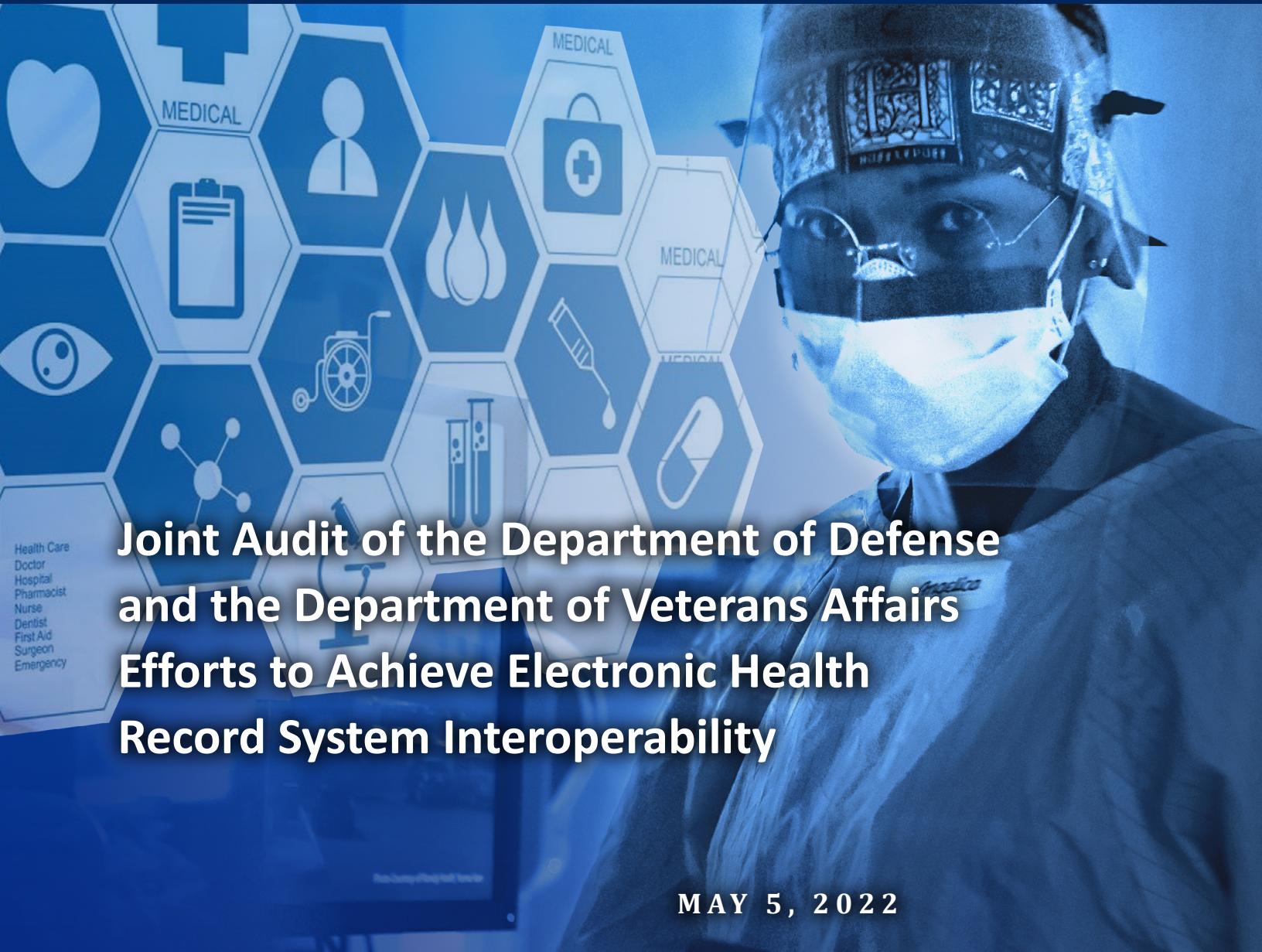




INSPECTOR GENERAL

U.S. Department of Defense



Joint Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability

MAY 5, 2022

INSPECTOR GENERAL

U.S. Department of Veterans Affairs



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*To detect and deter fraud, waste, and abuse
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Promote the economy, efficiency, and effectiveness of the DoD; and
Help ensure ethical conduct throughout the DoD*

DoD OIG Vision

*Engaged oversight professionals dedicated
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VA OIG Mission

*To serve veterans and the public by conducting
meaningful independent oversight of the
Department of Veterans Affairs.*

VA OIG Vision

*To perform audits, inspections, investigations, and reviews
that improve the efficiency, effectiveness, and integrity of the
Department of Veterans Affairs' programs and services.*

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Results in Brief

Joint Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability



May 5, 2022

Objective

The objective of this joint audit was to determine the extent to which the actions taken by the Department of Defense (DoD) and Department of Veterans Affairs (VA) in acquiring and implementing a common, commercial electronic health record (EHR) system and supporting architecture will achieve interoperability between DoD, VA, and external health care providers.

Background

Interoperability is the ability to exchange EHRs securely with other health information technology systems without special effort on the part of the user, which includes health care providers, patients, and others authorized to view the patient's EHR (a real-time, digital, patient-centered record of a patient's medical history). In the FY 2008 National Defense Authorization Act (NDAA), Congress directed the DoD and VA to jointly develop and implement EHR systems or capabilities that would allow for interoperability of patient health care information between the Departments. In the FY 2014 NDAA, Congress stated that the DoD and VA's efforts to date were unsuccessful and clarified its expectations by requiring that the EHR systems of the DoD and VA have the ability to seamlessly exchange health care information between the Departments and external health care providers. The FY2020 NDAA added requirements that the DoD and VA develop EHR systems with the ability to interpret, use, and exchange health care information from medical systems, devices, and applications.

Background (cont'd)

To meet the NDAA requirements for interoperability, the DoD and VA acquired Cerner Corporation's Millennium EHR platform (Cerner Millennium) in July 2015 and May 2018, respectively. As of December 2021, Cerner Millennium had deployed at 49 DoD health care facilities and one VA facility.

