



Brief Facts

on the

PCAST (President's Council of Advisors on Science and Technology) Report

“Realizing the Full Potential of Health Information Technology to Improve Healthcare for Americans: The Path Forward”

Background: The President's Council of Advisors on Science and Technology ([PCAST](#)) is an advisory board to President Obama, which includes leading scientists and engineers from across the U.S. PCAST members' collective expertise in science, technology, and mathematics is leveraged to provide insight into innovative approaches to advancing U.S. initiatives. The PCAST was launched in April 2009, but has predecessor advisory boards dating back to the FDR Administration in 1933.

In August 2009, the PCAST was tasked to study innovative approaches to leverage information technology to “revolutionize healthcare”. The PCAST, led by John P. Holdren (Assistant to the President for Science and Technology) and Dr. Eric Lander (Broad Institute of Harvard and MIT), the PCAST completed its study in December 2010 and released the report, “[Realizing the Full Potential of Health Information Technology to Improve Healthcare for Americans: The Path Forward](#)”

December 2010 Press Conference: On Wednesday, December 8, 2010, the Secretary of Health and Human Services, Kathleen Sebelius; Chairman of the President's Council of Economic Advisors, Lawrence Summers; National Coordinator for Health IT, Dr. David Blumenthal; and members of the PCAST presented the findings of the PCAST Report titled “Realizing the Full Potential of Health Information Technology to Improve Healthcare for Americans: The Path Forward”

Secretary Sebelius applauded the PCAST's report, and emphasized the advantages of IT to improving healthcare quality and efficiencies in four areas, including making real time information available for clinicians; providing more control over personal health information for patients/consumers; encouraging a healthier workforce for employers; and creating skilled jobs for the 21st Century Economy.

Mr. Summers followed the Secretary's comments by reminding the participants that health IT makes for good macroeconomic sense through the spending power of direct government action

(support for standards development and innovation), potential for international export opportunities, and direct investment by government and industry. From an economics perspective, he emphasized that connecting the business and clinical sides of healthcare through technology will have a positive impact on the efficiency and quality of healthcare delivery. Finally, Mr. Summers encouraged the investment in health IT to bring the benefits to the average healthcare consumer in the form of saved lives and more effective healthcare encounters.

PCAST member Christine K. Cassel, M.D. (president and CEO of American Board of Internal Medicine) focused on the intended benefit of increasing use of health IT that the PCAST used as the basis for their review, including the following:

- Ensuring real time access to information
- Improving workflow and decreasing administrative requirements for clinicians
- Increasing consumer confidence in care delivery
- Embedding Privacy/Security in product meta data
- Leveraging healthcare research to improve public health monitoring

Finally, Dr. Blumenthal applauded the PCAST's work and outlined ONC's efforts to get providers using Electronic Health Records in anticipation of eventually achieving interoperability of healthcare data. Over the next year, ONC will be working with the HIT Policy Committee and HIT Standards Committee to incorporate PCAST Recommendations into the Meaningful Use Framework. ONC will be leveraging the expertise from other sectors in order to take advantage of some of the recommendations, and will look forward to discussing the unique attributes of healthcare information with the other sector subject matter experts – particularly around the issue of privacy and security.

Highlights of the PCAST Report:

PCAST Identified Barriers to Innovation and Competition:

- Most health IT systems are proprietary, do not adapt well to workflow changes, and have difficulty supporting interoperable exchange.
- Organizations view electronic health records as internal resources and are reluctant to make information available for patients or other healthcare facilities and providers
- Patients are concerned about privacy and security and unwanted intrusions associated with data exchange or data used in research
- Health IT's historical function is administrative side of healthcare, rather than better care outcomes.

PCAST Conclusions about current state of Health IT:

- HHS efforts for Meaningful Use, and HITECH response, have established a strong foundation for future success
- Existing efforts at developing standards-based data exchange is not robust enough to achieve a “network effect” of health IT. Future success will be dependent on a vigorous adherence to the development and dissemination of a “universal exchange language”
- Federal leadership important to infrastructure development for data exchange and the necessary universal exchange language.
- HHS should leverage lessons learned from other sectors of society, including the use of tagged meta data, to expand the successes of data exchange.
- ONC should act to develop a process to achieve a universal exchange language that ensures it is available and included in Meaningful Use Stage 2 and Stage 3.
- The U.S. Government should start leveraging the requirements identified for the Centers for Medicare and Medicaid Services; healthcare information management modernization efforts.

