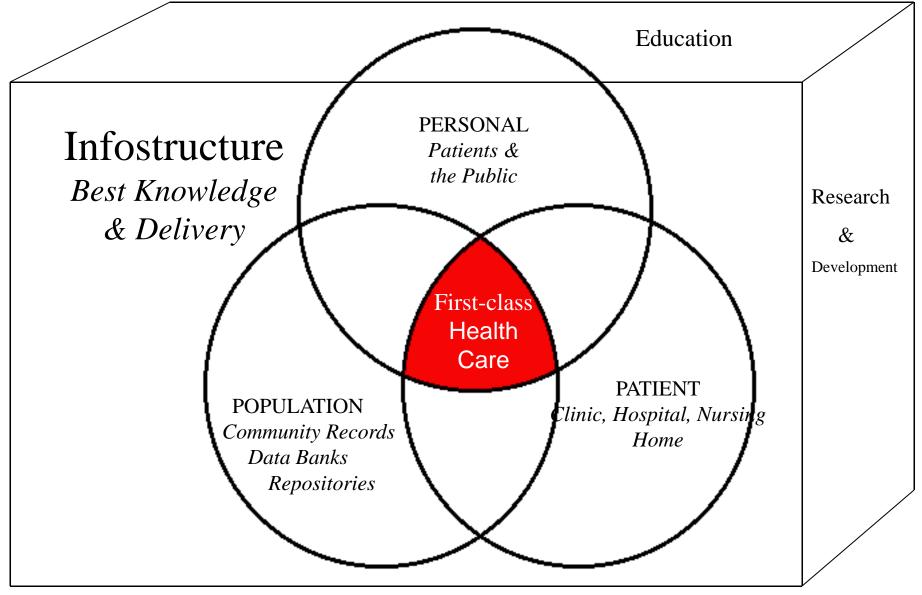


Sources: Lesk, Berkeley SIMS, Landauer, EMC

YEAR

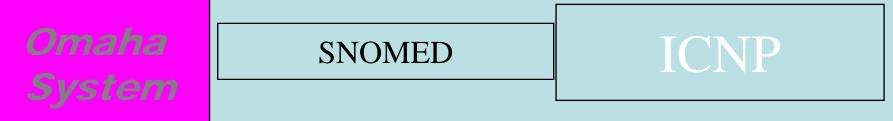


American Nurses Association, Scope and Standards, Nursing Informatics, 2007



Interlocking electronic Health Communications & Records with knowledge support: 'just-in-time' 'just-for-me' 'every time'









CWD NENIC 2010-May

<u>Technology Informatics</u> <u>Guiding Education R</u>eform



3 Phases

Phase 1 – Define and publish the 10-year vision and 3-year action plan to raise awareness of the need for informatics competencies for all nurses; Summit 2006

Phase 2 – Facilitate collaboration to accelerate progress on action plan and leverage best practices Report - "Collaborating to Integrate Evidence and Informatics into Nursing Practice and Education"

http://www.tigersummit.com/9_Collaboratives.html

Phase 3 – Drive dissemination through nursing professional organizations

Contact Dr. Patricia Hinton Walker phintonwalker@usuhs.mil

TIGER website: CWD NENIC WWWW.tigersummit.com



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Who we are to society and health care and our patients, families, and communities is "more than anything a function of what we know, how we use what we know, and how fast we can know something new...

adapted from Blur, 1998

Strength in Times of Change

As one must embrace the full range of nature's power, so too must one embrace the energies of our own lives... we cannot stop the wind. But we can choose whether we will grow, or whether we will wither.

James Brandenburg





Structured strategy for input, consultation, information sharing

CWD NENIC 2010-May