The DoD plans to deploy Cerner Millennium at 490 health care facilities by 2023, and the VA plans to deploy Cerner Millennium at 1,454 health care facilities by 2028. In addition, the Secretaries of the DoD and VA established the Federal Electronic Health Record Modernization (FEHRM) Program Office to provide direction and oversight to the DoD and VA organizations deploying Cerner Millennium. The FEHRM Program Office's primary mission is to work closely with the DoD and VA to implement a single, interoperable Federal EHR and develop and maintain a complete patient record that would enhance patient care and health care provider effectiveness. Furthermore, the FEHRM Program Office implemented the Joint Health Information Exchange to enhance the ability of the Departments to securely exchange health care information with more than 15,000 external health care providers.

Finding

The DoD and VA took action to achieve interoperability of patient health care information across DoD, VA, and external health care providers by acquiring Cerner Millennium, deploying the EHR system at 49 DoD facilities and one VA health care facility, and launching the Joint Health Information Exchange. However, the DoD and the VA did not take all actions needed to achieve interoperability. Specifically, the DoD and the VA did not:

- consistently migrate patient health care information from the legacy electronic health care systems into Cerner Millennium to create a single, complete patient EHR;
- develop interfaces from all medical devices to Cerner Millennium so that patient health care information will automatically upload to the system from those devices; or



Results in Brief

Joint Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability



Finding (cont'd)

- ensure that users were granted access to Cerner Millennium for only the information needed to perform their duties.

The DoD and the VA did not take all action necessary to achieve interoperability because FEHRM Program Office officials did not develop and implement a plan to achieve all FY 2020 NDAA requirements or take an active role to manage the program's success as authorized by its charter. Instead, FEHRM Program Office officials limited their role to facilitating discussions when disputes arose between the DoD and the VA, and would only provide direction if the Departments reported a problem. Because the FEHRM Program Office limited its role, the DoD and the VA took separate actions to migrate patient health care information, develop interfaces, and grant user access to Cerner Millennium.

Achieving interoperability between the DoD, VA, and external health care providers through the deployment of a single EHR system is critical because health care providers will have the ability to securely transfer and share health care information for the Nation's 9.6 million DoD Armed Forces members, dependents, and retirees, and 9.21 million enrolled users. As the DoD and the VA continue to deploy Cerner Millennium, health care providers at those facilities should be confident that a patient's EHR is accurate and complete regardless of where the point of care occurred.

Recommendations

We recommend that the Deputy Secretary of Defense and the Deputy Secretary of Veterans Affairs review the actions of the FEHRM Program Office and direct the FEHRM Program Office to develop processes and procedures in accordance with the FEHRM Program Office charter and the National Defense Authorization Acts. In addition, we recommend, among other actions, that the Director of the FEHRM Program Office, in coordination with the Director of the Defense Health Agency, the Program Executive Director of the VA Office

of Electronic Health Record Modernization Integration, and the Program Manager for DoD Healthcare Management System Modernization:

- determine the type of health care information that constitutes a complete EHR;
- develop and implement a plan for migrating legacy patient health care information needed for a patient's complete EHR once the FEHRM Program Office determines the type of patient health care information that constitutes a complete patient electronic health record;
- develop and implement a plan for creating interfaces that would allow medical devices to connect and transfer patient health care information to Cerner Millennium; and
- develop and implement a plan to modify Cerner Millennium user roles to ensure that users are granted access to only the patient health care information necessary to perform their job responsibilities.

Management Comments and Our Response

The Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs agreed with the recommendation to review the actions of the FEHRM Program Office and direct the FEHRM Program Office to develop processes and procedures in accordance with the recommendations. In addition, the Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs stated that they would ensure the FEHRM Program Office complies with its charter and applicable NDAA requirements.

The FEHRM Program Office Director agreed with the recommendations to determine the type of health care information that constitutes a complete EHR, develop and implement a plan to migrate that patient information to Cerner Millennium, and develop and



Results in Brief

Joint Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability



Comments (cont'd)

implement a plan for creating interfaces between medical devices and Cerner Millennium. However, the Director stated that the FEHRM Program Office needed resourcing and appropriate delegations of authority from the DoD and VA to properly address the recommendations. The Director also stated that the FEHRM Program Office was prepared to begin executing actions when funding, staffing, and authorities are allocated. Although the Director agreed, we consider the recommendations unresolved because the Director made any actions contingent upon the DoD and VA providing additional authorities and resources. It is the Director's responsibility to request needed resources and authorities from the DoD and VA; therefore, we request that the FEHRM Program Office Director provide additional comments describing the actions the FEHRM Program Office plans to take to identify the resources needed to execute its mission and request the authorities needed to address the recommendations.

The FEHRM Program Office Director partially agreed with the recommendation to ensure that Cerner Millennium users are granted access to only the patient health care information necessary to perform their job

responsibilities. Specifically, the Director stated that user access was assessed as Cerner Millennium was deployed and that Cerner Millennium was configured to balance the need to comply with the Health Insurance Portability and Accountability Act with the need to ensure that the quality of care and patient safety were not compromised. However, we found that the Cerner Millennium user roles were not always commensurate with the health care provider's assigned duties and therefore, users had more access to patient health care information than was necessary. The Health Insurance Portability and Accountability Act Privacy Rule requires covered entities to limit the access to patient EHRs to the minimum access necessary for users to perform their official duties. Therefore, we request that the Director provide additional comments describing what actions the FEHRM Program Office plans to take to ensure that Cerner Millennium users are granted access to only the patient health care information necessary to perform their job responsibilities.

Please see the Recommendations Table on the next page for the status of recommendations.

Recommendations Table

Management	Recommendations Unresolved	Recommendations Resolved	Recommendations Closed
Deputy Secretary of Defense		1	
Deputy Secretary of Veterans Affairs		1	
Director, Federal Electronic Health Record Modernization Program Office	2.a, 2.b, 2.c, 2.d		

Please provide Management Comments by June 6, 2022.

Note: The following categories are used to describe agency management's comments to individual recommendations.

- **Unresolved** – Management has not agreed to implement the recommendation or has not proposed actions that will address the recommendation.
- **Resolved** – Management agreed to implement the recommendation or has proposed actions that will address the underlying finding that generated the recommendation.
- **Closed** – DoD OIG verified that the agreed upon corrective actions were implemented.



