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ELECTRONIC HEALTH RECORDS

Long History of Management Challenges Raises Concerns about VA's and DOD's New Approach to Sharing Health Information

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Information Management and Technology Resources
Issues



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Highlights of [GAO-13-413T](#), a testimony before the Committee on Veterans' Affairs, House of Representatives

Why GAO Did This Study

VA and DOD operate two of the nation's largest health care systems—systems that serve populations of veterans and active service members and their dependents. To better serve these populations, VA and DOD have been collaborating for about 15 years on a variety of initiatives to share data among the departments' health information systems. The use of IT to electronically collect, store, retrieve, and transfer such data has the potential to improve the quality and efficiency of health care. Particularly important in this regard is developing electronic health records that can be accessed throughout a patient's military and veteran status. Making such information electronic can ensure greater availability of health care information for service members and veterans at the time and place of care. Although they share many common business needs, both VA and DOD have spent large sums of money to develop and maintain separate electronic health record systems that they use to create and manage patient health information.

GAO was asked to testify on (1) the departments' efforts, and challenges faced, in electronically sharing health information and (2) the recent change in their approach to developing an integrated electronic health record. In preparing this statement, GAO relied primarily on previously published work in this area.

What GAO Recommends

Since 2001, GAO has made numerous recommendations to improve VA's and DOD's management of their efforts to share health information.

View [GAO-13-413T](#). For more information, contact Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov.

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ELECTRONIC HEALTH RECORDS

Long History of Management Challenges Raises Concerns about VA's and DOD's New Approach to Sharing Health Information

What GAO Found

The Departments of Veterans Affairs (VA) and Defense (DOD) have undertaken a number of patchwork efforts over the past 15 years to achieve interoperability (i.e., the ability to share data) of records between their information systems; however, these efforts have faced persistent challenges. The departments' early efforts to achieve interoperability included enabling DOD to electronically transfer service members' electronic health information to VA; allowing clinicians at both departments viewable access to records on shared patients; and developing an interface linking the departments' health data repositories. As GAO reported, however, several of these efforts were plagued by project planning and management weaknesses, inadequate accountability, and poor oversight, limiting their ability to realize full interoperability.

To further expedite data sharing, the National Defense Authorization Act of 2008 directed VA and DOD to jointly develop and implement fully interoperable electronic health record capabilities by September 30, 2009. The departments asserted that they met this goal, though they planned additional work to address clinicians' evolving needs. GAO identified weaknesses in the departments' management of these initiatives, such as a lack of defined performance goals and measures that would provide a comprehensive picture for managing progress. In addition, the departments' Interagency Program Office, which was established to be a single point of accountability for electronic health data sharing, had not fulfilled key management responsibilities.

In 2009, the departments began work on the Virtual Lifetime Electronic Record initiative to enable access to all electronic records for service members transitioning from military to veteran status, and throughout their lives. To carry this out, the departments initiated several pilot programs but had not defined a comprehensive plan that defined the full scope of the effort or its projected cost and schedule. Further, in 2010, VA and DOD established a joint medical facility that was, among other things, to have certain information technology (IT) capabilities to facilitate interoperability of the departments' electronic health record systems. Deployment of these capabilities was delayed, however, and some have yet to be implemented.

In 2011, the VA and DOD Secretaries committed to developing a new common integrated electronic health record system, with a goal of implementing it across the departments by 2017. This approach would largely sidestep the challenges in trying to achieve interoperability between separate systems. However, in February 2013, the Secretaries announced that the departments would focus on modernizing their existing systems, rather than developing a single system. They cited cost savings and meeting needs sooner rather than later as reasons for this decision. Given the long history of challenges in achieving interoperability, this reversal of course raises concerns about the departments' ability to successfully collaborate to share electronic health information. Moreover, GAO has identified barriers to the departments jointly addressing their common needs arising from deficiencies in key IT management areas, which could continue to jeopardize their pursuits. GAO is monitoring the departments' progress in overcoming these barriers and has additional ongoing work to evaluate their activities to develop integrated electronic health record capabilities.



