The Decade of Health Information Technology:

NHII Framework & EHR System Draft Standard an X12N Excerpt

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The Call to Action

- On July 21, 2004, the Secretary of the Department of Health & Human Services held a summit on health information technology
  - Declared the start of the Decade of Health
  - Published a Strategic Framework for Action to address the critical needs facing healthcare, through the targeted application of health information technology
  - Had leadership across public and private sectors stand up and pledge support of the framework
Disclaimer

• This presentation is meant to summarize the Framework for Strategic Action published on July 21st, 2004 by the Secretary of HHS, and the Office of the National Coordinator for Health Information Technology (ONC). In some areas, the presentation may amplify elements of this framework based on observations of ongoing discussions within ONC. None of the information presented here is meant to obligate the Federal Government to follow any particular course of action, nor to espouse an official position of the Federal Government, for the present or in the future.
Overview of Discussion

• Background
• Where We Are – Framework & NHII
• Current Status
• Where This Is Going
• HL7 EHR Systems Draft Standard
Under an Executive Order, the federal government is providing a strategic direction for a national interoperable health care system:

• 10 year plan is outlined in the “Decade of Health Information Technology” report.
• a joint public-private initiative with four major goals and several specific actions.
• an interoperable health care system that is consumer-centric
• use technology and standards to replace the costly and inefficient current paper system.
• provide better quality of care and increased patient safety.
Readiness for Change in Health Care

• Health care spending is rising faster than inflation
• The population is aging
• Despite spending $1.7 trillion in 2003 on health care:
  - medical errors abound;
  - limited medical information is communicated across providers or payers;
  - unnecessary service are delivered; and
  - quality and costs of care are comprised.
Awakening the Sleeping Giant

- Both the public and private sectors have been moving toward interoperability and standardization over the years, leading to the current so-called “tipping point”
  - 1998: National Committee on Vital and Health Statistics (NCVHS) espoused a national health information infrastructure to promote American health
  - 2002: Markle Foundation forms Connecting For Health initiative that assembled public/private leadership in healthcare to promote common electronic standards
  - 2003: Consolidated Health Informatics (CHI) initiative within the government publishes a list of 20 chosen standards that promote health information exchange for federal standardization
  - 2003: President Bush signs the Medicare Prescription Drug Improvement and Modernization Act (MMA) to allow CMS to establish key infrastructure for health information technology such as e-prescribing
– 2004: President Bush issues Executive Order 13335 calling for widespread adoption of interoperable electronic health records (EHR) within 10 years, and establishes a position for a National Coordinator of Health Information Technology
  • Dr. David J. Brailer, MD, PhD appointed to post of National Coordinator on May 6th
– 2004: Both the President’s Information Technology Advisory Committee (PITAC) and the Connecting For Health group publish separate reports that bolster the case for widespread interoperability within the healthcare industry
  • Private and public sectors are united in intent, but without coordination, they remain asynchronous in implementation
  – Key Insight: Health Information Technology is strategic in the betterment of healthcare delivery
Evidence of the Value of Health Information Technology

Clear evidence that use of HIT improves patient safety, quality, and continuity of care. For example:

- Computerized Physician Order Entry (CPOE): several studies found CPOE prevents unnecessary hospital admissions, lowers hospital costs and lengths of stay, and allows more complete discharge summaries

- In several studies, electronic clinical decision support systems increased clinician’s compliance with guidelines, and decreased unnecessary laboratory testing and medication use
The NCHIT is required by Executive Order to work to:
- ensure that appropriate information is available to guide medical decisions
- improve quality, reduce errors, advance evidence-based care
- reduce costs, errors, inappropriate care, incomplete information, and increase efficiency
- increase effective market place, competition, and available accurate information on costs, quality, and outcomes

The NCHIT shall develop and direct a strategic plan to guide national implementation of interoperable HIT
July Summit & NHII Conference

- Seven Sponsors and Over 55 Endorsing Organizations
  - Public  - DHHS, CDC, NIH, AHRQ, DOD, OPM, FDA
  - Corporate  - IBM, CERNER, GE Medical, United Health, BCBSMA
  - Associations – ADA, ANA, AHIMA, AHIP, AFEHT, AAFP, ACP, WEDI

- Keynote Speakers
  - DHSS Secretary Thompson & Senator Frist
  - Cisco CEO Chambers & Newt Gingrich (Center for Health Transformation)

- Information Sharing
  - Pilots    - Santa Barbara & Indianapolis
  - Reports  - PITAC, Connecting for Health

- Eight Topics / Issues

- Broad Stakeholder Participation
  - 1) consumers; 2) health care providers; 3) health care organizations; 4) public health; 5) system developers; 6) medical researchers; 7) health plans, and employers

- Report to NCVHS
Health Summit Release of Strategic Framework

• Goal 1: Inform Clinical Practice
  – Incentivize EHR adoption
  – Reduce risk of EHR investment
  – Promote EHR diffusion in rural and underserved areas

• Goal 2: Interconnect Clinicians
  – Foster regional collaborations
  – Develop the national health information network
  – Coordinate federal health information systems

• Goal 3: Personalize Care
  – Encourage use of Personal Health Records (PHR)
  – Enhance informed consumer choice
  – Promote use of tele-health systems

• Goal 4: Improve Population Health
  – Unify public health surveillance architectures
  – Streamline quality and health status monitoring
  – Accelerate research and dissemination of evidence into practice
NHII Conference: Cornerstones for Electronic Healthcare

