

July 2009

ELECTRONIC HEALTH RECORDS

DOD and VA Efforts
to Achieve Full
Interoperability Are
Ongoing; Program
Office Management
Needs Improvement



GAO

Accountability * Integrity * Reliability



Highlights of [GAO-09-775](#), a report to congressional committees

ELECTRONIC HEALTH RECORDS

DOD and VA Efforts to Achieve Full Interoperability Are Ongoing; Program Office Management Needs Improvement

Why GAO Did This Study

The National Defense Authorization Act for Fiscal Year 2008 required the Department of Defense (DOD) and the Department of Veterans Affairs (VA) to accelerate their exchange of health information and to develop systems or capabilities that allow for interoperability (generally, the ability of systems to exchange data) by September 30, 2009. It also required compliance with federal standards and the establishment of a joint interagency program office to function as a single point of accountability for the effort.

Further, the act directed GAO to semiannually report on the progress made in achieving these requirements. For this third report, GAO evaluated (1) the departments' progress and plans toward sharing fully interoperable electronic health information that comply with federal standards and (2) whether the interagency program office is positioned to function as a single point of accountability. To do so, GAO analyzed agency documentation on project status and conducted interviews with agency officials.

What GAO Recommends

GAO is recommending that the departments improve management of their interoperability efforts by establishing a project plan and a complete and detailed integrated master schedule. Commenting on a draft of this report, DOD, VA, and the interagency program office concurred with GAO's recommendation.

[View GAO-09-775 or key components.](#) For more information, contact Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov.

What GAO Found

DOD and VA have taken steps to meet six objectives that they identified for achieving full interoperability in compliance with applicable standards (see table) by September 30, 2009. Specifically, the departments have achieved planned capabilities for three of the objectives—refine social history data, share physical exam data, and demonstrate initial network gateway operation. For the remaining three objectives, the departments have partially achieved planned capabilities, with additional work needed to fully meet the objectives. Regarding the objective to expand questionnaires and self-assessment tools, this additional work is intended to be completed by the deadline. The departments' officials have stated that they intend to meet the objectives to expand DOD's inpatient medical records system and demonstrate initial document scanning; however, additional work will be required beyond September to perform all the activities necessary to meet clinicians' needs for health information.

Description of DOD and VA Interoperability Objectives

Objective	Description
Refine social history data	DOD will begin sharing with VA social history data currently captured in the DOD electronic health record. Such data describe, for example, patients' involvement in hazardous activities and tobacco and alcohol use.
Share physical exam data	DOD will provide an initial capability to share with VA its electronic health record information that supports the physical exam process when a service member separates from active military duty.
Demonstrate initial network gateway operation	DOD and VA will demonstrate the operation of secure network gateways that provide expanded bandwidth to support information sharing between DOD and VA healthcare facilities.
Expand questionnaires and self-assessment tools	DOD will provide all periodic health assessment data stored in its electronic health record to VA such that questionnaire responses are viewable with the questions that elicited them.
Expand DOD inpatient medical records system	DOD will expand its inpatient medical records system to at least one additional site in each military medical department (one Army, one Air Force, and one Navy for a total of three sites).
Demonstrate initial document scanning	DOD will demonstrate an initial capability for scanning service members' medical documents into its electronic health record and sharing the documents electronically with VA.

Source: GAO based on DOD and VA data.

The DOD/VA Interagency Program Office is not yet effectively positioned to function as a single point of accountability for the implementation of fully interoperable electronic health record systems or capabilities between DOD and VA. While the departments have made progress in setting up the office by hiring additional staff, they continue to fill key leadership positions on an interim basis. Further, while the office has begun to demonstrate responsibilities outlined in its charter, it is not yet fulfilling key information technology management responsibilities in the areas of performance measurement (as GAO previously recommended), project planning, and scheduling, which are essential to establishing the office as a single point of accountability for the departments' interoperability efforts.

Contents

Letter		1
	Background	2
	DOD and VA Have Taken Steps to Meet their Objectives, but Activities Are Expected to Remain after the Deadline for Achieving Full Interoperability	9
	DOD/VA Interagency Program Office Has Made Progress in Becoming Operational, but Is Not Fully Functioning as a Single Point of Accountability	12
	Conclusions	16
	Recommendation for Executive Action	16
	Agency Comments and Our Evaluation	17
Appendix I	Scope and Methodology	21
Appendix II	Comments from the Department of Defense	22
Appendix III	Comments from the Department of Veterans Affairs	24
Appendix IV	Comments from the DOD/VA Interagency Program Office	28
Appendix V	GAO Contact and Staff Acknowledgments	30
Tables		
	Table 1: Description of DOD and VA Interoperability Objectives	8
	Table 2: Status of Selected Key Activities to Establish the DOD/VA Interagency Program Office	13
Figure		
	Figure 1: Levels of Data Interoperability	5

Abbreviations

AHLTA	Armed Forces Health Longitudinal Technology Application
BHIE	Bidirectional Health Information Exchange
CDR	Clinical Data Repository
CHCS	Composite Health Care System
CHDR	interface between DOD's CDR and VA's HDR
DOD	Department of Defense
FHIE	Federal Health Information Exchange
HDR	Health Data Repository
HHS	Department of Health and Human Services
IT	information technology
VA	Department of Veterans Affairs
VistA	Veterans Health Information Systems and Technology Architecture

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United States Government Accountability Office
Washington, DC 20548

July 28, 2009

Congressional Committees

The Department of Defense (DOD) and the Department of Veterans Affairs (VA) have been working for over a decade on initiatives to share data between their health information systems. However, while they have taken important steps, questions have continued to be raised about when and to what extent the departments' intended electronic sharing capabilities will be fully achieved. In an effort to expedite the exchange of electronic health information between the two departments, the National Defense Authorization Act for Fiscal Year 2008¹ included provisions directing DOD and VA to jointly develop and implement, by September 30, 2009, fully interoperable² electronic health record systems or capabilities that are compliant with applicable federal interoperability standards. Such systems and capabilities are important for making patient information more readily available to health care providers in both departments, reducing medical errors, and streamlining administrative functions. In addition, the act established an interagency program office to be a single point of accountability for the departments' efforts.