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United States Government Accountability Office
Washington, DC 20548

Chairman Miller, Ranking Member Michaud, and Members of the Committee:

Thank you for the opportunity to participate in today's hearing on efforts of the Department of Veterans Affairs (VA) to share electronic health records with the Department of Defense (DOD). As you know, VA and DOD operate two of the nation's largest health care systems, which, in fiscal year 2013, are projected to provide coverage to approximately 6.3 million veterans and 9.6 million active duty service members and their beneficiaries at estimated costs of about \$53 billion and \$49 billion, respectively.

Both VA and DOD have long recognized the importance of advancing the use of shared health information systems and capabilities to make patient information more readily available to their health care providers, reduce medical errors, and streamline administrative functions. Toward this end, the two departments have an extensive history of working to achieve shared health care resources, dating back to the 1980s.¹ Our work has examined the departments' efforts over the past 15 years in undertaking a variety of initiatives to share data between their individual health information systems and to develop interoperable health record capabilities. In this regard, reports that we issued between 2001 and 2012 have noted various degrees of progress by the departments; however, we have also highlighted, and recommended that VA and DOD address, pervasive and persistent management challenges that have impeded their ability to achieve fully interoperable electronic health record

¹Since the 1980s, VA and DOD have entered into many types of collaborations to provide health care services—including emergency, specialty, inpatient, and outpatient care—to VA and DOD beneficiaries, reimbursing each other for the services provided. These collaborations vary in scope, ranging from agreements to jointly provide a single type of service to more coordinated "joint ventures," which encompass multiple health care services and facilities and focus on mutual benefit, shared risk, and joint operations in specific clinical areas.

capabilities.² My testimony today (1) summarizes VA's and DOD's efforts, and challenges faced, in electronically sharing health information and (2) describes the departments' recent change in their approach to developing an integrated electronic health record.

In developing this testimony, we relied on our previous work. We also obtained and reviewed information on the departments' actions in response to our previous recommendations. We conducted our work in support of this testimony during February 2013. All work on which this testimony is based was performed 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.

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. 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.

²See for example, *Computer-Based Patient Records: Better Planning and Oversight by VA, DOD, and IHS Would Enhance Health Data Sharing*, [GAO-01-459](#) (Washington, D.C.: Apr. 30, 2001); *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); *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); *Electronic Health Records: DOD and VA Efforts to Achieve Full Interoperability Are Ongoing; Program Office Management Needs Improvement*, [GAO-09-775](#) (Washington, D.C.: July 28, 2009); *Electronic Health Records: DOD and VA Interoperability Efforts Are Ongoing; Program Office Needs to Implement Recommended Improvements*, [GAO-10-332](#) (Washington, D.C.: Jan. 28, 2010); and *Electronic Health Records: DOD and VA Should Remove Barriers and Improve Efforts to Meet Their Common System Needs*, [GAO-11-265](#) (Washington, D.C.: Feb. 2, 2011).

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 VA and DOD patients tend to be highly mobile and may 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.

Although they have identified many common health care business needs, both departments have spent large sums of money to develop and operate separate electronic health record systems that they rely on to create and manage patient health 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. The system consists of 104 separate computer applications, including 56 health provider applications; 19 management and financial applications; 8 registration, enrollment, and eligibility applications; 5 health data applications; and 3 information and education applications. Besides being numerous, these applications have been customized at all 128 VA sites.³ According to the department, this customization increases the cost of maintaining the system, as it requires that maintenance also be customized.