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May 5, 2022

MEMORANDUM FOR DEPUTY SECRETARY OF DEFENSE

DEPUTY SECRETARY, DEPARTMENT OF VETERANS AFFAIRS
ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS)
DIRECTOR, DEFENSE HEALTH AGENCY
PROGRAM EXECUTIVE OFFICER, DEFENSE HEALTHCARE
MANAGEMENT SYSTEMS
DIRECTOR, FEDERAL ELECTRONIC HEALTH RECORD
MODERNIZATION PROGRAM OFFICE
PROGRAM EXECUTIVE DIRECTOR, VETERANS AFFAIRS
ELECTRONIC HEALTH RECORD MODERNIZATION INTEGRATION OFFICE

SUBJECT: Joint Audit of the Department of Defense and the Department of Veterans Affairs
Efforts to Achieve Electronic Health Record System Interoperability
(DoD OIG Report No. DODIG-2022-089) (VA OIG Report No. 2018-04227-91)

This final report provides the results of the DoD Office of Inspector General's and VA Office of Inspector General's joint audit. We previously provided copies of the draft report and requested written comments on the recommendations. We considered management's comments on the draft report when preparing the final report. These comments are included in the report. We request written responses to the findings and recommendations in this report that are addressed to your office.

This report contains four recommendations to the Federal Electronic Health Record Modernization Program Office that we consider unresolved because management officials did not fully address the recommendations. Therefore, as discussed in the Recommendations, Management Comments, and Our Response section of this report, the recommendations will remain unresolved until an agreement is reached on the actions to be taken to address the recommendations. Once an agreement is reached, the recommendations will be considered resolved but will remain open until we verify that the actions are complete. Once we verify the actions are complete, we will close the recommendations.

The Federal Electronic Health Record Modernization Program Office should send a PDF file containing comments on the unresolved recommendations to [REDACTED] by June 6, 2022. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET). Copies of your comments must have the actual signature of the authorizing official for your organization. If you have any questions or would like to meet to discuss the audit, please contact [REDACTED]
[REDACTED].

This report contains one recommendation to the Deputy Secretary of Defense and the Deputy Secretary of Veterans Affairs that is considered resolved. Therefore, as discussed in the Recommendations, Management Comments, and Our Response section of this report, the recommendation will remain open until documentation is submitted showing that the agreed-upon actions are complete. Once we verify that the actions are complete, we will close the recommendation.

The Deputy Secretary of Defense and the Deputy Secretary of Veterans Affairs should send a PDF file to their respective OIG points of contact showing that the agreed upon action on the resolved recommendation is complete. The Deputy Secretary of Defense should send the PDF file to [REDACTED] if unclassified or [REDACTED] if classified SECRET. The Deputy Secretary of Veterans Affairs should send the PDF file via encrypted e-mail to [REDACTED]
[REDACTED].

We appreciate the cooperation and assistance received during the audit.



Carol N. Gorman
DoD Office of Inspector General
Assistant Inspector General for Audit
Cyberspace Operations



R. James Mitchell, Esq.
VA Office of Inspector General
Acting Assistant Inspector General
Office of Special Reviews

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Introduction

Objective

The objective of this joint audit was to determine the extent to which the actions taken by the Department of Defense (DoD) and the Department of Veterans Affairs (VA) in acquiring and implementing a common, commercial electronic health record (EHR) system and supporting architecture will achieve interoperability between DoD, VA, and external health care providers.¹ See Appendix A for a discussion on the scope and methodology for this audit and prior oversight coverage, and the Glossary for the definition of technical terms.

Background

The DoD and the VA operate two of the largest health care systems in the world, providing services to up to 9.6 million and 9.21 million enrolled users, respectively. The DoD delivers patient care through the Military Health System at 490 health care facilities, including 15 U.S. medical centers, 51 hospitals, and more than 424 clinics.² The VA serves patients at 1,454 health care facilities, including 171 medical centers and 1,283 outpatient facilities. In addition to the 1,944 DoD and VA health care facilities, the DoD and VA also rely on more than 15,000 external providers to provide additional health care services to active duty Armed Forces members and veterans. Although each Department operates its own EHR systems to manage and document patient care, in 2018, the Department Secretaries committed to working together to implement a single, integrated EHR that has the capability to accurately and efficiently share patient health care information between the DoD and VA to ensure health record interoperability between the Departments and with external health care providers.

EHRs are real-time, digital, patient-centered records that make information available instantly and securely to authorized users. EHRs are a vital part of health information technology because they:

- contain a patient's medical history, diagnoses, medications, treatment plans, immunization dates, allergies, radiology images, and laboratory and test results;
- allow access to clinical tools, such as real-time reporting, that health care providers can use to make decisions about a patient's care; and

¹ External health care providers are commercial facilities and physicians that provide health care to DoD and VA patients.

² For the purposes of this report, we refer to DoD medical treatment facilities and VA medical centers as health care facilities. In addition, we use the term "patients" to refer to beneficiaries, uniformed Service members, military retirees, family members, and veterans.

- automate and streamline health care provider workflows to provide timely treatment.³

One of the key features of an EHR is that providers can share a patient's health care information with other providers across and outside of their organization.

National Defense Authorization Act Electronic Health Records Interoperability Requirements

Beginning in 2008, Congress passed three National Defense Authorization Acts (NDAA) directing the DoD and VA to develop interoperable EHR systems that would allow DoD, VA, and external health care providers to exchange patient EHRs seamlessly.⁴ In the FY 2008 NDAA, Congress directed the DoD and VA to jointly develop and implement EHR systems or capabilities that would allow for full interoperability of patient health care information between the Departments. The FY 2008 NDAA also established the Interagency Program Office (IPO) to act as a single point of accountability for the Departments in the rapid development of systems and capabilities to achieve interoperability and to accelerate the exchange of health care information between the Departments. Congress authorized the DoD and VA to provide support to the IPO by assigning personnel and resources.