Opportunities for Health Information Exchange

PCAST supports incorporation of flexible solutions to ensure health information exchange, including Cloud Computing, web-based Personal Health Records, and Middleware that aggregates data from across disparate organizations and resources.

Observations on Standardized Health Records

PCAST suggests that diversity in the marketplace will make standardized record formats extremely challenging. Similarly, Service Oriented Architecture (SOA) has challenges based on questions over scalability.

Solution involves Universal Exchange Utilizing Metadata-Tagged Data Elements

Using a natural syntax for healthcare that involves an universal exchange data that allows for the data to be shared across multiple settings. The metadata would be hanging in the background, and available to help sort the data needed address a patient’s concerns. The PCAST is suggesting that the metadata may be at such as point as to provide necessary patient information, plus provide necessary privacy protection, as well as provider identification through time stamps, etc.

The Universal Exchange Language is an element of what the PCAST calls “data-element access services,” which includes “crawling, indexing, security, identity, authentication, authorization, and privacy.” Access to the data would be controlled by the patient granting access to certain providers or covered entities, and the search and retrieval processes would be similar to current search tools on the internet.

The Tagged Data Element Approach is lauded by the PCAST as being advantageous to data collection because metadata is extensible, it can be scalable to more sites, and promotes the acceleration of third-party companies to expand innovation.

Privacy and Security Considerations:

PCAST emphasizes the need to have “strong and persistent privacy protections” to ensure patient protection that meets 21st Century consumer expectations. The PCAST highlights the need for encryption keys, digital signatures, and multi-factor authentication as approaches to ensure patient and provider identity.

In addition, the PCAST asserts that the unique patient identification is not necessary because multi-factor or algorithm solutions can be leveraged to identify a patient.

Economic and Regulatory Change

PCAST asserts that federal leadership is required for the development and dissemination of a recognizable Data Exchange Infrastructure that standardizes metadata. The tagged metadata approach will require EHRs to be upgraded to interoperate. The strong federal involvement will ensure greater likelihood of innovation making its way into the health IT market place.

The PCAST also provides estimated costs of developing components of their recommendations, including \$20-40 million to develop the universal exchange language; \$5-\$20 million per vendor to upgrade software; and \$100 to \$300 million for the government to establish capital and operating costs associated with updating existing systems.

Recommendations:

Finally, the PCAST developed a series of short and mid-term recommendations for the Chief Technology Officer of the United States, the Office of the National Coordinator for Health IT, and the Centers for Medicare and Medicaid Services, the Department of Health and Human Services, and Other Agencies. Some of the recommendations are as follows:

U.S. Chief Technology Officer should coordinate with the Office of Management and Budget, Department of Health and Human Services, and Office of the National Coordinator for Health IT to establish a set of metrics that utilize the recommendations in the report associated with a

national health IT infrastructure. In addition, the Chief Technology Officer should assess the progress toward implementation of the program.

The Office of the National Coordinator has a series of recommendations to follow up on, including coordinating the transition to metadata-tagged data elements architecture; movement on incorporating the recommendations in to Meaningful Use Stage 2 and 3, and set standards for the necessary data element access services (DEAS).

Centers for Medicare and Medicaid Services are recommended to have Meaningful Use objectives for providers that encourage Metadata tagged elements, encourage the transformation of health IT use at CMS, and redirect CMS resources to data exchange and increased use of clinical decision support.

The Department of Health and Human Services should design and implement a strategic plan for ensuring all components of HHS and private sector organizations align data standards.

Finally, the Departments of Defense and Veterans Affairs engage with ONC to “drive the development of standards for Universal data exchange.

Next Steps:

The Office of the National Coordinator for Health IT is seeking comments on certain aspects of the PCAST report through January 17, 2011. HIMSS is working with its volunteer members to submit a response. You can [view the questions in this Request for Information \[PDF - 20 KB\]](#) and submit [comments](#) here. For more information, please contact [Tom Leary](#), HIMSS Senior Director of Federal Affairs, at 703-562-8814.