In 2001, the Veterans Health Administration undertook an initiative to modernize VistA by standardizing patient data and modernizing the health information software applications. In doing so, its goal was to move from the hospital-centric environment that had long characterized the department's health care operations to a veteran-centric environment built on an open, robust systems architecture that would more efficiently provide both the same functions and benefits of the existing system and enhanced functions based on computable data. VA planned to take an incremental approach to the initiative, based on six phases (referred to as "blocks") that were to be completed in 2018. Under this strategy, the department planned to replace the 104 VistA applications that are currently in use with 67 applications, 3 databases, and 10 common services. VA reported spending almost \$600 million from 2001 to 2007 on

³A site includes one or more facilities—medical centers, hospitals, or outpatient clinics—that store their electronic health data in a single database.

eight projects, including an effort that resulted in a repository containing selected standardized health data, as part of the effort to modernize VistA. In April 2008, the department estimated an \$11 billion total cost to complete, by 2018, the modernization that was planned at that time. However, according to VA officials, the modernization effort was terminated in August 2010.

For its part, DOD relies on its Armed Forces Health Longitudinal Technology Application (AHLTA), which comprises multiple legacy medical information systems that the department developed from commercial software products that were customized for specific uses. For example, the Composite Health Care System (CHCS), which was formerly DOD's primary health information system, is still in use to capture information related to pharmacy, radiology, and laboratory order management. In addition, the department uses Essentris (also called the Clinical Information System), a commercial health information system customized to support inpatient treatment at military medical facilities. DOD obligated approximately \$2 billion for AHLTA between 1997 and 2010.

A key goal for sharing health information among providers, such as between VA's and DOD's health care systems, is achieving interoperability. Interoperability enables different information systems or components to exchange information and to use the information that has been exchanged. This capability 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 can be achieved at different levels. 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 a still 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 can also be considered interoperable (at the lowest level) because they allow data to be shared, read, and interpreted by human beings.

VA and DOD Have Pursued Various Efforts over Many Years but Have Been Challenged in Achieving Fully Interoperable Electronic Health Records

Since 1998, VA and DOD have relied on a patchwork of initiatives involving their health information systems to achieve electronic health record interoperability. These have included efforts to: share viewable data in existing (legacy) systems; link and share computable data between the departments' modernized health data repositories; establish interoperability objectives to meet specific data-sharing needs; develop a virtual lifetime electronic health record to track patients through active service and veteran status; and implement IT capabilities for the first joint federal health care center. While, collectively, these initiatives have yielded increased data-sharing in various capacities, a number of them have nonetheless been plagued by persistent management challenges, which have created barriers to achieving the fully interoperable electronic health record capabilities long sought.

Early Efforts to Share Information in Legacy Systems Suffered from Project Planning and Management Weaknesses

Among the departments' earliest efforts to achieve interoperability was the Government Computer-Based Patient Record (GCPR) initiative, which was begun in 1998 with the intent of providing an electronic interface that would allow physicians and other authorized users of VA's and DOD's health facilities to access data from either of the other agency's health facilities.⁴ The interface was expected to compile requested patient health information in a temporary, "virtual" record that could be displayed on a user's computer screen. However, in reporting on this initiative in April 2001, we found that accountability for GCPR was blurred across several management entities and that basic principles of sound IT project planning, development, and oversight had not been followed, thus, creating barriers to progress.⁵ For example, clear goals

⁴Initially, the Indian Health Service (IHS) was also part of this initiative, having been included because of its population-based research expertise and its long-standing relationship with VA. However, IHS was not included in a later revised strategy for electronically sharing patient health information.

⁵[GAO-01-459](#).

and objectives had not been set; detailed plans for the design, implementation, and testing of the interface had not been developed; and critical decisions were not binding on all partners. While both departments concurred with our recommendations that they, among other things, create comprehensive and coordinated plans for the effort, progress on the initiative continued to be disappointing. The department subsequently revised the strategy for GCPR and, in May 2002, narrowed the scope of the initiative to focus on enabling DOD to electronically transfer service members' electronic health information to VA upon their separation from active duty. The initiative—renamed the Federal Health Information Exchange (FHIE)—was completed in 2004.

Building on the architecture and framework of FHIE, VA and DOD also established the Bidirectional Health Information Exchange (BHIE) in 2004, which was aimed at allowing clinicians at both departments viewable access to records on shared patients (that is, those who receive care from both departments, such as veterans who receive outpatient care from VA clinicians and then are hospitalized at a military treatment facility). The interface also enabled DOD sites to see previously inaccessible data at other DOD sites.