In the FY 2014 NDAA, Congress clarified its expectations concerning interoperability, stating that the DoD and VA "have failed to implement a solution that allows for seamless electronic sharing of medical health care data." Congress also defined interoperable as "the ability of different electronic health records systems or software to meaningfully exchange information in real time and provide useful results to one or more systems." Congress stated that the DoD and VA's efforts to implement a solution that allowed for seamless electronic sharing of medical health care data had been unsuccessful (see Appendix B for a list of those efforts) and that despite the significant amount of read-only information shared between the Departments, most of the information shared was "not standardized or available in real time to support all clinical decisions." The DoD notified Congress in a November 2015 letter that the existing Joint Longitudinal

³ A health care provider is a provider of medical or health services. Health care providers can include doctors of medicine, dentists, clinical psychologists, nurse practitioners, clinical social workers, and physician assistants. For the purposes of this report, we will refer to all doctors, clinicians, physicians, nurses, and other hospital staff providing care, including administrative support staff, as health care providers.

⁴ Public Law 110-181, "National Defense Authorization Act for Fiscal Year 2008," January 28, 2008. Public Law 113-66, "National Defense Authorization Act for Fiscal Year 2014," December 26, 2013. Public Law 116-92, "National Defense Authorization Act for Fiscal Year 2020," December 20, 2019.

Viewer (JLV), a system with read-only access, met the FY 2014 NDAA requirement for interoperability. In April 2016, the VA certified that all health care data in its systems complied with national standards and were accessible in real time.⁵

On December 20, 2019, Congress passed the FY 2020 NDAA, which further clarified Congress' expectations for achieving full interoperability and expanded the definition of interoperability as:

The ability of different information systems, devices, or applications to connect, regardless of the technology platform or location where care is provided:

- (A) in a coordinated and secure manner, within and across organizational boundaries, and across the complete spectrum of care, including all applicable care settings;
- (B) with relevant stakeholders, including the person whose information is being shared, to access, exchange, integrate, and use computable data regardless of the origin or destination of the data or the applications employed;
- (C) with the capability to reliably exchange information without error;
- (D) with the ability to interpret and to make effective use of such exchanged information;
- (E) with the ability for information that can be used to advance patient care to move between health care entities; and
- (F) without additional intervention by the end user.⁶

Congress also directed the Federal Electronic Health Record Modernization (FEHRM) Program Office to "enter into an agreement with an independent entity to conduct an evaluation" of specific interoperability objectives by no later than October 1, 2021. Those interoperability objectives included the following.

- (A) Whether a clinician of the Department of Defense, can access, and meaningfully interact with, a complete patient health record of a veteran, from a military medical treatment facility.
- (B) Whether a clinician of the Department of Veterans Affairs can access, and meaningfully interact with, a complete patient health record of a member of the Armed Forces serving on active duty, from a medical center of the Department of Veterans Affairs.
- (C) Whether clinicians of the Departments can access, and meaningfully interact with, the data elements of the health record of a patient who is a veteran or is a member of the Armed Forces which are generated when the individual receives

⁵ Examining the Progress and Challenges in Modernizing Information Technology at the U.S. Department of Veterans Affairs: U.S. Senate Committee on Veterans Affairs, 114th Cong. (2016) (Testimony of David Shulkin).
<https://www.veterans.senate.gov/imo/media/doc/VA%20Shulkin%20Testimony%2006.22.2016.pdf>

⁶ For the full text of the FY 2020 NDAA, see Appendix D.

health care from a community care provider of the Department of Veterans Affairs or a TRICARE program provider of the Department of Defense.

(D) Whether a community care provider of the Department of the Veterans Affairs and a TRICARE program provider of the Department of Defense on a Health Information Exchange-supported electronic health record can access patient health records of veterans and active-duty members of the Armed Forces from the system of the provider.

On September 28, 2021, the Defense Health Agency (DHA) awarded a contract to the MITRE Corporation, in support of the FEHRM Program Office, to conduct the independent evaluation of the interoperability objectives. However, due to VA's deployment delays, the MITRE Corporation had not performed testing on the interoperability objectives. The MITRE Corporation plans to perform a multi-phase evaluation but has not established a timetable for completing it.

Federal Electronic Health Record Modernization Program Office

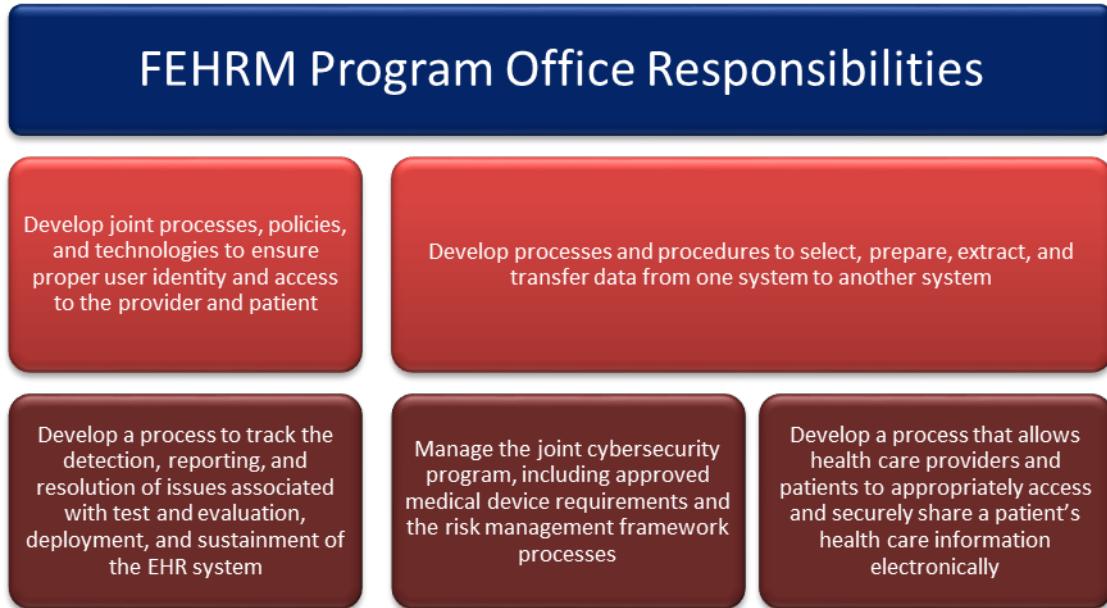
In December 2019, the Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs created a new charter for the IPO and renamed it the FEHRM Program Office (see Appendix E for copy of the charter). The FY 2020 NDAA included a requirement for the FEHRM Program Office to develop and implement a comprehensive interoperability strategy, and to attain interoperability capabilities sufficient to achieve seamless health care by the Departments' providers, as well as external health care providers. Also in December 2019, the Department Secretaries issued the FEHRM Program Office's charter that stated that the Office's primary mission is to work closely with the DoD and VA to implement a single, common Federal EHR and develop and maintain a complete patient record that will enhance patient care and health care provider effectiveness.