Further, the act directed us to assess DOD's and VA's progress in implementing the electronic health record systems and to report semiannually our results to the appropriate congressional committees. Accordingly, on July 28, 2008,³ and January 28, 2009,⁴ we issued reports in response to the act. As agreed with the committees of jurisdiction, our

¹Pub. L. No. 110-181, § 1635 (2008).

²Interoperability is the ability of two or more systems or components to exchange information and to use the information that has been exchanged.

³See GAO, *Electronic Health Records: DOD and VA Have Increased Their Sharing of Health Information, but More Work Remains*, [GAO-08-954](#) (Washington, D.C.: July 28, 2008). In this report, we highlighted the departments' progress in sharing electronic health information, developing electronic records that comply with national standards, and setting up the interagency program office.

⁴See GAO, *Electronic Health Records: DOD's and VA's Sharing of Information Could Benefit from Improved Management*, [GAO-09-268](#) (Washington, D.C.: Jan. 28, 2009). In this report, we noted that DOD and VA have increased their sharing of health information, and defined plans to further increase their sharing of electronic health information. However, the plans did not identify results-oriented (i.e., objective, quantifiable, and measurable) performance goals and measures that are characteristic of effective planning.

objectives for this third report are to (1) evaluate the departments' progress and plans toward developing electronic health record systems or capabilities that allow for full interoperability and comply with applicable federal interoperability standards and (2) determine whether the interagency program office established by the National Defense Authorization Act for Fiscal Year 2008 is positioned to function as a single point of accountability for developing and implementing electronic health records.

To accomplish these objectives, we reviewed our past work in this area; analyzed current agency documentation (including plans outlining objectives for achieving interoperability, project status information, and the interagency program office charter); and conducted interviews with officials from DOD and VA.

We conducted this performance audit from April 2009 through July 2009, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. For more details on our scope and methodology, see appendix I.

Background

The use of information technology (IT) to electronically collect, store, retrieve, and transfer clinical, administrative, and financial health information has great potential to help improve the quality and efficiency of health care and is important to improving the performance of the U.S. health care system. Historically, patient health information has been scattered across paper records kept by many different caregivers in many different locations, making it difficult for a clinician to access all of a patient's health information at the time of care. Lacking access to these critical data, a clinician may be challenged to make the most informed decisions on treatment options, potentially putting the patient's health at greater risk. The use of electronic health records can help provide this access and improve clinical decisions.⁵

⁵An electronic health record is a collection of information about the health of an individual or the care provided, such as patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data, and radiology reports.

As we have previously noted,⁶ electronic health records are particularly crucial for optimizing the health care provided to military personnel and veterans. While in military status and later as veterans, many DOD and VA patients tend to be highly mobile and have health records residing at multiple medical facilities within and outside the United States. Making such records electronic can help ensure that complete health care information is available for most military service members and veterans at the time and place of care, no matter where it originates.

Key to making health care information electronically available is interoperability—that is, the ability to share data among health care providers. Interoperability enables different information systems or components to exchange information and to use the information that has been exchanged. This capability is important because it allows patients' electronic health information to move with them from provider to provider, regardless of where the information originated. If electronic health records conform to interoperability standards, they can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization, thus providing patients and their caregivers the necessary information required for optimal care. Paper-based health records—if available—also provide necessary information, but unlike electronic health records, do not provide decision support capabilities, such as automatic alerts about a particular patient's health, or other advantages of automation.

Interoperability depends on the use of agreed-upon standards to ensure that information can be shared and used. In the health IT field, standards may govern areas ranging from technical issues, such as file types and interchange systems, to content issues, such as medical terminology. DOD and VA have agreed upon numerous common standards that allow them to share health data. They have also participated in numerous standards-setting organizations tasked to reach consensus on the definition and use of standards. For example, DOD and VA officials serve as members and are actively working on several committees and groups within the Healthcare Information Technology Standards Panel.⁷ The panel identifies

⁶GAO-09-268.

⁷The panel was established in October 2005 as a public-private partnership funded by the Office of the National Coordinator. This panel is sponsored by the American National Standards Institute, which is a private, nonprofit organization whose mission is to promote and facilitate voluntary consensus standards and ensure their integrity.

and harmonizes⁸ competing standards and develops interoperability specifications that are needed for implementing the standards.⁹

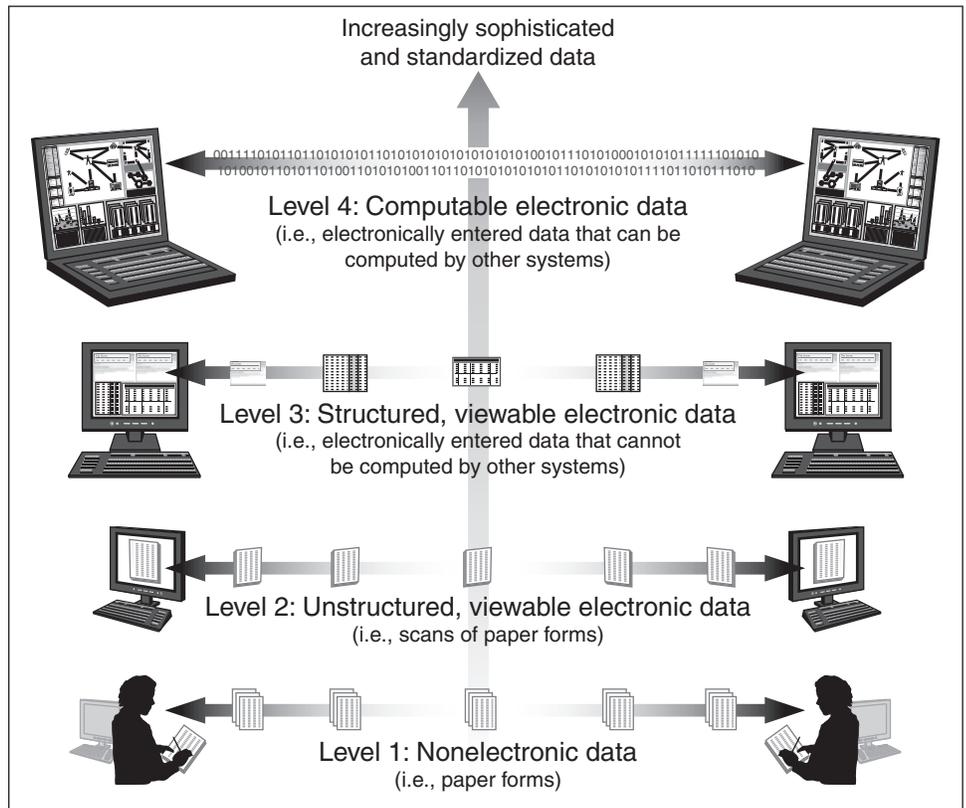
Interoperability can be achieved at different levels.¹⁰ At the highest level, electronic data are computable (that is, in a format that a computer can understand and act on to, for example, provide alerts to clinicians on drug allergies). At a lower level, electronic data are structured and viewable, but not computable. The value of data at this level is that they are structured so that data of interest to users are easier to find. At still a lower level, electronic data are unstructured and viewable, but not computable. With unstructured electronic data, a user would have to find needed or relevant information by searching uncategorized data. Beyond these, paper records also can be considered interoperable (at the lowest level) because they allow data to be shared, read, and interpreted by human beings. According to DOD and VA officials, not all data require the same level of interoperability, nor is interoperability at the highest level achievable in all cases. For example, unstructured, viewable data may be sufficient for such narrative information as clinical notes. Figure 1 shows the distinction between the various levels of interoperability and examples of the types of data that can be shared at each level.