Further, in March 2004, the departments began an effort to develop an interface linking VA's Health Data Repository and DOD's Clinical Data Repository, as part of a long-term initiative to achieve the two-way exchange of health information between the departments' modernized systems—known as CHDR. The departments had planned to be able to exchange selected health information through CHDR by October 2005. However, in June 2004, we reported that the efforts of VA and DOD in this area demonstrated a number of management weaknesses.⁶ Among these were the lack of a well-defined architecture for describing the interface for a common health information exchange; an established project management lead entity and structure to guide the investment in the interface and its implementation; and a project management plan defining the technical and managerial processes necessary to satisfy project requirements. Accordingly, we recommended that the departments address these weaknesses, and they agreed to do so.

⁶GAO, *Computer-Based Patient Records: VA and DOD Efforts to Exchange Health Data Could Benefit from Improved Planning and Project Management*, [GAO-04-687](#) (Washington, D.C.: June 7, 2004).

In September 2005, we testified that the departments had improved the management of the CHDR program, but that this program continued to face significant challenges—in particular, with developing a project management plan of sufficient specificity to be an effective guide for the program.⁷ In a subsequent testimony, in June 2006, we noted that the project did not meet a previously established milestone: to be able to exchange outpatient pharmacy data, laboratory results, allergy information, and patient demographic information on a limited basis by October 2005.⁸ By September 2006, the departments had taken actions which ensured that the CHDR interface linked the departments' separate repositories of standardized data to enable a two-way exchange of computable outpatient pharmacy and medication allergy information. Nonetheless, we noted that the success of CHDR would depend on the departments instituting a highly disciplined approach to the project's management.

Efforts to Comply with 2008 Mandate to Achieve Fully Interoperable Health Records Capabilities Lacked Project Plans and Measures of Effectiveness

To increase the exchange of electronic health information between the two departments, the National Defense Authorization Act (NDAA) for Fiscal Year 2008 included provisions directing VA and DOD to jointly develop and implement, by September 30, 2009, fully interoperable electronic health record systems or capabilities.⁹ To facilitate compliance with the act, the departments' Interagency Clinical Informatics Board, made up of senior clinical leaders who represent the user community, began establishing priorities for interoperable health data between VA and DOD. In this regard, the board was 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:

- **Refine social history data:** DOD was to begin sharing with VA the social history data that are currently captured in the DOD electronic

⁷GAO, *Computer-Based Patient Records: VA and DOD Made Progress, but Much Work Remains to Fully Share Medical Information*, [GAO-05-1051T](#) (Washington, D.C.: Sept. 28, 2005).

⁸GAO, *Information Technology: VA and DOD Face Challenges in Completing Key Efforts*, [GAO-06-905T](#) (Washington, D.C.: June 22, 2006).

⁹Pub. L. No. 110-181, § 1635, 122 Stat. 3, 460-463 (2008).

health record. Such data describe, for example, patients' involvement in hazardous activities and tobacco and alcohol use.

- **Share physical exam data:** DOD was to 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:** VA and DOD were to demonstrate the operation of secure network gateways to support joint VA-DOD health information sharing.
- **Expand questionnaires and self-assessment tools:** DOD was to 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 Essentris in DOD:** DOD was to 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).
- **Demonstrate initial document scanning:** DOD was to demonstrate an initial capability for scanning service members' medical documents into its electronic health record and sharing the documents electronically with VA.

The departments asserted that they took actions that met the six objectives and, in conjunction with capabilities previously achieved (e.g., FHIE, BHIE, and CHDR), had met the September 30, 2009, deadline for achieving full interoperability as required by the act. Nonetheless, the departments planned additional work to further increase their interoperable capabilities, stating that these actions reflected the departments' recognition that clinicians' needs for interoperable electronic health records are not static. In this regard, the departments focused on additional efforts to meet clinicians' evolving needs for interoperable capabilities in the areas of social history and physical exam data, expanding implementation of Essentris, and additional testing of document scanning capabilities.