To achieve its mission, the FEHRM Program Office is responsible for managing risk; identifying opportunities for efficiency, standardization, and process optimization; and advancing interoperability across the Federal and private sectors. The Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs granted the FEHRM Program Office decision-making authority over the DoD and VA to provide unified direction on joint functions to ensure that the Departments deliver an interoperable EHR system.

The Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs appointed a Director and Deputy Director to lead the FEHRM Program Office, which included personnel detailed from the DHA, DoD Healthcare Management System Modernization (DHMSM) Program Office, and VA Office of Electronic

Health Record Modernization (OEHRM), among other agencies. The FY 2020 NDAA included key responsibilities that the Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs used to outline the FEHRM Program Office's roles and responsibilities in the Office's charter, as described in the following figure.

Figure. Key Federal Electronic Health Record Modernization Program Office Responsibilities



Source: DoD OIG and the VA OIG chart derived from the DoD/VA 2019 Federal Electronic Health Record Modernization (FEHRM) Program Office Charter, December 4, 2019.

The FY 2020 NDAA further requires the FEHRM Program Office to ensure that interoperability capabilities will allow for “seamless health care” by DoD and VA health care facilities and providers, as well as external health care providers. The FY 2020 NDAA defines seamless health care as health care that is optimized by patients and providers making high-quality decisions and effectively carrying out complete plans of care through access to integrated, relevant, and complete patient health care information. The FY 2020 NDAA also requires the FEHRM Program Office to develop a “comprehensive interoperability strategy,” including any implementation plans and supporting plans, which the FEHRM Program Office issued on August 13, 2020. The strategy outlines high-level objectives to guide the DoD and VA in providing seamless health care. In addition, instead of Congress’s FY 2020 definition of interoperability, the FEHRM Program Office cited a more limited definition established by the Institute of Electrical and Electronics Engineers, the ability of two or more systems or components to exchange information and to use the information that has been exchanged.

Acquiring and Deploying Cerner Millennium

The DoD and VA began separate processes for acquiring Cerner Corporation's Millennium EHR platform, a commercial-off-the-shelf EHR system, in August 2014 and June 2017, respectively, to achieve interoperability in accordance with the NDAs. In July 2015, the DoD awarded a contract to the Leidos Partnership for Defense Health to acquire Cerner Millennium, the Cerner Millennium patient portal, and a suite of support tools necessary to operate the Cerner applications.⁷ As of December 2021, the DoD had deployed Cerner Millennium at 49 of its health care facilities (see Appendix C for a list of those facilities). The DoD plans to deploy Cerner Millennium at all its 490 health care facilities by 2023.

In a June 2017 memorandum, the Secretary of Veterans Affairs stated that acquiring the same EHR system as the DoD would enable the VA to capitalize on DoD investments; benefit from the DoD's lessons learned; participate with the DoD in the workflow standardization process; and jointly adopt and develop the EHR national standards. In response to the memorandum, in May 2018, the VA awarded a contract to Cerner Corporation to acquire Cerner Millennium, which included the Cerner Millennium patient portal, a suite of support tools, and a cloud-based application to facilitate the transfer of EHRs to a Cerner Corporation data repository to create a complete patient EHR. In October 2020, the VA deployed Cerner Millennium at the Mann-Grandstaff VA Medical Center in Spokane, Washington, and had plans to deploy the EHR system at an additional 14 health care facilities in 2021. However, the Secretary of Veterans Affairs halted the deployment of Cerner Millennium, citing unexpected costs and upgrades needed for VA's outdated information technology systems. This delayed the deployment process and, on March 19, 2021, the Secretary of Veterans Affairs directed the VA to conduct a 12-week strategic review to identify areas where process improvements were needed before deploying Cerner Millennium at future VA health care facilities.

In July 2021, VA released a report, "Electronic Health Record Comprehensive Lessons Learned," following the review, which states that VA plans to develop a mitigation strategy for open issues identified during the review. In July 2021, the recent acting Deputy Secretary of Veterans Affairs reported that additional Cerner deployments were paused for 6 months. The VA plans to deploy Cerner Millennium at its 1,454 health care facilities by 2028.

⁷ Although the DoD renamed the Cerner Corporation Millennium EHR platform to Military Health System GENESIS, for the purposes of this report, we will use the original name of the EHR platform, Cerner Millennium, when discussing the new EHR system acquired and deployed by the DoD and VA.

DoD and VA Roles and Responsibilities for Deploying Cerner Millennium

The DoD and VA assigned several organizations the responsibility for deploying Cerner Millennium. The primary organizations within the DoD are the DHA and the DHMSM Program Office. Among the DHA's responsibilities is managing the Medical Community of Interest, a DoD-developed medical network that provides the DoD and VA a secure connection to Cerner Millennium.⁸ The DHMSM Program Office is responsible for overseeing the technical development of Cerner Millennium, such as formatting patient health care information to align with health data standards and integrating the information to create a patient's comprehensive health record.⁹ The DHA and the DHMSM Program Office collaborate to ensure that clinical needs of the DoD health care facility staff are met by the technical capabilities of the Cerner Millennium system.

At the time of the audit, the primary organizations within the VA responsible for deploying Cerner Millennium were the OEHRM and the Office of Information and Technology.¹⁰ The OEHRM was responsible for managing the preparation, deployment, and maintenance of Cerner Millennium at VA health care facilities. The Office of Information and Technology was responsible for providing secure data interoperability across the VA, the DoD, and Federal and commercial partners by identifying joint standards and processes.

The Joint Health Information Exchange

The DoD and VA rely on the use of external health care providers when patients require specialized medical care that is not available locally or the Departments cannot provide appropriate care when needed. Therefore, on April 18, 2020, the FEHRM Program Office launched the Joint Health Information Exchange (JHIE) to enhance the ability of the DoD and VA to electronically exchange health care information securely with more than 15,000 external health care providers.

External health care provider participation in the JHIE is voluntary. The JHIE allows external health care providers to request and access health care information from the DoD and VA EHR systems. In addition, the JHIE allows the DoD and VA to request and access health care information from participating external health care providers.

