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HEALTH INFORMATION TECHNOLOGY

HHS Is Pursuing Efforts to Advance Nationwide Implementation, but Has Not Yet Completed a National Strategy

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Why GAO Did This Study

Health information technology (IT) offers promise for improving patient safety and reducing inefficiencies. Given its role in providing health care in the United States, the federal government has been urged to take a leadership role to improve the quality and effectiveness of health care, including the adoption of IT. In April 2004, President Bush called for widespread adoption of interoperable electronic health records within 10 years and issued an executive order that established the position of the National Coordinator for Health Information Technology within the Department of Health and Human Services (HHS). The National Coordinator, appointed in May 2004, released a framework for strategic action two months later. In late 2005, HHS also awarded several contracts to address key areas of health IT.

GAO has been reporting on the department's efforts toward nationwide implementation of health IT since 2005. In prior work, GAO recommended that HHS establish detailed plans and milestones for the development of a national health IT strategy and take steps to ensure that its plans are followed and milestones met. For this testimony, GAO was asked to describe HHS's efforts to advance the use of health IT. To do this, GAO reviewed prior reports and agency documents on the current status of relevant HHS activities.

What GAO Found

HHS and the Office of the National Coordinator have been pursuing various activities in key areas associated with the President's goal for nationwide implementation of health IT. In 2005, the department established the American Health Information Community, a federal advisory committee, to help define the future direction of a national strategy for health IT and to make recommendations to the Secretary of Health and Human Services for implementing interoperable health IT. The community has made recommendations directed toward key areas of health IT, including the expansion of electronic health records, the identification of standards, the advancement of nationwide health information exchange, the protection of personal health information, and other related issues. The table shows recent HHS activities in these areas.

Key Areas of Nationwide Health IT Activities

Areas of health IT	Activities
Electronic health records	Defined initial certification criteria for outpatient and inpatient electronic health records and certified 100 products that offer electronic health records.
Standardization	Selected initial standards to address specific areas identified by the American Health Information Community; federal agencies that administer or sponsor federal health programs are to implement the standards, as required by President Bush's August 2006 Executive Order.
Networking and information exchange	Awarded contracts to nine regional and state health information exchanges to begin trial implementations of the Nationwide Health Information Network and to test their ability to work together and to demonstrate real-time information exchange.
Health information privacy and security	Reported the outcomes of a privacy and security solutions contract in a final summary report that described variations among organization-level business practices, policies, and laws for protecting health information that could affect organizations' abilities to exchange data. Developed and made available to the public a toolkit to guide health information exchange organizations in conducting assessments of business practices, policies, and state laws that govern the privacy and security of health information.

Source: GAO analysis of HHS data.

Even though HHS is undertaking these various activities, it has not yet developed a national strategy that defines plans, milestones, and performance measures for reaching the President's goal of interoperable electronic health records by 2014. In 2006, the National Coordinator for Health Information Technology agreed with GAO's recommendation that HHS define such a strategy; however, the department has not yet done so. Without an integrated national strategy, HHS will be challenged to ensure that the outcomes of its various health IT initiatives effectively support the President's goal for widespread adoption of interoperable electronic health records.

Mr. Chairman and Members of the Committee:

I am pleased to be here today to comment on federal efforts to advance the use of information technology (IT) for health care delivery. As we and others have reported, the use of IT has great potential to help improve the quality of health care and is critical to improving the performance of the U.S. health care system.

Recognizing the potential value of IT in public and private health care systems, the federal government has, for several years, been working to promote the nationwide use of health IT.[1] In April 2004, President Bush called for widespread adoption of interoperable[2] electronic health records within 10 years and issued an executive order[3] that established the position of the National Coordinator for Health Information Technology within the Department of Health and Human Services (HHS). The National Coordinator's responsibilities include the development and implementation of a strategic plan to guide the nationwide implementation of interoperable health IT in both the public and private sectors.[4]

Since 2005, we have been reporting on the efforts of the Office of the National Coordinator to develop and implement a national health IT strategy. At your request, my testimony today will describe HHS's ongoing efforts to complete certain key health IT-related activities. We conducted our work in support of this testimony during February 2008. To prepare this statement, we reviewed our prior reports and analyzed agency documents on the current status of relevant HHS activities. All work on which this testimony is based

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[1]Health IT is the use of technology to electronically collect, store, retrieve, and transfer clinical, administrative, and financial health information.

[2]Interoperable means that different information systems, software applications and networks are able to communicate and exchange information in an accurate, effective, useable, and consistent manner.