⁸Harmonization is the process of identifying overlaps and gaps in relevant standards and developing recommendations to address these overlaps and gaps.

⁹Developing, coordinating, and agreeing on standards are only part of the processes involved in achieving interoperability for electronic health records systems or capabilities. In addition, specifications are needed for implementing the standards, as well as criteria and a process for verifying compliance with the standards. An interoperability specification codifies detailed implementation guidance that includes references to the identified standards or parts of standards and explains how they should be applied to specific health care topic areas.

¹⁰These levels were identified by the Center for Information Technology Leadership, which was chartered in 2002 as a research organization established to help guide the health care community in making more informed strategic IT investment decisions. According to DOD and VA, the different levels of interoperability have been accepted for use by the Office of the National Coordinator for Health Information Technology.

Figure 1: Levels of Data Interoperability



Source: GAO analysis based on data from the Center for Information Technology Leadership.

DOD and VA Have Been Working to Exchange Health Information for Over a Decade

DOD and VA have been working to exchange patient health information electronically since 1998. We have previously noted¹¹ their efforts on three key projects:

- The Federal Health Information Exchange (FHIE), begun in 2001 and enhanced through its completion in 2004, enables DOD to electronically transfer service members' electronic health information to VA when the members leave active duty.
- The Bidirectional Health Information Exchange (BHIE), established in 2004, was aimed at allowing clinicians at both departments viewable

¹¹[GAO-08-954](#).

access to records on shared patients—that is, those who receive care from both departments. For example, veterans may receive outpatient care from VA clinicians and be hospitalized at a military treatment facility.¹² The interface also allows DOD sites to see previously inaccessible data at other DOD sites.

- The Clinical Data Repository/Health Data Repository (CHDR)¹³ interface, implemented in September 2006, linked the departments’ separate repositories of standardized data to enable a two-way exchange of computable health information. These repositories are a part of the modernized health information systems that the departments have been developing—DOD’s AHLTA¹⁴ and VA’s HealtheVet.

In their ongoing initiatives to share information, VA uses its integrated medical information system—the Veterans Health Information Systems and Technology Architecture (VistA)—which was developed in-house by VA clinicians and IT personnel.¹⁵ All VA medical facilities have access to all VistA information.

DOD currently relies on its AHLTA, which is comprised of multiple legacy medical information systems that the department developed from commercial software products that were customized for specific uses. For example, CHCS, which was formerly DOD’s primary health information system, is still in use to capture pharmacy, radiology, and laboratory order management.¹⁶ In addition, the department uses Essentris (also called the Clinical Information System), a commercial health information system

¹²To create BHIE, the departments drew on the architecture and framework of the information transfer system established by the FHIE project. Unlike FHIE, which provides a one-way transfer of information to VA when a service member separates from the military, the two-way interface allows clinicians in both departments to view, in real time, limited health data (in text form) from the departments’ existing health information systems.

¹³The name CHDR, pronounced “cheddar,” combines the names of the two repositories.

¹⁴The department considers AHLTA the official name of the system. (It was formerly an abbreviation for Armed Forces Health Longitudinal Technology Application.) Previously, AHLTA was known as the Composite Health Care System II (or CHCS II).

¹⁵VistA began operation in 1983 as the Decentralized Hospital Computer Program. In 1996, the name of the system was changed to the Veterans Health Information Systems and Technology Architecture.

¹⁶According to DOD, CHCS applications are now accessed through its modernized health information system, AHLTA.

customized to support inpatient treatment at military medical facilities. Not all of DOD's medical facilities yet have this inpatient medical system.

DOD and VA Have Identified Interoperability Objectives

To facilitate compliance with the act, the Interagency Clinical Informatics Board,¹⁷ made up of senior clinical leaders from both departments who represent the user community, began establishing priorities for interoperable health data between DOD and VA. In this regard, the board is responsible for determining clinical priorities for electronic data sharing between the departments, as well as what data should be viewable and what data should be computable. Based on its work, the board established six interoperability objectives for meeting the departments' data sharing needs. According to the former acting director of the interagency program office, DOD and VA consider achievement of these six objectives, in conjunction with capabilities previously achieved (e.g., FHIE, BHIE, CHDR), to be sufficient to satisfy the requirement for full interoperability by September 2009. The six objectives are listed in table 1.

¹⁷This board was originally named the Joint Clinical Information Board.