Even with these actions, however, we identified a number of challenges the departments faced in managing their efforts in response to the 2008 NDAA. Specifically, we identified challenges with respect to performance

measurement, project scheduling, and planning. For example, in a January 2009 report, we noted that the departments' key plans did not identify results-oriented (i.e., objective, quantifiable, and measurable) performance goals and measures that are characteristic of effective planning and can be used as a basis to track and assess progress toward the delivery of new interoperable capabilities.¹⁰ We pointed out that without establishing results-oriented goals and reporting progress using measures relative to the established goals, the departments and their stakeholders would not have the comprehensive picture that they need to effectively manage their progress toward achieving increased interoperability. Accordingly, we recommended that DOD and VA take action to develop such goals and performance measures to be used as a basis for providing meaningful information on the status of the departments' interoperability initiatives. In response, the departments stated that such goals and measures would be included in the next version of the VA/DOD Joint Executive Council Joint Strategic Plan (known as the joint strategic plan). However, that plan was not approved until April 2010, 7 months after the departments asserted they had met the deadline for achieving full interoperability.

In addition to its provisions directing VA and DOD to jointly develop fully interoperable electronic health records, the 2008 NDAA called for the departments to set up an Interagency Program Office (IPO) to be accountable for their efforts to implement these capabilities by the September deadline. Accordingly, in January 2009, the office completed its charter, articulating, among other things, its mission and functions with respect to attaining interoperable electronic health data. The charter further identified the office's responsibilities in carrying out its mission in areas such as oversight and management, stakeholder communication, and decision making. Among the specific responsibilities identified in the charter was the development of a plan, schedule, and performance measures to guide the departments' electronic health record interoperability efforts.

In July 2009, we reported that the IPO had not fulfilled key management responsibilities identified in its charter, such as the development of an integrated master schedule and a project plan for the department's efforts

¹⁰[GAO-09-268](#).

to achieve full interoperability.¹¹ Without these important tools, the office was limited in its ability to effectively manage and provide meaningful progress reporting on the delivery of interoperable capabilities. We recommended that the IPO establish a project plan and a complete and detailed integrated master schedule. In response to our recommendation, the office began to develop an integrated master schedule and project plan that included information about its ongoing interoperability activities.

It is important to note, however, that in testifying before this committee in July 2011, the office's former Director stated that the IPO charter established a modest role for the office, which did not allow the office to be the single point of accountability for the development and implementation of interoperable electronic health records.¹² Instead, the office served the role of coordination and oversight for the departments' efforts. Additionally, as pointed out by this official, control of the budget, contracts, and technical development remained with VA and DOD. As a result, each department had continued to pursue separate strategies and implementation paths, rather than coming together to build a unified, interoperable approach.

Virtual Lifetime Electronic Record Initiative Lacked Comprehensive Planning

In another attempt at furthering efforts to increase electronic health record interoperability, in April 2009, the President announced that VA and DOD would work together to define and build the Virtual Lifetime Electronic Record (VLER) to streamline the transition of electronic medical, benefits, and administrative information between the two departments. VLER is intended to enable access to all electronic records for service members as they transition from military to veteran status, and throughout their lives. Further, the initiative is to expand the departments' health information sharing capabilities by enabling access to private sector health data.

¹¹GAO-09-775.

¹²Legislative Hearing on H.R. 2383, H.R. 2243, H.R. 2388 and H.R. 2470, Before the Subcommittee on Oversight and Investigations of the Committee on Veterans' Affairs, U.S. House of Representatives, 112th Cong., First Session (July 20, 2011) (statement of Debra M. Filippi, Former Director, U.S. Department of Defense/U.S. Department of Veterans Affairs Interagency Program Office), February 25, 2012, <http://veterans.house.gov/prepared-statement/prepared-statement-debra-m-filippi-former-director-us-department-defenseus>.