[3]Executive Order 13335, *Incentives for the Use of Health Information Technology and Establishing the Position of the National Health Information Technology Coordinator* (Washington, D.C.: Apr. 27, 2004).

[4]The Office of the National Coordinator for Health Information technology is under the Office of the Secretary.

was performed in accordance with generally accepted government auditing standards.

Results in Brief

HHS and the Office of the National Coordinator have been pursuing various actions in support of the President's goal for nationwide implementation of health IT. In 2005, the Secretary of Health and Human Services formed the American Health Information Community to help define the future direction of a national strategy for health IT and to make recommendations for key health IT areas, such as the advancement of electronic health records, the identification of health IT standards, the implementation of a nationwide health information exchange, and the protection of personal health information. As a result of these actions:

- The Office of the National Coordinator has taken steps to advance the implementation of both outpatient and inpatient electronic health records.

- The Secretary has recognized certain interoperability standards to be implemented in federal health care programs.

- The Office of the National Coordinator has begun trial implementations of a nationwide health information network at nine health information exchange organizations across the country.

- The Office of the National Coordinator has released a summary report and toolkit based on the results of its privacy and security solutions contractor's work.

However, HHS has not yet completed a national strategy for health IT that integrates the outcomes of these efforts and that includes key elements needed to ensure that its goals are met. Given the amount of work yet to be done and the complex task of integrating the outcomes of HHS's various initiatives, it is essential that a national strategy for health IT be defined that includes plans, milestones, and performance measures for ensuring progress toward the President's goals. Without such a strategy, it is difficult

to effectively monitor progress toward achieving national goals for health IT.

Background

Studies published by the Institute of Medicine and others have indicated that fragmented, disorganized, and inaccessible clinical information adversely affects the quality of health care and compromises patient safety. In addition, long-standing problems with medical errors and inefficiencies increase costs for health care delivery in the United States. With health care spending in 2006 reaching almost $2.1 trillion, or 16 percent of the gross domestic product, concerns about the costs of health care continue, and many policy makers, industry experts, and medical practitioners contend that the U.S. health care system is in a crisis.[5]

Health IT offers promise for improving patient safety and reducing inefficiencies. The expanded use of health IT has great potential to improve the quality of care, bolster the preparedness of our public health infrastructure, and save money on administrative costs. For example, as we reported in 2003, a 1,951-bed teaching hospital reported that it had realized about $8.6 million in annual savings by replacing outpatient paper medical charts with electronic medical records. This hospital also reported saving more than $2.8 million annually by replacing its manual process for managing medical records with an electronic process to provide access to laboratory results and reports. Technologies such as electronic health records and bar coding of certain human drug and biological product labels have been shown to save money and reduce medical errors.[6] Health care organizations also reported that IT contributed other benefits, such as shorter hospital stays, faster communication of test results, improved management of chronic diseases, and improved accuracy

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[5]GAO, *21st Century Challenges: Reexamining the Base of the Federal Government*, GAO-05-325SP (Washington, D.C.: February 2005).

[6]GAO, *Information Technology: Benefits Realized for Selected Health Care Functions*, GAO-04-224 (Washington, D.C.: Oct. 31, 2003).

in capturing charges associated with diagnostic and procedure codes. However, according to HHS, only a small number of U.S. health care providers have fully adopted health IT due to significant financial, technical, cultural, and legal barriers, such as a lack of access to capital, a lack of data standards, and resistance from health care providers.

Federal Government's Role in Health Care

According to the Institute of Medicine, the federal government, as a regulator, purchaser, health care provider, and sponsor of research, education, and training, has a central role in shaping nearly all aspects of the health care industry. According to the Centers for Medicare and Medicaid Services, several federal health care programs, such as Medicare and Medicaid, spent almost $450 billion on health services in 2006, accounting for 23 percent of the nation's health care expenditures that year. Given the level of the federal government's participation in providing health care, it has been urged to take a leadership role in driving change to improve the quality and effectiveness of medical care in the United States, including an expanded adoption of IT.

In an effort to leverage the federal government's role in health care, the President called for the Secretary of Health and Human Services to appoint a National Coordinator for Health Information Technology. The Secretary appointed the first National Coordinator in May 2004.[7] Two months later, HHS released a framework document as the first step toward the development of a national strategy;[8] the framework described goals for achieving nationwide interoperability of health IT and actions to be taken by both the

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[7]This position was vacated by the first national coordinator in May 2006. This position was filled by an interim coordinator until the Secretary appointed a new coordinator in April 2007.