Table 1: Description of DOD and VA Interoperability Objectives

Objective	Description	Associated interoperability level
Refine social history data	DOD will begin sharing with VA the social history data that are currently captured in the DOD electronic health record. Such data describe, for example, patients' involvement in hazardous activities and tobacco and alcohol use.	Level 3: Structured, viewable electronic data
Share physical exam data	DOD will provide an initial capability to share with VA its electronic health record information that supports the physical exam process when a service member separates from active military duty.	Level 3: Structured, viewable electronic data
Demonstrate initial network gateway operation	DOD and VA will demonstrate the operation of the secure network gateways ^a to support joint DOD-VA health information sharing.	There is no interoperability level associated with this objective.
Expand questionnaires and self-assessment tools	DOD will provide all periodic health assessment data stored in its electronic health record to VA such that questionnaire responses are viewable with the questions that elicited them.	Level 3: Structured, viewable electronic data
Expand Essentris in DOD	DOD will expand its inpatient medical records system (CliniComp's Essentris product suite) to at least one additional site in each military medical department (one Army, one Air Force, and one Navy for a total of three sites).	Level 2: Unstructured, viewable electronic data
Demonstrate initial document scanning	DOD will demonstrate an initial capability for scanning service members' medical documents into its electronic health record and sharing the documents electronically with VA.	Level 2: Unstructured, viewable electronic data

Source: GAO based on DOD and VA data.

^aSecure network gateways provide expanded bandwidth to support information sharing and ensure secure and reliable data communications between DOD and VA health care facilities.

GAO Reports Have Highlighted the Need for DOD and VA to Address Issues in Their Efforts to Share Health Information

Our prior reports on DOD's and VA's efforts to develop fully interoperable electronic health records noted their progress and highlighted issues that they needed to address to achieve electronic health record interoperability. Specifically, our July 2008¹⁸ report noted that the departments were sharing some, but not all, electronic health information at different levels of interoperability. At that time the departments' efforts to set up the interagency program office were in the early stages. Leadership positions in the office were not permanently filled, staffing was not complete, and facilities to house the office had not been designated. Accordingly, we recommended that the Secretaries of Defense and

¹⁸ [GAO-08-954](#).

Veterans Affairs expedite efforts to put in place permanent leadership, staff, and facilities for the program office. The departments agreed with our recommendations and stated that they would take actions to address them.

Our January 2009 report¹⁹ noted that the departments had defined plans to further increase their sharing of electronic health information; however, the plans did not contain results-oriented (i.e., objective, quantifiable, and measurable) performance goals and measures that could be used as a basis to track and assess progress. We recommended the departments develop and document such goals and performance measures for the six interoperability objectives, to use as the basis for future assessments and reporting of interoperability progress. DOD and VA agreed with our recommendation and stated that the departments intended to include results-oriented goals in their future plans.

DOD and VA Have Taken Steps to Meet their Objectives, but Activities Are Expected to Remain after the Deadline for Achieving Full Interoperability

DOD and VA continue to take steps toward achieving full interoperability in compliance with applicable standards by September 30, 2009. In this regard, the departments have achieved planned capabilities for three of the interoperability objectives—refine social history data, share physical exam data, and demonstrate initial network gateway operation. The following information further explains DOD’s and VA’s activities with respect to these three objectives.

Refine social history data: The departments established this objective to enable DOD to share social history data captured in its electronic health record with VA. These data describe, for example, patients’ involvement in hazardous activities and tobacco and alcohol use. Our review of DOD and VA project documentation confirmed that the departments have achieved sharing of viewable social history data, thus providing VA with additional clinical information on shared patients that clinicians could not previously view.

Share physical exam data: The departments established this objective to implement an initial capability for DOD to share with VA the electronic health record information that supports the physical exam process when a service member separates from active military duty. To this end, the departments achieved the capability for VA to view DOD’s medical exam

¹⁹[GAO-09-268](#).

data through the BHIE interface, allowing VA to view outpatient treatment records, pre- and postdeployment health assessments, and postdeployment health reassessments, which are compiled for the DOD physical exam.

Demonstrate initial network gateway operation: DOD and VA want to demonstrate the operation of secure network gateways to support health information sharing between the departments. These gateways are to support health record data exchange, thus facilitating future growth in data sharing. As of early July 2009, the departments reported that five network gateways were operational and that data migration to two of the operational gateways had begun.²⁰ The departments believed these five gateways satisfy the intent of the objective and will provide sufficient capacity to support health information sharing between DOD and VA as of September 2009. The officials stated, however, that they anticipate needing up to four additional gateways to support future growth in information sharing between the departments at locations and dates that are to be determined.

For the remaining three objectives, the departments have partially achieved planned capabilities, with additional work needed to fully meet the objectives. Regarding the objective to expand questionnaires and self-assessment tools, this additional work is intended to be completed by September 2009. With respect to the objectives to expand Essentris and demonstrate initial document scanning, department officials stated that they also intend to meet these objectives; however, additional work will be required beyond September to perform all the activities necessary to meet clinicians' needs for health information. The following information further explains the departments' activities with respect to these objectives.

Expand questionnaires and self-assessment tools: The departments intend to provide all periodic health assessment data stored in the DOD electronic health record to VA in a format that associates questions with responses. Health assessment data are collected from two sources: questionnaires administered at military treatment facilities and a DOD health assessment reporting tool that enables patients to answer questions about their health upon entry into the military. Questions relate to a wide range of personal health information, such as dietary habits, physical

²⁰The five operational gateways are located in Dallas, Texas; Reston, Virginia; Kansas City, Missouri; North Chicago, Illinois; and Santa Clara, California.

exercise, and tobacco and alcohol use. Our review of the departments' project documentation determined that they have established the capability for VA to view questions and answers from the questionnaires collected by DOD at military treatment facilities; however, they have not yet established the capability for VA to view information from DOD's health assessment reporting tool. Department officials stated that they intend to establish this additional capability by September 2009.

