President's Information Technology
Advisory Committee (PITAC)

Health Care Delivery and Information Technology (HIT) Subcommittee :
DRAFT
Recommendations

April 13, 2004

HIT Subcommittee Findings and Recommendations

Purpose of this presentation:

- Share draft recommendations for deliberation and public comment.

- Seek approval of draft recommendations as is or with modification

PITAC Health Care Delivery and IT Subcommittee

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National Call for Health Information Technology

- 2001 PITAC report to the President
- Institute of Medicine reports
- National Committee on Vital and Health Statistics (NCVHS)
- Connecting for Health, e-Health Initiative, and numerous other public interest initiatives

2004 State of the Union Address

"By computerizing health records, we can avoid dangerous medical mistakes, reduce costs and improve care."

President George W. Bush
January 20, 2004

President's Radio Address

"[We] can control health care costs and improve care by moving American medicine into the information age.

My budget for the coming year proposes doubling to $100 million the money we spend on projects that use promising health information technology. This would encourage the replacement of handwritten charts and scattered medical files with a unified system of computerized records. By taking this action, we would improve care, and help prevent dangerous medical errors, saving both lives and money."

President George W. Bush
January 24, 2004

HIT Subcommittee Activities

- Public meeting: November 2003.
- Data collection: January 2004.
  - Testimony on issues related to interoperability, privacy, and security.
- Field visits to examine value of Local Health Information Infrastructures (LHII):
  - Patient Safety Institute: Implementations at Swedish Hospital and Peace Health.
  - Puget Sound Veterans Administration Hospital.
- Town Hall meeting at annual meeting of Health Information and Management Systems Society (HIMSS): February 2004.
  - 23 speakers, ~ 80 attendees

Key Goals

- Accelerate the adoption of information technology in the health care sector.

- Achieve substantial economic and social benefits:

  - Reduce medical errors.

  - Reduce unproductive healthcare expenditures.

  - Improve quality and consistency of care.

Four Essential Elements

- Electronic Health Records that maximize the amount of information available to health care providers
  - while not creating new work flow or cost issues.

- Computer-assisted decision support
  - to increase compliance with evidence-based medicine.

- Electronic order entry
  - both for outpatient care and within the hospital environment.

- Interoperable electronic information interchange
  - includes both highly specific standards for capture of new data and tools for capturing non-standards-compliant electronic information from legacy systems.

Four Essential Elements

SECURE · PRIVATE · INTEROPERABLE · HEALTH INFORMATION EXCHANGE

ELECTRONIC HEALTH RECORDS

CLINICAL DECISION SUPPORT

COMPUTERIZED PROVIDER ORDER ENTRY

Lower Cost
Fewer Errors
Higher Quality

Four Essential Elements

Electronic Health Records

Maximize information available to caregivers without creating new workflow requirements or cost burdens

Clinical Decision Support

To increase compliance with evidence-based medical practices

Electronic Order Entry

Both for outpatient care and within the hospital environment

Secure, Private, Interoperable Health Information Exchange

- Highly specific standards for capture of new data

- Tools for capturing non-standards compliant legacy data

Lower Cost
Fewer Errors
Higher Quality

I. Economic Incentives for Investment in Health IT

DRAFT Recommendations:

- Increase Federal support of demonstration-based studies that estimate quantitatively all major costs and benefits of public and private NHII and EHR investments and practices. Where benefits are not directly returned to those who must invest in IT solutions, Federal means should be sought for redressing the imbalance
    - for example, by development of differential reimbursement structures for Medicare and other Federal health care programs that achieve quality and cost improvements as a result of adopting e-transactions and EHR systems.

I. Economic Incentives for Investment in Health IT (cont.)

DRAFT Recommendations:

- A specific study should reassess the cost-benefit of the planned conversion of diagnosis and procedure coding requirements for Federal programs from the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) to ICD-10-CM, compared to the potential alternative of moving directly to reporting diagnoses and procedures coded for clinical purposes in the Systematized Nomenclature of Medicine, Clinical Terms (SNOMED CT). This might provide incentives for standardized EHR implementations.

II. Health Information Exchange

DRAFT Recommendations:

- Increase Federal support for regional demonstrations of health information exchange that can draw upon and provide remote viewing of existing data sources, many of which do not conform to highly specific data standards.

- Research and Development are also needed to devise standard ways to present information that help clinicians to integrate disparate data from multiple sources.

III. Leveraging Federal Health IT Investments

DRAFT Recommendations:

- Develop a single set of standards for EHR systems that can be implemented across <u>all</u> federally-implemented EHRs and shared with the private sector.