[8]HHS, *The Decade of Health Information Technology: Delivering Consumer-centric and Information-rich Health Care—Framework for Strategic Action* (July 2004).

public and private sectors to implement a strategy for reaching these goals.[9]

In 2005, the Secretary formed the American Health Information Community, a federally chartered commission,[10] to advise the department on achieving its goals in this area: in particular, developing interoperable health information exchange through a future Nationwide Health Information Network and providing most Americans with access to secure electronic health records by 2014. The community is made up of representatives from both the public and private health care sectors. In 2005, it identified components of health care that could potentially achieve measurable results in two to three years, including electronic health records.[11] The community makes recommendations to the Secretary for advancing interoperability in these areas, along with recommendations directed toward the identification of health IT standards, the advancement of nationwide health information exchange, the protection of personal health information, and other related issues. Additionally, in furtherance of the federal government's initiative to achieve expanded health IT adoption, in August 2006 President Bush issued an executive order calling for federal health care programs and their providers, plans, and insurers to use IT interoperability standards recognized by HHS.[12]

From its establishment in 2004 through 2008, the Office of the National Coordinator has received about $200 million in funding to support new efforts to ensure the adoption of health IT nationwide through the development of data standards and the implementation of projects on priority areas identified by the American Health Information Community. For the first 2 years of its operation (fiscal years 2004 and 2005), funding was provided from departmental

[9]Interoperability is important because it allows patients' electronic health information to move with them from provider to provider, regardless of where the information originated.

[10]The Community was formed in September 2005.

[11]Other components are consumer empowerment, chronic care, and biosurveillance.

[12]*Executive Order: Promoting Quality and Efficient Health Care in Federal Government Administered or Sponsored Health Care Programs* (Washington, D.C.: Aug. 22, 2006).

discretionary funds allocated by the Secretary of Health and Human Services, and in fiscal year 2005 the office received $20 million. In fiscal year 2006, the department began submitting budget requests for the office. Table 1 shows the department's requested and actual budget for the office for fiscal years 2006 through 2008 and the amount requested for fiscal year 2009.

Table 1: Requested and Actual Budget for the Office of the National Coordinator (Fiscal Years 2006 through 2009)

(Dollars in millions)

Fiscal year 2006		Fiscal year 2007		Fiscal year 2008		Fiscal year 2009
Request	Actual	Request	Actual	Request	Actual	Request
$78	$61	$118	$61	$118	$61	$66

Source: HHS budget documents.

HHS's overall departmental budget request for health IT for fiscal year 2009 is almost $115 million for various new and continuing initiatives within multiple HHS divisions. Besides the $66 million for the initiatives of the Office of the National Coordinator, this amount includes

- $3.8 million to fund the second year of a project at the Centers for Medicare and Medicaid Services that provides financial incentives to physician practices to adopt certified electronic health record systems, and

- $45 million for the Agency for Healthcare Research and Quality to fund health IT investments aimed at enhancing patient safety.

The budget request also supports the continuation of an electronic health record system for all direct health care sites of the Indian Health Service.

Since the Office of the National Coordinator has been funded, congressional interest in the expansion of health IT has increased. According to the Healthcare Information Management Systems

Society,[13] 41 pieces of legislation related to health IT were introduced by the 109th Congress, and, so far, the 110th Congress has introduced about 12 bills, reports, and resolutions; subjects addressed include grants and financial assistance to help support the implementation of health IT, provisions for incentives to health care providers for IT implementation, standards for exchanging health information, and protection of privacy and security of electronic health information. Additionally, in his 2008 State of the Union address, President Bush called for the 110th Congress to expand the use of health IT.

Our Past Work Has Reviewed HHS's Efforts to Define a National Strategy and Expand the Implementation of Health IT

Since 2005, we have reported and testified on HHS's efforts to define a national strategy for achieving widespread implementation of health IT, including an approach for ensuring the protection of electronic personal health information. We reported that through the Office of the National Coordinator for Health IT, HHS has taken a number of actions to promote the acceleration of the use of IT in the health care industry.[14] For example, in late 2005 the National Coordinator's Office awarded several contracts to address a range of activities important for expanding the implementation of health IT; these activities include

- defining criteria and a process for certifying the interoperability of electronic health records to help increase the number of health care providers adopting electronic health records,

- defining health information standards needed to ensure the interoperability of electronic health records and health IT systems,

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[13]The Healthcare Information Management Systems Society is the health care industry's membership organization exclusively focused on providing leadership for the optimal use of health IT and management systems to improve health care. Each year it maintains a list of health IT legislation introduced in Congress, including the status of the legislation.