Expand Essentris in DOD: By September 30, 2009, DOD intends to expand Essentris to at least one additional site for each military service and to increase the percentage of inpatient discharge summaries that it shares electronically with VA to 63 percent.²¹ According to the acting director of the interagency program office, as of late June 2009, the departments had expanded the system to two Army sites (but not yet to an Air Force or Navy site) and were sharing 58 percent of inpatient discharge summaries. The acting director stated that the departments expect to meet their goal of sharing 63 percent of inpatient discharge summaries and expand the system to an Air Force and a Navy site by the September deadline. Nonetheless, the official stated that to better meet clinicians' needs, DOD plans to further expand the inpatient medical records system. In this regard, the department has established a revised goal of making the inpatient system operational for 92 percent of DOD's inpatient beds by September 2010.

Demonstrate initial document scanning: The departments intend to demonstrate an initial capability to scan service members' medical documents into the DOD electronic health record and share the documents electronically with VA by September 2009. According to the program office acting director, the departments were in the process of setting up an interagency test environment to test the initial capability to query medical documents associated with specific patients as of late June 2009. He stated that the departments expect to begin user testing at up to nine sites by September 2009. According to this official, these activities are expected to demonstrate initial document scanning capability. However, after September, the departments anticipate performing additional work to expand their initial document scanning capability (e.g., completion of user testing and deployment of the scanning capability at all DOD sites).

²¹DOD and VA previously reported this goal at 70 percent, but in comments to our report, stated a revised goal of 63 percent.

DOD/VA Interagency Program Office Has Made Progress in Becoming Operational, but Is Not Fully Functioning as a Single Point of Accountability

The DOD/VA Interagency Program Office is not yet effectively positioned to serve as a single point of accountability for the implementation of fully interoperable electronic health record systems or capabilities. Since we last reported in January 2009, the departments have made progress in setting up the office by hiring additional staff, although they continue to fill key leadership positions on an interim basis. In addition, the office has begun to demonstrate responsibilities outlined in its charter, but is not yet fulfilling key IT management responsibilities in the areas of performance measurement, scheduling, and project planning.

Progress Made in Staffing Interagency Program Office

To address the requirements set forth in the act, the departments identified in the September 2008 DOD/VA Information Interoperability Plan a schedule and key activities for setting up the interagency program office. Since we last reported in January 2009,²² the departments have completed all but one of the activities identified in their schedule. For example, they have completed personnel descriptions for the office's staff and have continued efforts to recruit and hire staff for both government and contractor positions. As of early July 2009, the departments had selected staff members for 10 of 14 government positions, an increase of 8 staff since our last report. The acting director of the office reported that recruitment efforts were underway to fill the remaining 4 positions by late September 2009. Further, all 16 contractor positions had been filled, an increase of 10 contractor staff since we last reported. Table 2 provides the status of selected key activities to establish the interagency program office.

²²[GAO-09-268](#).

Table 2: Status of Selected Key Activities to Establish the DOD/VA Interagency Program Office

Interagency program office activities	Due date	Status as of July 2009
Appoint interim acting director and acting deputy director	April 2008	Complete
Provide interim detailed staff, temporary space, and equipment	May 2008	Complete
Develop and approve the program office organization structure document to include mission, function, manpower, internal governance, accountability, and authority	June 2008	Complete
Develop and approve program office charter or interagency agreement	July 2008	Complete
Complete resource management plan to include budget, space, equipment, and human resources	July 2008	Complete
Complete personnel position descriptions and rating schemes	August 2008	Complete
Appoint permanent director and deputy director	October 2008	Not yet complete
Advertise and recruit program staff	October 2008	Complete

Source: GAO analysis of DOD and VA data.

However, while the departments have taken action toward hiring a full-time permanent director and a deputy director to lead the office, these positions continue to be filled on an interim basis. As of early July, DOD had selected a candidate for the director position, VA had concurred with the selection, and the candidate's application had been sent to the Office of Personnel Management for approval. In the meantime, the departments requested and received an extension of the current acting director's appointment until September 30, 2009, or until a permanent official is hired. Further, as of late June 2009, interagency program officials stated that actions were underway to fill the deputy director position and that VA was interviewing candidates for this position. According to the acting director, the departments anticipate making a selection for the deputy director position by the end of July 2009.

**Interagency Program
Office Has Not Fulfilled
Key Management
Responsibilities Identified
in Its Charter**

The January 2009 interagency program office charter describes, among other things, the mission and function of the office associated with attaining interoperable electronic data. The charter further identifies responsibilities of the office in carrying out its mission, in areas such as oversight and management, stakeholder communication, and decision making.

The office has taken steps toward fulfilling certain responsibilities described in its charter. For example, the office submitted its first annual report to Congress that summarized the departments' efforts toward achieving full interoperability and the status of key activities completed to set up the office. Further, the office developed 11 standard operating procedures in areas such as program management oversight, strategic communications, and process improvement.

However, the office has yet to carry out other key responsibilities identified in its charter that are fundamental to effective IT program management and that would be essential to effectively serving as the single point of accountability. For example, the office has not yet established results-oriented (i.e., objective, quantifiable, and measurable) goals and performance measures for all six interoperability objectives—an action that we previously recommended that DOD and VA undertake.

Using results-oriented metrics to measure progress is an important IT program management activity because they can serve as a basis to provide meaningful information on the status of a program. As noted earlier, DOD and VA agreed with our recommendation calling for the establishment of results-oriented performance goals and measures. Further, the program office charter identifies the development of metrics to monitor the departments' performance against interoperability goals as a responsibility of the office. Nonetheless, the office has only developed such a goal for one interoperability objective—expand Essentris in DOD. It has not developed results-oriented goals and measures for the other five objectives, instead stating that such goals and measures will be included in the next version of the DOD/VA Joint Executive Council Joint Strategic Plan (known as the joint strategic plan), which the office expects to complete by December 2009. If the departments complete the development of results-oriented performance goals and measures for their interoperability objectives, they will be better positioned to gauge their progress toward achieving fully interoperable capabilities and improving veterans' health care.

Development of an integrated master schedule is also a key IT program management activity, especially given the complexity of the departments' efforts to achieve full interoperability. According to DOD guidance,²³ an integrated master schedule should identify detailed project tasks and the associated start, completion, and interim milestone dates; resource needs; and relationships (e.g., sequence and dependencies) between tasks.