Shortly after the April 2009 announcement, VA, DOD, and the IPO began working to define and plan for the initiative. In June 2009, the departments adopted a phased implementation strategy consisting of a series of 6-month pilot projects to deploy a set of health data exchange capabilities between existing electronic health record systems at local sites around the country. Each VLER pilot project was intended to build upon the technical capabilities of its predecessor, resulting in a set of baseline capabilities to inform project planning and guide the implementation of VLER nationwide.

The first pilot, which started in August 2009, in San Diego, California, resulted in VA, DOD, and Kaiser Permanente being able to share a limited set of test patient data. Subsequently, between March 2010 and January 2011, VA and DOD conducted another pilot in the Tidewater area of southeastern Virginia, which focused on sharing the same data as the San Diego pilot plus additional laboratory data. The departments planned additional pilots, with the goal of deploying VLER nationwide at or before the end of 2012.

In June 2010, DOD informed us that it planned to spend \$33.6 million in fiscal year 2010, and \$61.9 million in fiscal year 2011 on the initiative. Similarly, VA stated that it planned to spend \$23.5 million in fiscal year 2010, and had requested \$52 million for fiscal year 2011.

However, in a February 2011 report on the departments' efforts to address their common health IT needs, we noted that although VA and DOD identified a high-level approach for implementing VLER and designated the IPO as the single point of accountability for the effort, they had not developed a comprehensive plan identifying the target set of capabilities that they intended to demonstrate in the pilot projects and then implement on a nationwide basis at all domestic VA and DOD sites by the end of 2012.¹³ Moreover, the departments conducted VLER pilot projects without attending to key planning activities that are necessary to guide the initiative. For example, as of February 2011, the IPO had not developed an approved integrated master schedule, master program plan, or performance metrics for the VLER initiative, as outlined in the office's charter. We noted that if the departments did not address these issues, their ability to effectively deliver capabilities to support their joint

¹³[GAO-11-265](#).

health IT needs would be uncertain. We recommended that the Secretaries of VA and DOD strengthen their ongoing efforts to establish VLER by developing plans that include scope definition, cost and schedule estimation, and project plan documentation and approval. Officials from both departments agreed with the recommendation, and we are monitoring their actions toward implementing them. Nevertheless, the departments were not successful in meeting their goal of implementing VLER nationwide by the end of 2012.

Poor Project Planning Contributed to Information Technology Delays at the Joint Federal Health Care Center

VA and DOD also continued their efforts to share health information and resources in 2010 following congressional authorization of a 5-year demonstration project to more fully integrate the two departments' facilities that were located in proximity to one another in the North Chicago, Illinois, area. As authorized by the National Defense Authorization Act for fiscal year 2010,¹⁴ VA and DOD facilities in and around North Chicago were integrated into a first-of-its-kind system known as the Captain James A. Lovell Federal Health Care Center (FHCC). The FHCC is unique in that it is to be the first fully integrated federal health care center for use by both VA and DOD beneficiaries, with an integrated workforce, a joint funding source, and a single line of governance.

In April 2010, the Secretaries of VA and DOD signed an Executive Agreement that established the FHCC and defined the relationship between the two departments for operating the new, integrated facility, in accordance with the 2010 NDAA. Among other things,¹⁵ the Executive Agreement specified three key IT capabilities that VA and DOD were required to have in place by the FHCC's opening day, in October 2010, to facilitate interoperability of their electronic health record systems:

- **medical single sign-on**, which would allow staff to use one screen to access both the VA and DOD electronic health record systems;
- **single patient registration**, which would allow staff to register patients in both systems simultaneously; and

¹⁴Pub. L. No. 111-84, div. A, title XVII, 123 Stat. 2190, 2567-2574 (2009).

¹⁵The Executive Agreement identified 12 areas of integration for the FHCC, one of which is information technology.

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- **orders portability**, which would allow VA and DOD clinicians to place, manage, and update clinical orders from either department's electronic health records systems for radiology, laboratory, consults (specialty referrals), and pharmacy services.