Eight conference breakout workgroup sessions:

- **Personal Health** - determining what is needed to support personal health records.
- **Governance** – developing approaches to implementing LHIIs and their integration into the NHII.
- **Incentives** – building business cases and aligning incentives for the NHII and LHIIs.
- **Architecture and Standards** – ensuring that the architecture supports stakeholders while integrating the pieces to interoperably function as local and national systems.
- **Confidentiality, Ethics, Privacy and Access** – addressing confidentiality requirements, HIPAA, individual identifiers, and access.
- **Measuring Progress** – evaluating the growth of the NHII through metrics.
- **Population Health** – determining what is needed to support public health.
- **Clinical Research** – determining what is needed to support the needs of clinical research (e.g., clinical trials) and get benefits of this research to the bedside.
Reference Information

- Letter to DHHS and report on conference breakout sessions:
  http://www.ncvhs.hhs.gov/040908lt.htm
- What is NHII:
  http://aspe.hhs.gov/sp/nhii/
- NHII Conference Home Page:
  http://www.hsrnet.net/nhii/default.htm
- “Revolutionizing Health Care Through Information Technology” by
  the President’s IT Advisory Committee (PITAC), June 2004:
  http://www.hpcc.gov/pitac/reports/index.html
- The Health IT Strategic Framework Report:
  http://www.hhs.gov/onchit/framework/
- Connecting for Health’s proposed Health IT Roadmap:
  http://www.connectingforhealth.org
- National Alliance for Health Information Technology (NAHIT)
  speech by Dr. Brailer demonstrates how serious the Feds are about
  Health IT adoption:
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Health IT Standards

For interoperable exchange of information across clinicians, institutions, payers, and vendors standards are needed for:

- terminology (content)

- messaging standardized formats for the electronic exchange of specific findings and documents

- definition of EHR functions
Standards (cont’d)

Public and private sectors have worked to develop and endorse various standards, including:

- Federal Government’s entered into a licensed with the College of American Pathologists (CAP) to make SNOMED-CT freely available to U.S. health care entities.
- The Federal Consolidate Health Informatics (CHI) Initiative worked in sync with the health industry and endorsed content and messaging standards for use in federal health care enterprise.
CHI Standards

Adopted March 2003

1. Laboratory Results Names: LOINC® adopted
2. Messaging Standards: Includes scheduling, medical record/image management, patient administration, observation reporting, financial management, patient care: HL7® adopted
3. Messaging Standards: Includes retail pharmacy transactions NCPDP SCRIPT® adopted
5. Messaging Standards: Includes Image Information to Workstations: DICOM® adopted
CHI Standards (cont’d)

Adopted May 2004 (sample)

Demographics (HL7®)
Anatomy (SNOMED CT® and NCI Thesaurus)
Diagnosis/Problem Lists (SNOMED CT®)
Nursing (SNOMED CT®)
Financial/Payment (HIPAA Transactions and Code Sets)
Genes and Proteins (Human Genome Nomenclature – HUGN)
Clinical Encounters (HL7®)
Interoperability

- There is a recognition that standards are necessary but insufficient for interoperability
- There are few examples of working interoperability models, though interest is high
  - There is no dominant design
- Several in-house debates have arisen and slowed progress on a unifying strategy (e.g., central data storage, universal identifiers)
- Attempts to date have been bottom-up LHII-like efforts to define interoperability locally, and stitch together nationally as needed
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Our Focus: The Electronic Health Record

- Operationalized Standards
- Orchestrated Interoperability
- Incentivized Adoption
- Good Outcomes
Operationalized Standards

- Technical and data standards codified in the national health information network
- Business, legal, and privacy standard models codified in the regional health information organizations
- Implementation standards codified in product and implementation certifications
Orchestrated Interoperability

- Information flow via the national health information network
- Product certification that includes interoperability through the NHIN
- Implementation guidance and testing coordinated through regional health information organizations
Incentivized Adoption

- Pay for use for clinicians who adopt approved EHR technology
- Incentives to join local RHIOs as conduit of funds, or other models
- Pay for performance for clinicians to improve care through use of HIT
- Low-rate loans for EHR adoption
- Safe harbors for anti-kickback and self-referral statutes
- Implementation guidance and support
Envisioned National Landscape
Update
Key Actions Underway

- Establishing a Health Information technology Leadership Panel
- Facilitating private sector certification for health information technology products
- Funding community health information exchange demonstrations
- Planning the development of a national health information technology network
- Requiring standards to facilitate electronic prescribing as a part of the Medicare drug benefit of 2006
- Establishing a Medicare beneficiary portal as a step toward PHRs
- Developing a secure infrastructure for sharing of clinical research data (FDA, NIH, and the Clinical Data Interchange Standards Consortium)
- Strengthening the Federal Health Architecture and Consolidated Health Informatics initiative
Five Key Near-term Actions

1. Regional Health Information Organization (RHIO) formation
2. National Health Information Network development
3. EHR Implementation support mechanisms
4. Limited physician EHR use/performance bonuses
5. Rural hospital EHR adoption loan fund
Interdependence of Near-term Actions

- Widespread EHR Adoption
- RHIO
- Implementation Support
- Health Information Network
- Loan Fund
- Physician EHR Use Bonuses
Before We Tie In HL7 DSTU & X12N,

Questions?

http://www.whitehouse.gov/omb/egov/gtob/health_informatics.htm
(Consolidated Healthcare Informatics)