While the program office has begun to develop an integrated master schedule as required by its charter, the current version does not include the attributes of an effective schedule. For example, the schedule included limited information for three of the six interoperability objectives (i.e., refine social history data, share physical exam data, and expand questionnaires and self-assessment tools). Specifically, the schedule included the name of each objective and a completion date of September 30, 2009. However, the schedule contained no information on tasks to be performed to meet the objectives. Further, the schedule did not reflect start dates, resource needs, or relationships between tasks for any of the six interoperability objectives. Without a complete and detailed integrated master schedule, the departments are missing another key activity that could be useful in determining their progress towards achieving full interoperability.

Similarly, development of a project plan is an important activity for IT program management. Industry best practices and IT project management principles stress the importance of sound planning for any project. Inherent in such planning is the development and use of a project management plan that describes, among other factors, the project's scope, resources, and key milestones. The interagency program office charter identifies the need to develop a project plan, but, as of late June 2009, the office had not yet done so. Without a project plan, the departments lack a key tool that could be used to guide their efforts in achieving full interoperability.

In discussing these activities, the program office's acting director and former acting director cited three reasons for why performance measurement, scheduling, and project planning responsibilities had not been accomplished. First, they stated that because it has taken longer than anticipated to hire staff, the office has not been able to perform all of its

²³*DOD Integrated Master Plan and Integrated Master Schedule Preparation and Use Guide*, Version 0.9, October 21, 2005.

responsibilities. Second, the office's interim leadership and staff have focused their efforts on providing to interested parties (e.g., federal agencies and military organizations) briefings, presentations, and status information on activities the office is undertaking to achieve interoperability, in addition to participating in efforts to develop a strategy for implementation of the Virtual Lifetime Electronic Record, which the President announced in April 2009. Finally, according to the officials, the office waited until June 2009 to begin the process of developing metrics so that they could do so in conjunction with the departments' annual update to the joint strategic plan that is scheduled for completion in late 2009. However, without metrics to monitor progress, a complete integrated master schedule, and a project plan, the interagency program office's ability to effectively provide oversight and management, including meaningful progress reporting on the delivery of interoperable capabilities, is jeopardized. Moreover, in the absence of these critical activities, the office is not effectively positioned to function as the single point of accountability for achieving full interoperability.

Conclusions

DOD and VA have continued to increase electronic health information interoperability. In particular, the departments have taken steps to meet their six interoperability objectives by September 30, 2009. However, for two of the six interoperability objectives, the departments subsequently plan to perform significant additional activities that are necessary to meet clinicians' needs. Further, the departments' lack of progress in establishing fundamental IT management capabilities that are specific responsibilities of the interagency program office contributes to uncertainty about the extent to which the departments will progress toward achievement of full interoperability by the deadline. While the departments have generally made progress toward making the program office operational, the office has not yet completed a project plan or a detailed integrated master schedule. Without these important tools, the office is limited in its ability to effectively manage and provide meaningful progress reporting on the delivery of interoperable capabilities that are intended to improve the quality of health care provided to our nation's veterans.

Recommendation for Executive Action

To better improve management of DOD's and VA's efforts to achieve fully interoperable electronic health record systems, including satisfaction of the departments' interoperability objectives, we recommend that the Secretaries of Defense and Veterans Affairs direct the Director of the DOD/VA Interagency Program Office to establish a project plan and a complete and detailed integrated master schedule.

Agency Comments and Our Evaluation

In written comments on a draft of this report, the DOD official who is performing the duties of the Assistant Secretary of Defense (Health Affairs) and the Acting Director of the DOD/VA Interagency Program Office concurred with our findings and recommendation. The VA Chief of Staff also provided written comments, in which the department concurred with our recommendation. In this regard, DOD and VA stated that they will provide the necessary information for the DOD/VA Interagency Program Office to establish a project plan and to complete a detailed integrated master schedule. If the recommendation is properly implemented, it should better position DOD and VA to effectively measure and report progress in achieving full interoperability.

Beyond its concurrence with the recommendation, the VA Chief of Staff stated that the department disagreed with the report's characterization of the six interoperability objectives and expressed concern about the report projecting that the objective to demonstrate initial document scanning would not be completed by the September 30, 2009 deadline. Specifically, VA stated that our report portrayed the six interoperability objectives as the necessary steps to achieving full interoperability, even though the departments consider the objectives to be just one component of achieving full interoperability, along with existing data exchange capabilities. However, in discussing the objectives, we stated that according to the former acting director of the interagency program office, the departments consider achievement of the six objectives, in conjunction with capabilities previously achieved (e.g., FHIE, BHIE, CHDR), to be sufficient to satisfy the requirement for full interoperability by September 2009.

With respect to the objective to demonstrate initial document scanning, the Chief of Staff stated that our report projects that the objective will not be met by the September deadline. However, while our report states that according to the acting program office director, additional work will be required beyond September to perform all the activities necessary to meet clinicians' needs related to document scanning, we did not report that the departments would not meet this objective by the September deadline. In fact, our report noted that according to this official the departments expect to begin user testing at up to nine sites by September 2009, and that these activities are expected to demonstrate initial document scanning capability. Nonetheless, we revised our report as appropriate, in an attempt to more clearly reflect the departments' intent with regard to this objective.

DOD, VA, and the interagency program office also provided technical comments on the draft report, which we incorporated as appropriate. The departments and the DOD/VA Interagency Program Office comments are reproduced in app. II, app. III, and app. IV, respectively.

We are sending copies of this report to the Secretaries of Defense and Veterans Affairs, appropriate congressional committees, and other interested parties. In addition, the report is available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staffs have questions about this report, please contact me at (202) 512-6304 or melvinv@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix V.