However, in a February 2011 report that identified improvements the departments could make to the FHCC effort, we noted that project planning for the center's IT capabilities was incomplete.¹⁶ We specifically noted that the departments had not defined the project scope in a manner that identified all detailed activities. Consequently, they were not positioned to reliably estimate the project cost or establish a baseline schedule that could be used to track project performance. Based on these findings, we expressed concern that VA and DOD had jeopardized their ability to fully and expeditiously provide the FHCC's needed IT system capabilities. We recommended that the Secretaries of VA and DOD strengthen their efforts to establish the joint IT system capabilities for the FHCC by developing plans that included scope definition, cost and schedule estimation, and project plan documentation and approval. Although officials from both departments stated agreement with our recommendation, the departments' actions were not sufficient to preclude delays in delivering the FHCC's IT system capabilities, as we subsequently described in July 2011 and June 2012.

Specifically, our 2011 report noted that none of the three IT capabilities had been implemented by the time of the FHCC's opening, as required by the Executive Agreement;¹⁷ however, FHCC officials reported that the medical single sign-on and single patient registration capabilities subsequently became operational in December 2010.

In June 2012, we again reported on the departments' efforts to implement the FHCC's required IT capabilities, and found that portions of the orders portability capability—related to the pharmacy and consults

¹⁶[GAO-11-265](#).

¹⁷GAO, *VA and DOD Health Care: First Federal HealthCare Center Established, but Implementation Concerns Need to Be Addressed*, [GAO-11-570](#) (Washington, D.C.: July 19, 2011).

components—remained delayed.¹⁸ VA and DOD officials described workarounds that the departments had implemented as a result of the delays, but did not have a timeline for completion of the pharmacy component, and estimated completion of the consults component by March 2013.

The officials reported that as of March 2012, the departments had spent about \$122 million on developing and implementing IT capabilities at the FHCC. However, they were unable to quantify the total cost for all the workarounds resulting from delayed IT capabilities.

VA and DOD Recently Changed Their Approach to Developing an Integrated Electronic Health Record

Beyond the aforementioned initiatives, in March 2011 the Secretaries of VA and DOD committed the two departments to developing a new common integrated electronic health record (iEHR), and in May 2012 announced their goal of implementing it across the departments by 2017. According to the departments, the decision to pursue iEHR would enable VA and DOD to align resources and investments with common business needs and programs, resulting in a platform that would replace the two departments' electronic health record systems with a common system. In addition, because it would involve both departments using the same system, this approach would largely sidestep the challenges they have encountered in trying to achieve interoperability between separate systems.

To oversee this new effort, in October 2011, the IPO was re-chartered and given authority to expand its staffing level and provided with new authorities under the charter, including control over the budget. According to IPO officials, the office was expected to have a staff of 236 personnel—more than 7 times the number of staff originally allotted to the office by VA and DOD—when hiring under the charter was completed. However, IPO officials told us that, as of January 2013, the office was staffed at approximately 62 percent and that hiring additional staff remained one of its biggest challenges.

¹⁸GAO, *VA/DOD Federal Health Care Center: Costly Information Technology Delays Continue and Evaluation Plan Lacking*, [GAO-12-669](#) (Washington, D.C.: June 26, 2012). In this report, we noted that orders portability for radiology had become operational in June 2011 and for laboratory in March 2012.

Earlier this month, the Secretaries of VA and DOD announced that instead of developing a new common integrated electronic health record system, the departments would now focus on integrating health records from separate VA and DOD systems, while working to modernize their existing electronic health record systems. VA has stated that it will continue to modernize VistA while pursuing the integration of health data, while DOD has stated that it plans to evaluate whether it will adopt VistA or purchase a commercial off-the-shelf product. The Secretaries offered several reasons for this new direction, including cutting costs, simplifying the problem of integrating VA and DOD health data, and meeting the needs of veterans and service members sooner rather than later.

The numerous challenges that the departments have faced in past efforts to achieve full interoperability between their existing health information systems heighten longstanding concerns about whether this latest initiative will be successful. We have ongoing work—undertaken at the request of the Chairman and Ranking Member of the Senate Committee on Veterans Affairs—to examine VA’s and DOD’s decisions and activities related to this endeavor.