- Increase Federal support of pathfinder demonstrations that share appropriate Federal Health IT implementation knowledge across all departments of the government and to the private sector.

  - Such demonstrations should use the standards analyses and recommendations of the Consolidated Health Informatics (CHI) eGovernment initiative as a foundation.

  - As soon as practical, demonstrations should target rural and disadvantaged communities that are underserved by private sector vendors of health IT solutions.

IV. Normalized, Interoperable EHRs

DRAFT Recommendation:

- Devote Federal R&D resources to the development of a single set of data standards for the most common forms of clinical information.

  – This effort should leverage efforts underway within federally-implemented systems (see Recommendation #3).

  – Examples of data to be included in the standard are vital signs, examination findings, and review of systems information.

  – These standards should be developed in the public domain in conjunction with voluntary, standards developing organizations such as HL7 and ASTM so that they may be implemented in proprietary EHR systems and also used as a fully interoperable transport standard between EHR systems.

IV. Normalized, Interoperable EHRs (cont.)

DRAFT Recommendation:

- Fund R&D into low-cost tools for normalizing both new and legacy digital data without disrupting current clinical workflow.

  - Such tools might draw upon existing Federal projects for rules-based and statistical-based natural language processing and related technologies.

V. The Human/Machine Interface and EHRs

DRAFT Recommendation:

- Research and development are needed to develop innovative and efficient human-machine interfaces that are optimized for use in the health care sector. Research into the use of IT to improve the work flow for health care delivery functions is a particularly inviting target.

  - Technology examples include improved medical-domain voice-recognition data conversion systems, improved automated entry of instrument data, improved templates that simplify and accelerate data entry without training, and automated methods for converting both new and legacy electronic data to normalized form.

VI. Unambiguous Patient Identification

DRAFT Recommendation:

- Research is needed to determine practical means for unambiguously identifying and linking patient data from multiple sources in a unique, secure, and trusted manner that protects patient privacy and gives the patient control over the use of his or her medical information.

  – This research should include an estimate of the costs and benefits associated with unique patient identifiers derived from existing or novel patient attributes.

  – This research should include existing models that emphasize private, rather than government, control of data storage, transmission, and sharing.

VII. Facilitating the Sharing of EHR Technologies

DRAFT Recommendation:

- Prompt multidisciplinary research is needed into actual and perceived legal impediments to sharing EHR systems by physicians, hospitals, laboratories, and pharmacies.

  - That research should include medical, legal, and economic expertise and should produce clear guidance that is widely accepted by government and private agencies and that maximally benefits the populace by facilitating the deployment of Health IT solutions.

VIII. Coordination of Federal NHII Development and Implementation

DRAFT Recommendation:

- Establish a senior body to coordinate the development and deployment of Health IT solutions across all Federal departments and agencies, and to coordinate the associated technology transfer to and from the private sector.

  – This body might be composed of a core group of individuals at the Undersecretary level from each affected department with additional agency-level expertise acquired as needed.

IX. Public Key Encrypted Internet Communications

DRAFT Recommendations:

- There should be no Federal impediment to Internet transmission of health data protected by secure Public Key (PK) ciphers of adequate length.

  - Assuring the trustworthiness of such ciphers requires continued aggressive Federal support for R&D on current and novel PK ciphers, means for defeating them, and pathfinder demonstrations in health-relevant contexts.

  - A specific example would be re-examination of the current Medicare policy that prevents CMS contractors from using secure transmissions over the Internet.

IX. Public Key Encrypted Internet Communications (cont.)

DRAFT Recommendations:

- A single coordinating body for certificate authorities should be established, in order to avoid the cost and confusion of bilateral encryption agreements across all health information systems.

  – Given the number of health entities that must communicate with one another, bilateral encryption agreements are untenable. Therefore the recommended studies should also assess the current maturity and efficiency of encryption techniques for sharing health information and the efficiency of federalizing such techniques.

X. Trust Hierarchy

DRAFT Recommendation:

- The Federal government, through the National Institutes of Standards and Technology (NIST) in the Department of Commerce or other civil, cross-department technology entity, should accelerate definition and establishment of extensible, hierarchical authentication trust trees and standards for optional use by the private health sector, where these trees include both government and private providers
  - supportive R&D is required.

XI. Tracing Access Requests

DRAFT Recommendation:

- Federal policies should promote development and use of data-access tracking (or auditing) systems in the health care sector.

  – This requires increased funding for R&D of such means, including pathfinder demonstrations in large systems.

XII. Policy Issues

DRAFT Recommendation:

- Federal policy recommendations relevant to the privacy and security issues listed above should be an early product of the senior coordination body for Health IT (see Recommendation VIII).

Discussion