Valerie C. Melvin
Director, Information Management
and Human Capital Issues

List of Committees

The Honorable Carl Levin
Chairman
The Honorable John McCain
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Daniel K. Akaka
Chairman
The Honorable Richard M. Burr
Ranking Member
Committee on Veterans' Affairs
United States Senate

The Honorable Daniel K. Inouye
Chairman
The Honorable Thad Cochran
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Tim Johnson
Chairman
The Honorable Kay Bailey Hutchison
Ranking Member
Subcommittee on Military Construction,
Veterans' Affairs, and Related Agencies
Committee on Appropriations
United States Senate

The Honorable Ike Skelton
Chairman
The Honorable Howard P. "Buck" McKeon
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Bob Filner
Chairman
The Honorable Steve Buyer
Ranking Member
Committee on Veterans' Affairs
House of Representatives

The Honorable John P. Murtha
Chairman
The Honorable C.W. Bill Young
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

The Honorable Chet Edwards
Chairman
The Honorable Zach Wamp
Ranking Member
Subcommittee on Military Construction,
Veterans' Affairs, and Related Agencies
Committee on Appropriations
House of Representatives

Appendix I: Scope and Methodology

To evaluate the Department of Defense's (DOD) and Veterans Affairs' (VA) progress toward developing electronic health record systems or capabilities that allow for full interoperability of personal health care information, we reviewed our previous work on DOD and VA efforts to develop health information systems, interoperable health records, and interoperability standards to be implemented in federal health care programs. We obtained and analyzed agency documentation and interviewed program officials to determine DOD's and VA's progress towards achieving full interoperability by September 30, 2009, as required by the National Defense Authorization Act for Fiscal Year 2008. We also analyzed information gathered from agency documentation to identify interoperability objectives, milestones, and target dates for ongoing and planned interoperability initiatives whose target dates extend beyond September 30, 2009. In addition, through interviews with cognizant DOD and VA officials, we obtained and assessed information regarding the departments' plans for achieving full interoperability of electronic health information.

To determine whether the interagency program office is positioned to serve as a single point of accountability for developing and implementing electronic health records, we obtained and reviewed program office documentation, including its charter and standard operating procedures. We compared the responsibilities identified in the charter with actions taken by the office to exercise the responsibilities. Additionally, we interviewed interagency program office officials to determine the status of filling leadership and staffing positions within the office.

We conducted this performance audit at DOD and VA locations in the greater Washington, D.C., metropolitan area from April through July 2009, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Comments from the Department of Defense



HEALTH AFFAIRS

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1200

JUL 21 2009

Ms. Valerie C. Melvin
Director, Information Management
and Human Capital Issues
U.S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

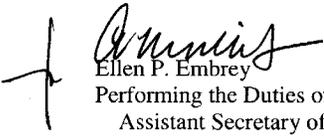
Dear Ms. Melvin:

This is the Department of Defense (DoD) response to the GAO Draft Report, "GAO-09-775, 'ELECTRONIC HEALTH RECORDS: DoD and VA Efforts to Achieve Full Interoperability Are Ongoing; Program Office Management Needs Improvement,' dated July 9, 2009 (GAO Code 310935)."

DoD acknowledges receipt of the draft audit report and concurs with the overall findings and recommendations. We have provided several suggested technical corrections in the enclosed formal response.

Thank you for the opportunity to review and comment on the draft report. My points of contact for additional information are Ms. Lois Kellett, Lois.Kellett@tma.osd.mil or (703) 681-9530, and Mr. Gunther Zimmerman, Gunther.Zimmerman@tma.osd.mil or (703) 681-4360.

Sincerely,


Ellen P. Embrey
Performing the Duties of the
Assistant Secretary of Defense
(Health Affairs)

Enclosures:
As stated

GAO Draft Report-Dated July 9, 2009
GAO 09-775 (GAO Code 310935)

**“ELECTRONIC HEALTH RECORDS: DoD and VA Efforts to Achieve Full
Interoperability Are Ongoing; Program Office Management Needs Improvement**

Department of Defense Comments to GAO Recommendations

RECOMMENDATION: To better improve management of DOD’s and VA’s efforts to achieve fully interoperable electronic health record systems, including satisfaction of the departments’ interoperability objectives, we recommend that the Secretaries of Defense and Veterans Affairs direct the Director of the Interagency Program Office to establish a project plan and a complete and detailed integrated master schedule.

DoD RESPONSE: Concur. DoD will provide the necessary information for the DoD/VA Interagency Program Office to establish a project plan and to complete a detailed integrated master schedule.

Appendix III: Comments from the Department of Veterans Affairs



Department of Veterans Affairs
Office of the Secretary

July 22, 2009

Ms. Valerie C. Melvin
Director, Human Capital and
Management Information Systems Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Melvin:

The Department of Veterans Affairs (VA) has reviewed the Government Accountability Office's (GAO) draft report, ***ELECTRONIC HEALTH RECORDS: DOD and VA Efforts to Achieve Full Interoperability Are Ongoing; Program Office Management Needs Improvement*** (GAO-09-775) and concurs with the recommendation. Enhancing health information sharing between VA and the Department of Defense (DoD) is a key step towards achieving seamless health care for our Nation's Veterans. Fully interoperable electronic health data exchange will enable patient information to be more readily available to health care providers in both departments, reduce medical errors, and streamline administrative functions.

However, I disagree with the report's portrayal of the six interoperability objectives established by the DoD/VA Interagency Clinical Informatics Board (ICIB) for meeting the Departments' data sharing needs. The report characterizes these objectives as the necessary steps to "achieve full interoperability" by the September 2009 deadline required by Section 1635 of the Fiscal Year 2008 National Defense Authorization Act. Rather, VA and DoD have described the six interoperability objectives as just one component of achieving full interoperability. Furthermore, VA and DoD have already achieved a significant level of interoperability through existing data exchanges. Using the Federal and Bidirectional Health Information Exchange, VA and DoD already share nearly all essential health information that is available in electronic form. The ICIB identified the six interoperability objectives as additional activities that could leverage the existing data and interagency infrastructure already in existence between the Departments. The six objectives are the initial clinical priorities that should be in place by the September 2009 legislative target, and taken alone, do not comprise "full interoperability."

I also disagree with the report's projection that the objective to demonstrate an initial capability for scanning service members' medical documents into its electronic health record and sharing the documents electronically with VA will not be completed by the September 30, 2009 deadline.