[14]GAO, *Health Information Technology: HHS Is Taking Steps to Develop a National Strategy*, GAO-05-628 (Washington, D.C.: May 27, 2005); *Health Information Technology: HHS Is Continuing Efforts to Define a National Strategy*, GAO-06-346T (Washington, D.C.: Mar. 15, 2006); *Health Information Technology: HHS Is Continuing Efforts to Define its National Strategy*, GAO-06-1071T (Washington, D.C.: Sept. 1, 2006).

- defining requirements for exchanging health information throughout a nationwide health information network, and

- defining privacy and security policies to ensure the protection of electronic personal health information.

In our previous work, we reported that although HHS had made progress in these areas, it still lacked an overall implementation strategy, including the detailed plans, milestones, and performance measures needed to ensure that the outcomes of its efforts are integrated and that the President's goals for the implementation of nationwide health IT are met. In May 2005, we recommended that HHS establish detailed plans and milestones for the development of a national health IT strategy and take steps to ensure that its plans are followed and milestones are met. We reiterated this recommendation in March 2006 and again in September 2006.

We have also reported on HHS's efforts to ensure the privacy of personal health information exchanged within health information exchange networks.[15] According to our work, although HHS had initiated several activities to help ensure the protection of health information, it had not defined an overall approach for health information privacy or an implementation strategy that included key elements such as timelines and milestones for completing its privacy-related initiatives. We recommended that HHS define and implement an overall privacy approach that identifies milestones for integrating the outcomes of its initiatives, ensures that key privacy principles are fully addressed, and addresses challenges associated with the nationwide exchange of health information.

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[15]GAO, *Health Information Technology: Early Efforts Initiated, but Comprehensive Privacy Approach Needed for National Strategy*, GAO-07-238 (Washington, D.C.: Jan. 10, 2007); *Health Information Technology: Early Efforts Initiated, but Comprehensive Privacy Approach Needed for National Strategy*, GAO-07-400T (Washington, D.C.: Feb. 1, 2007); *Health Information Technology: Efforts Continue, but Comprehensive Privacy Approach Needed for National Strategy*, GAO-07-988T (Washington, D.C.: June 19, 2007).

HHS Is Pursuing Efforts to Advance the Nationwide Implementation of Health IT, but It Has Not Yet Completed a National Strategy

HHS and the Office of the National Coordinator have been pursuing various efforts to implement health IT solutions. Among other activities, the department has been relying on recommendations of the American Health Information Community to assist the office's health IT initiatives in several key areas aimed at the expansion of electronic health records, identification of health IT standards, advancement of nationwide health information exchange, protection of personal health information, and other related issues. In this regard, HHS and the Office of the National Coordinator have taken actions in the areas of electronic health records, standardization, networking and information exchange, and health information privacy and security:

Electronic health records. To help expand the implementation of electronic health records, among other actions, HHS issued a contract for the Compliance Certification Process for Health IT. This contract, awarded to the Certification Commission for Health IT, is to define criteria and a certification process to ensure that various electronic health records products can be exchanged among different systems in health information exchange networks. In May 2006, HHS finalized a process and criteria for certifying the interoperability of outpatient electronic health records and described criteria for future certification requirements. Certification criteria for inpatient electronic health records were finalized in June 2007. To date, the Certification Commission has certified about 100 products offering electronic health records. The results of this effort are intended to help encourage health care providers to implement electronic health records by providing assurance that they will be able to use electronic records effectively and exchange them with other health IT systems.

Standardization. Through a contract for the Standards Harmonization Process for Health IT, HHS is promoting the implementation of standards required to enable the exchange of electronic health information in federal health care programs, as well as ensure the interoperability of electronic health records and

IT systems. Such standards are essential for the development of a nationwide health information network.

The contractor, in collaboration with the National Institute for Standards and Technology, selected initial standards to address specific areas identified by the American Health Information Community. These standards address, among other things, requirements for message and document formats, along with technical network requirements. According to the contractor, the Secretary announced the recognition of these standards in January 2008 after a year-long period of review and testing by healthcare providers, government agencies, consumers and other stakeholders. Federal agencies that administer or sponsor federal health programs are now required to implement these standards, in accordance with President Bush's August 2006 Executive Order.

Networking and information exchange. The Office of the National Coordinator has taken steps to enable health care entities—such as providers, hospitals, and clinical labs—to exchange electronic health information on a nationwide basis. HHS has awarded Nationwide Health Information Network contracts that were designed to provide prototypes of national networks of health information exchanges. These exchanges are intended to connect providers and patients from different regions of the country and enable the sharing of electronic health information, such as health records and laboratory results. Together, these connections are intended to form the "network of networks" that is envisioned to be the Nationwide Health Information Network.