Barriers Exist to Jointly Addressing VA’s and DOD’s Health Care System Needs

VA’s and DOD’s revised approach to developing iEHR highlights the need for the departments to address barriers they have faced in key IT management areas. Specifically, in a February 2011 report, we highlighted barriers that the departments faced to jointly addressing their common health care system needs in the areas of strategic planning, enterprise architecture, and investment management.¹⁹ In particular, the departments had not articulated explicit plans, goals, and time frames for jointly addressing the health IT requirements common to both departments’ electronic health record systems, and their joint strategic plan did not discuss how or when they propose to identify and develop joint solutions to address their common health IT needs. In addition, although DOD and VA had taken steps toward developing and maintaining artifacts related to a joint health architecture (i.e., a description of business processes and supporting technologies), the architecture was not sufficiently mature to guide the departments’ joint health IT modernization efforts. Further, the departments had not established a joint process for selecting IT investments based on criteria

¹⁹[GAO-11-265](#).

that consider cost, benefit, schedule, and risk elements, limiting their ability to pursue joint health IT solutions that both meet their needs and provide better value and benefits to the government as a whole. We noted that without having these key IT management capabilities in place, the departments would continue to face barriers to identifying and implementing IT solutions that addressed their common needs.

In our report, we identified several actions that the Secretaries of Defense and Veterans Affairs could take to overcome these barriers, including the following:

- Revise the departments' joint strategic plan to include information discussing their electronic health record system modernization efforts and how those efforts will address the departments' common health care business needs.
- Further develop the departments' joint health architecture to include their planned future state and transition plan from their current state to the next generation of electronic health record capabilities.
- Define and implement a process, including criteria that consider costs, benefits, schedule, and risks, for identifying and selecting joint IT investments to meet the departments' common health care business needs.

Officials from both VA and DOD agreed with these recommendations, and we have been monitoring their actions toward implementing them. Nonetheless, important work remains, and it takes on increased urgency in light of the departments' revised approach to developing the iEHR. For example, with respect to planning, the departments' joint strategic plan does not describe the new approach to how the departments will address their common health care business needs. Regarding architecture, in February 2012, the departments established the Health Architecture Review Board to provide architecture oversight, approval, and decision support for joint VA and DOD health information technology programs. While the board has generally met monthly since May 2012 and has been working to establish mechanisms for overseeing architecture activities, the extent to which the departments' revised approach to iEHR is guided by a joint health architecture remains to be seen. With regard to defining a process for identifying and selecting joint investments, the departments have established such a governance structure, but the effectiveness of this structure has not yet been demonstrated. In particular, the departments have not yet demonstrated the extent to which criteria that

consider costs, benefits, schedule, and risks have been or will be used to identify and select planned investments.

In summary, while VA and DOD have made progress in increasing interoperability between their health information systems over the past 15 years, these efforts have faced longstanding challenges. In large part, these have been the result of inadequate program management and accountability. In particular, there has been a persistent absence of clearly defined, measurable goals and metrics, together with associated plans and time frames, that would enable the departments to report progress in achieving full interoperability. Moreover, the Integrated Program Office has not functioned as it was intended—as a single point of accountability for efforts to implement fully interoperable electronic health record systems or capabilities. The 2011 decision to develop a single, integrated electronic health record system to be used across both departments could have avoided or mitigated some of these challenges. However, the more recent decision to reverse course and continue to operate separate systems and develop additional interoperable capabilities raises concern in light of historical challenges. Further, although the departments have asserted that their now planned approach will deliver capabilities sooner and at lower cost, deficiencies in key IT management areas of strategic planning, enterprise architecture, and investment management could continue to stand in the way of VA's and DOD's attempts to jointly address their common health care system needs in the most efficient and effective manner.

Chairman Miller, Ranking Member Michaud, and Members of the Committee, this concludes my statement. I would be pleased to respond to any questions that you may have.

GAO Contact and Staff Acknowledgments

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