Page 2

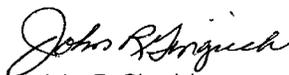
Ms. Valerie C. Melvin

Although VA and DoD have indicated that the Departments will perform additional work beyond September 2009, the Departments are on target to achieve all six interoperability objectives as defined by the ICIB by September 2009. Specifically, while the Departments will continue work to expand document-scanning capability beyond the initial test site, the completion by VA of a query and retrieval of a DoD scanned document in an interagency test environment will complete the interoperability objective as defined by the ICIB.

Beyond September 2009, VA will work with DoD to identify additional electronic health information that should be shared. The Departments' future work will be based on the clinical priorities identified by the ICIB. Additionally, the Departments continue active participation on the national effort led by the National Coordinator for Health Information Technology. This work will ensure that VA and DoD's interoperable electronic health record systems remain aligned with the national strategy for interoperability.

The enclosure addresses GAO's recommendation and provides additional comments to the draft report. VA appreciates the opportunity to comment on your draft report.

Sincerely,



John R. Gingrich
Chief of Staff

Enclosure

Enclosure

Department of Veterans Affairs (VA)
Comments on Government Accountability Office (GAO) Draft Report
***ELECTRONIC HEALTH RECORDS: DOD and VA Efforts to
Achieve Full Interoperability Are Ongoing; Program Office
Management Needs Improvement***
(GAO-09-775)

GAO Recommendation: To better improve management of DOD's and VA's efforts to achieve fully interoperable electronic health records systems, including satisfaction of the departments' interoperability objectives, [GAO] recommends that the Secretaries of Defense and Veterans Affairs direct the Director of the Interagency Program Office to establish a project plan and a complete and detailed integrated master schedule.

Response: Concur. VA and DoD are coordinating on an integrated master schedule and more detailed joint project plan that will permit the Interagency Program Office (IPO) to carry out the functions identified in its charter. The project plan will include the level of information that is agreed to by VA and DoD. VA will work with the IPO and DoD to provide a copy of the project plan, including key information concerning interoperability project dependencies and risks, to GAO upon completion of an internal review by appropriate information technology and management execution offices.

Additional comments:

Throughout the Draft Report (e.g., page 1 summary paragraph; pages 13-14), GAO projects that the Departments will not be able to complete the following objective by the September 30, 2009, deadline: DoD demonstrate an initial capability for scanning service members' medical documents into its electronic health record and sharing the documents electronically with VA.

VA Comment: Although VA and DoD have indicated that the Departments will perform additional work beyond September 2009, the Departments are on target to achieve all six interoperability objectives as defined by the ICIB by September 2009.

VA does not concur with the finding on page 14 that the Departments will need to perform additional work to expand their initial document scanning capability to all DoD sites in order to meet the interoperability objective. VA recommends that GAO edit the paragraph to state: "Although the Departments will continue work to expand document scanning capability beyond the initial test site, the completion by VA of a query and retrieval of a DoD scanned document in an interagency test environment will complete the interoperability objective as defined by the ICIB."

On page 8, the paragraph concerning FHIE should reflect that VA and DoD first developed data sharing in 2001 and enhanced the FHIE one-way data exchange through 2004 when BHIE was first implemented.

1

Enclosure

Department of Veterans Affairs (VA)
Comments on Government Accountability Office (GAO) Draft Report
***ELECTRONIC HEALTH RECORDS: DOD and VA Efforts to
Achieve Full Interoperability Are Ongoing; Program Office
Management Needs Improvement***
(GAO-09-775)

On pages 14–19, GAO raises issues regarding key management responsibilities of the IPO.

VA comment: the IPO charter will be revised to address GAO's concerns about identifying specific IPO management responsibilities.

2

Appendix IV: Comments from the DOD/VA Interagency Program Office

DoD/VA INTERAGENCY PROGRAM OFFICE
1700 NORTH MOORE STREET
ROSSLYN, VA 22209

July 16, 2009

Ms. Valerie C. Melvin
Director, Information Management & Human Capital Issues
U.S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Ms. Melvin:

This is the DoD/VA Interagency Program Office's (IPO) response to the recommendations enclosed in the Government Accountability Office (GAO) Draft Report, "ELECTRONIC HEALTH RECORDS: DoD and VA Efforts to Achieve Full Interoperability Are Ongoing; Program Office Management Needs Improvement," July 9, 2009, (Project No. GAO-09-775, GAO Code 310935).

IPO acknowledges receipt of the draft audit report and concurs with the overall findings and recommendations. We have provided several suggested technical corrections in the enclosed formal response.

Thank you for the opportunity to review and comment on the draft report. My points of contact for additional information are Mr. Cliff Freeman at Cliff.Freeman@va.gov, 703-696-0216; Mr. Kevin Tewes, Kevin.Tewes@osd.mil, 703-696-2856; and Mr. Ryan Cool, Ryan.Cool@osd.mil, 703-696-3636.

Sincerely,


Gregory Timberlake
RADM, SHCE, USN
Director, DoD/VA Interagency Program Office

Enclosures:
As stated

**Appendix IV: Comments from the DOD/VA
Interagency Program Office**

GAO Draft Report-Dated July 9, 2009
GAO 09-775 (GAO Code 310935)

"ELECTRONIC HEALTH RECORDS: DoD and VA Efforts to Achieve Full
Interoperability Are Ongoing; Program Office Management Needs Improvement

IPO Comments to GAO Recommendations

GAO RECOMMENDATION: "To better improve management of DOD's and VA's efforts to achieve fully interoperable electronic health record systems, including satisfaction of the departments' interoperability objectives, we recommend that the Secretaries of Defense and Veterans Affairs direct the Director of the Interagency Program Office to establish a project plan and a complete and detailed integrated master schedule."

IPO RESPONSE: Concur. The IPO will establish a project plan and complete a detailed integrated master schedule. DoD and VA should provide the IPO with the information that it requires to accomplish these tasks.

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contact

Valerie C. Melvin, (202) 512-6304 or melvinv@gao.gov

Staff Acknowledgments

In addition to the contact named above, key contributions to this report were made by Mark Bird, Assistant Director; Rebecca Eyster; Lee McCracken; Michael Redfern; J. Michael Resser; Kelly Shaw; Eric Trout; and Merry Woo.

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