According to HHS, in early 2007 its contractors delivered final prototypes that could form the foundation of a nationwide network for health information exchange. In October 2007, the Secretary of Health and Human Services announced the award of contracts totaling $22.3 million to nine regional and state health information exchanges to begin trial implementations of the Nationwide Health

Information Network.[16] At the end of the first contract year—September 2008—HHS intends for the nine organizations and the federal agencies that provide health care services to test their ability to work together and to demonstrate real-time information exchange based upon nationwide health information exchange specifications that they define. HHS plans to place these specifications and related testing materials in the public domain, so that they can be used by other health information exchange organizations to guide their efforts to adopt interoperable health IT.

Health information privacy and security. HHS has taken steps to further address privacy and security issues associated with the nationwide exchange of personal health information. In June 2007, HHS reported the outcomes of its privacy and security solutions contract based on the work of 34 states and territories that participated in the contract.[17] A final summary report described variations among organization-level business practices, policies, and laws for protecting health information that could affect organizations' abilities to exchange data. As a result of this work, HHS developed and made available to the public a toolkit to guide health information exchange organizations in conducting assessments of business practices, policies, and state laws that govern the privacy and security of health information exchange.

Additionally, in discussions with us in June 2007, the National Coordinator for Health IT agreed with the need for an overall approach to protect health information and stated that the department was initiating steps to address our recommendation that HHS define and implement an overall privacy approach. Such an approach should be part of a comprehensive national strategy for

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[16]The nine health information exchanges are CareSpark, covering the Tricities region of Eastern Tennessee and Southwestern Virginia; Delaware Health Information Network, covering Delaware; Indiana University, covering the Indianapolis metroplex; Long Beach Network for Health, covering Long Beach and Los Angeles, California; Lovelace Clinic Foundation, covering New Mexico; MedVirginia, covering Central Virginia; New York eHealth Collaborative, covering New York; North Carolina Healthcare Information and Communications Alliance, Inc., covering North Carolina; and West Virginia Health Information Network, covering West Virginia.

[17]According to HHS, this project has now expanded to involve 45 states and territories.

health IT and should include milestones for integrating the outcomes of HHS's various privacy-related initiatives, ensure that key privacy principles are fully addressed, and address challenges associated with the nationwide exchange of health information. However, our recommendation for protecting health information has not yet been implemented.

Further, although HHS has initiated specific activities intended to meet the goals of its framework for strategic action, and it is continuing efforts to expand the nationwide implementation of health IT, it is undertaking these activities without a comprehensive national strategy that includes the detailed plans, milestones, and performance measures needed to ensure that the outcomes of its various initiatives are integrated and its goals are met. Given the many activities to be coordinated, such a national strategy is essential.

The National Coordinator acknowledged in March 2006 that more detailed plans were needed for the office's various initiatives and told us that HHS intended to release a strategic plan with detailed plans and milestones in late 2006. Nonetheless, today the office still lacks the detailed plans, milestones, and performance measures that are needed. According to its fiscal year 2009 performance plans, the Office of the National Coordinator has prepared a draft health IT strategic plan, which it intends to release in the second quarter of 2008. If properly developed and implemented, this strategy should help ensure that HHS's various health IT initiatives are integrated and effectively support the goal of widespread adoption of interoperable electronic health records.

In summary, Mr. Chairman, our work shows that the Office of the National Coordinator for Health Information Technology has been undertaking important work on specific activities supporting the goals of its framework for strategic action. However, HHS has not yet defined detailed plans and milestones for integrating the various initiatives, nor has it developed performance measures for tracking progress toward the President's goal for widespread adoption of interoperable electronic health records by 2014. To its credit, the

office has taken steps to advance electronic health record adoption, identify interoperability standards, enable nationwide health information exchange, and protect personal health information. However, given the amount of work yet to be done and the complex task of integrating the outcomes of HHS's various initiatives, it is essential that a national strategy for health IT be defined that includes plans, milestones, and performance measures for ensuring progress toward the President's goals. Without such a strategy, it is difficult to gauge the amount of progress being made by HHS toward achieving widespread adoption of interoperable electronic health records by 2014.

Mr. Chairman, this concludes my statement. I would be pleased to answer any questions that you or other Members of the Committee may have.

Contacts and Acknowledgments

If you should have any questions about this statement, please contact me at (202) 512-6304 or by e-mail at melvinv@gao.gov. Other individuals who made key contributions to this statement are Barbara S. Collier, Amanda C. Gill, Nancy E. Glover, M. Saad Khan, and Teresa F. Tucker.

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