⁸ The DoD and VA agreed to use the DoD's Medical Community of Interest network to provide a connection to Cerner Millennium because it met cybersecurity requirements for protecting the connection between DoD and VA health care facilities and Cerner Millennium.

⁹ Health data standards are agreed-upon methods for connecting systems. The standards may pertain to security, data transport, data format or structure, or the meanings of codes or terms.

¹⁰ In November 2021, the VA issued a Comprehensive Lessons Learned Progress Update, which describes the VA's restructured management and governance for the Electronic Health Record Modernization program. The new management structure established a Program Executive Director for Electronic Health Record Modernization Integration in place of the OEHRM.

Interoperability Efforts Assessed

To determine whether the DoD and VA took actions to achieve interoperability between DoD, VA, and external health care providers, we assessed the DoD and VA's efforts that we considered critical to meeting the FY 2020 NDAA's definition of full interoperability. Specifically, we assessed whether the DoD and VA:

- developed an EHR system capable of securely connecting, coordinating, and exchanging health care information between the DoD, VA, and external health care providers;
- defined the health care data domains required to achieve a complete medical EHR and whether they subsequently created a patient's complete EHR to ensure that health care providers can access and use a patient's complete EHR;¹¹
- connected medical systems, devices, and applications to Cerner Millennium so that health care providers can effectively interpret, use, and exchange information using the medical systems, devices, and applications; and
- provided relevant stakeholders (including health care providers) the ability to access, exchange, integrate, and use patient health care information within Cerner Millennium.

Review of Internal Controls

DoD Instruction 5010.40 and Department of Veterans Affairs Financial Policy require DoD and VA organizations, respectively, to implement a comprehensive system of internal controls that provide reasonable assurance that programs are operating as intended and to evaluate the effectiveness of the controls.¹²

In addition, Office of Management and Budget Circular No. A-123 requires the DoD and VA to assess and report on internal controls.¹³ We identified internal control weaknesses related to the development of complete EHRs, DoD and VA medical device interfaces, and the FEHRM Program Office's oversight of DoD and VA efforts to achieve interoperability. We will provide a copy of the report to the senior official responsible for internal controls in the DHA, the DHMSM Program Office, the VA's Electronic Health Record Modernization Integration Office, and the FEHRM Program Office.

¹¹ For the purposes of this report, a complete EHR means all patient health care information deemed by the DoD and VA as relevant for administering care.

¹² DoD Instruction 5010.40, "Managers' Internal Control Program Procedures," May 30, 2013 and Department of Veterans Affairs, Financial Policy, Volume 1, Chapter 5, "Management's Responsibility for Internal Controls," February 27, 2019.

¹³ Office of Management and Budget Circular No. A-123, "Management's Responsibility for Enterprise Risk Management and Internal Control," July 25, 2016.

Finding

Additional Action Is Needed to Achieve Interoperability

The DoD and VA took action to achieve interoperability of patient health care information across DoD, VA, and external health care providers by acquiring Cerner Millennium, deploying the EHR system at 49 DoD facilities and one VA health care facility, and launching the JHIE. As to the first interoperability effort assessed, we determined that the DoD and VA purchased and developed an EHR system capable of securely connecting, coordinating, and exchanging health care information; however, the DoD and VA did not take all actions needed to achieve interoperability. Specifically, for the other three interoperability efforts assessed, we determined that the DoD and VA did not:

- consistently migrate patient health care information from the legacy electronic health care systems into Cerner Millennium to create a single, complete patient EHR;¹⁴
- develop interfaces from all medical devices to Cerner Millennium so that patient health care information will automatically upload to the system from those devices, including vitals monitors, ventilators, and infusion pump devices;¹⁵ or
- ensure that users were granted access to Cerner Millennium for only the information needed to perform their duties.

The DoD and VA did not take all action necessary to achieve interoperability because FEHRM Program Office officials did not develop and implement a plan to achieve all FY 2020 NDAA requirements. Although the FEHRM Program Office developed an interoperability modernization strategy, it did not take an active role to manage the program's success as authorized by its charter. Instead, FEHRM Program Office officials limited their role to facilitating discussions when disputes arose between the DoD and VA, and would only provide direction if the Departments reported a problem. Because the FEHRM Program Office limited its role, the DoD and VA took separate actions to migrate patient health care information, develop interfaces, and grant user access to Cerner Millennium.

¹⁴ Legacy EHR systems are the DoD and VA EHR systems that will be replaced by Cerner Corporation's Millennium EHR platform. The DoD legacy EHR systems are the Armed Forces Health Longitudinal Technology Application, Composite Health Care System, and Essentris. The VA's legacy EHR system is the Veterans Health Information Systems and Technology Architecture.

¹⁵ An interface is a common boundary between two independent systems that allows the systems to interact with one another and share information by using common data formats and language. Examples of "vitals" include blood pressure results or heart rates of patients.

Achieving interoperability between the DoD, VA, and external health care providers through the deployment of a single EHR system is essential for health care providers to have the ability to securely transfer and share health care information for the Nation's 9.6 million DoD Armed Forces members, dependents, and retirees, and 9.21 million VA enrolled users. As the DoD and VA continue to deploy Cerner Millennium, health care providers at those facilities should be confident that a patient's EHR is accurate and complete regardless of where the point of care occurred.

Interoperability is critical to the success of the DoD and VA's efforts to continue improving the quality of care administered to DoD and VA patients. As such, the FEHRM Program Office must fulfill its legislative requirements, including to direct and oversee DoD and VA actions for implementing an EHR solution that not only meets the interoperability requirements of the FY 2020 NDAA, but it also supports the seamless delivery of health care to more than 18 million patients.

The DoD and VA Took Some Action Toward Achieving Interoperability

As of July 2021, the DoD and VA had taken action to acquire and deploy an EHR system and supporting architecture to achieve interoperability between DoD, VA, and external health care providers. As previously mentioned, the DoD and VA acquired Cerner Millennium, deployed the EHR system at 49 DoD facilities and one VA health care facility, and launched a secure network (JHIE) to share health care information with external health care providers.

Acquiring and deploying Cerner Millennium helps the DoD and VA achieve interoperability by creating an environment in which health care providers from both Departments are able to share current and future health care information while supporting continuity of care and improved treatment. In addition, launching the JHIE helps the Departments achieve interoperability by sharing health care information with participating external health care providers to provide a more complete view of a patient's health care history, which helps health care providers make the best decisions about a patient's health.

The DoD and VA Need to Take Additional Action to Achieve Full Interoperability

Although DoD and VA efforts to acquire and deploy Cerner Millennium and the JHIE have improved the ability for DoD and VA health care providers to interpret, use, and exchange health care information, the DoD and VA did not take all action necessary to achieve interoperability in the other three interoperability efforts

assessed. We reviewed relevant DoD and VA processes and procedures related to the implementation of Cerner Millennium. The review focused on processes specific to the creation of a patient's complete record; the connection of medical devices; and the granting of user access to the EHRs with protection of health care information exchanged between the DoD, VA, and external health care providers.

From the review, we determined that the DoD and VA did not:

- consistently migrate patient health care information from the legacy electronic health care systems into Cerner Millennium to create a single, complete patient EHR;
- develop interfaces from all medical devices to Cerner Millennium so that patient health care information will automatically upload to the system from those devices, including vitals monitors, ventilators, and infusion pump devices; or
- ensure that users were granted access to Cerner Millennium for only the information needed to perform their duties.

The DoD and VA Did Not Consistently Migrate Legacy Patient Health Care Information to Cerner Millennium

The DoD and VA did not consistently migrate patient health care information contained in their legacy systems to Cerner Millennium when deploying the system at the 49 DoD facilities and one VA health care facility. Legacy healthcare information is historic healthcare information that was generated within the prior DoD and VA EHR systems. Before the FY 2020 NDAA, the Departments had begun migrating certain legacy patient health data from their respective legacy system domains into Cerner Millennium, such as medications, procedures, and lab results. The FY 2020 NDAA states that part of interoperability includes ensuring that the DoD and VA develop an EHR with the ability of different information systems, devices, or applications to connect across the complete spectrum of care without additional intervention.

To determine whether the health care providers had access to and could use a patient's legacy EHR health care information without additional intervention, we interviewed DHA, DHSSM Program Office, and VA OEHRM personnel responsible for data migration and reviewed the DoD and VA plans for migrating patient health care information from legacy systems to Cerner Millennium.

EHR systems maintain health care information in "domains," which are categories of health care information such as medications, procedures, and lab results. Although Cerner Millennium has 21 health care data domains, as of June 2021, the DoD migrated legacy patient health care information into only six of the health care data domains at the health care facilities using Cerner Millennium.

The VA migrated legacy patient health care information for all patients into only nine of the domains. See the following table for a list of the migrated legacy health data domains by the Departments as of September 2021.

Table. Legacy Health Care Data Domains Migrated to Cerner Millennium

Cerner Millennium Data Domains	Migrated to Cerner Millennium?	
	DoD	VA
Problems	Yes	Yes
Allergies	Yes	Yes
Medications	Yes	Yes
Procedures (Inpatient)	Yes	Yes
Procedures (Outpatient)	Yes	Yes
Immunizations	Yes	Yes
Encounters (Inpatient)	No	Yes
Encounters (Outpatient)	No	Yes
Patient Demographics	No	Yes
Health Factors	No	No
Lab (Chemistry/Hematology)	No	No
Lab (Microbiology Reports)	No	No
Lab (Microbiology Results)	No	No
Lab (Anatomic Pathology)	No	No
Notes/Documents	No	No
Radiology Reports	No	No
Vital Signs	No	No
Diagnosis (Inpatient)	No	No
Diagnosis (Outpatient)	No	No
Employee/Provider Demographics	No	No
Image MetaData	No	No

Source: The DoD OIG and VA OIG.

The DHA Chief Health Informatics Officer stated that the DoD plans to migrate the remainder of the legacy patient health care information but only after Cerner Millennium is deployed to all 490 DoD health care facilities. According to the DHMSM Program Manager, the DHA and DHMSM Program Office did not have an initial plan for migrating legacy health care information to Cerner Millennium

because the DoD had not acquired a tool to migrate a patient's past health care information and had not determined what legacy health care data domains needed to be migrated to develop a complete patient EHR.

The VA Data Migration Plan states that in addition to the nine health care data domains migrated already, the VA plans to migrate legacy patient health care information into five more of the 21 Cerner Millennium health care data domains eventually. However, the plan does not provide an expected date for doing so.¹⁶ For the remaining seven health care data domains, the VA was still determining the best location, within Cerner Millennium, for the legacy patient health care information included in those domains. We also determined that VA's legacy system contained patient health care information (including inpatient medications from past hospitalizations, and some historical mental health and women's health data) that did not align with any of the Cerner Millennium health care data domains. Without clear guidance from the FEHRM Program Office, including definitions of the health care data domains that are needed for a "complete patient EHR," the DoD and VA will continue to migrate legacy patient health care information into Cerner Millennium inconsistently. Therefore, the FEHRM Program Office Director, in coordination with the DHA Director; VA Program Executive Director, Electronic Health Record Modernization Integration; and DHMSM Program Manager, should determine the health care data domains of patient health care information, legacy and current, that constitutes a complete patient EHR.

As a workaround, the DHA and VA OEHRM Directors instructed health care providers to access the JLV for patient health care information that was not migrated to Cerner Millennium. However, requiring health care providers to use the JLV to obtain health care information, instead of Cerner Millennium, does not meet the requirement of the FY 2020 NDAA for ensuring that health care providers can exchange patient health care information without additional intervention. Furthermore, the JLV allows read-only access to health care information, which prevents health care providers from producing reports for long-term care decisions. In addition, the JLV does not automatically transfer health care information into Cerner Millennium for integration into a patient's EHR.

According to an American Health Information Management Association brief, every health care organization must explicitly define the required components of their EHR that will ensure that patient care needs will be met.¹⁷ The brief also states that the primary consideration in defining the components of a complete medical record must consider the patient's needs for immediate and long-term care.

¹⁶ VA OEHRM, "VA Data Migration Plan," version 2.08, March 9, 2021.

¹⁷ American Health Information Management Association Brief, "Fundamentals of the Legal Health Record and Designated Record Set," Journal of American Health Information Management Association 82, no.2, February 2011.

Some patient health care information may never be moved into the new EHR; for example, legacy healthcare information such as hospital bed status or hospital staff time and attendance data would not provide clinical value to a patient. Effective management of the legacy healthcare information is critical to minimizing the disruption of an EHR replacement and ensuring that the EHR transition does not jeopardize patient safety.

With health care providers actively using Cerner Millennium at 49 DoD facilities and one VA health care facility, it is critical for health care providers to have access to and the ability to use a patient's complete EHR without additional intervention. This use starts with migrating the health care information identified by the FEHRM Program Office as required for a complete EHR into Cerner Millennium. Therefore, the FEHRM Program Office Director, in coordination with the DHA Director; VA Program Executive Director, Electronic Health Record Modernization Integration; and DHMSM Program Manager, should develop and implement a plan for migrating legacy patient health care information required for a patient's complete EHR.

The DoD and VA Did Not Develop Interfaces to Connect all Medical Devices to Cerner Millennium

The DoD and VA did not develop interfaces that would allow all medical devices to transfer patient health care information to Cerner Millennium. Those medical devices include vitals monitors, ventilators, and infusion pump devices. According to the FY 2020 NDAA, the DoD and VA EHR system should exchange patient health care information with medical devices without error, interpret and make effective use of such exchanged information, and exchange information without additional intervention by the user.

For 197 types of medical devices, the DoD and VA used national health data standards, such as Health Level Seven or the Systematized Nomenclature of Medicine Standards, to develop interfaces allowing the medical devices to transfer patient health care information to Cerner Millennium.¹⁸ The national health data standards set consistent requirements for security, data transport, data format or structure, and the meanings of codes or terms that allow the medical device

¹⁸ Health Level Seven standards provide a framework for exchanging, sharing, and retrieving electronic health information, and defines how information is communicated between systems. Health Level Seven has specific standards for EHRs that include profiles for functionality criteria deemed important for areas such as behavioral health, child health, pharmacy provider, vital records, public health, and nutrition. Systematized Nomenclature of Medicine Standards provide a vocabulary for, among other terminology, diseases, symptoms, signs, procedures (including diagnostic, surgical, and nursing procedures), drugs, and anatomy.

and Cerner Millennium to seamlessly share patient health care information.¹⁹ For example, the DHA and VA OEHMR used Health Level Seven health care data standards to develop interfaces for medical devices such as the picture archiving system.²⁰ However, some medical devices, such as blood pressure cuffs and intravenous pumps, did not have set national health care data standards and require the Departments to develop interfaces to transfer patient health care information from the medical devices to Cerner Millennium.

According to DHA and OEHRM officials, the DoD and VA were developing interfaces for some of the medical devices but had not established a completion timeline. Without interfaces for medical devices that are not capable of automatically transferring patient health care information to Cerner Millennium, health care providers must manually input patient health care information from those medical devices into Cerner Millennium. The lack of interfaces increases the risk of data input errors that could result in incomplete or inaccurate patient health care information.

According to the Food and Drug Administration, medical devices are increasingly connected to the Internet, hospital networks, and other medical devices to provide features that improve health care and increase the ability of health care providers to treat patients. Medical devices have an integral role in providing quality patient care because health care providers rely on information from them to diagnose conditions and provide treatment. Connecting the maximum number of medical devices to Cerner Millennium will provide DoD and VA health care providers a single source of information to make timely decisions on patient health care. Therefore, the FEHRM Program Office Director, in coordination with the DHA Director; VA Program Executive Director, Electronic Health Record Modernization Integration; and DHMSM Program Manager, should develop and implement a plan for creating interfaces that would allow medical devices to connect and transfer patient health care information to Cerner Millennium.

The DoD Did Not Ensure Health Care Providers Were Granted Access to Cerner Millennium Commensurate With Their Duties

DoD user role coordinators for Cerner Millennium granted some health care providers more access to Cerner Millennium than was needed to perform their duties. According to the FY 2020 NDAA, to achieve interoperability, Cerner

¹⁹ The Office of the National Coordinator for Health Information Technology is the principal Federal agency responsible for coordinating nationwide efforts to exchange electronic health care information. Specifically, the Office of the National Coordinator for Health Information Technology selects health care data standards that support interoperability and are used in a variety of health care information exchange scenarios.

²⁰ The Picture Archiving and Communication System is imaging technology that transmits images from the device capturing the image to multiple health care providers while maintaining the original image quality.

Millennium must have the ability to allow only relevant users access to health care information. Furthermore, the Health Insurance Portability and Accountability Act Privacy Rule requires covered entities to limit the use of protected health information, such as patient EHRs, to the minimum access necessary for users to perform their official duties.

Cerner Millennium limited access to patient health care information based on assigned user roles. However, the Cerner Millennium user roles were not always commensurate to the health care provider's assigned duties. For example, to fill prescriptions a pharmacy technician requires access to a patient's medication history but does not require access to a patient's specific diagnosis. For these types of situations, the VA coordinated with the Cerner Corporation to modify the user roles to align with the roles and responsibilities of VA health care providers. However, the DoD user role coordinators did not similarly coordinate with the Cerner Corporation and instead assigned some health care providers multiple user roles, including roles that granted some users more access than they needed. As a safeguard, DoD officials required its users to sign an agreement stating that they would not abuse the elevated privileges. DHA officials stated that they believed that signing the agreement would reduce the risk of inappropriate use of the elevated privileges. However, they acknowledged that the agreements could not prevent users from inappropriately accessing health care information and could result in potential Health Insurance Portability and Accountability Act violations. Specific to that concern, a recent DoD OIG report found that the DoD did not effectively control access to patient health care information because the DHA did not restrict the patient health care information in legacy EHR systems from being inappropriately accessed by health care providers, in accordance with the Health Insurance Portability and Accountability Act.²¹

While we understand that some health care providers, such as emergency room health care providers, need full access to the health care information of all patients, not every health care provider should have that level of access to EHRs. The DHA Chief Health Informatics Officer stated that DoD health care facilities are responsible for monitoring user access and that the DoD plans to implement a tool that would monitor and track user access within Cerner Millennium. However, monitoring access to patient health care information after granting elevated access to EHRs in Cerner Millennium will not prevent users from accessing health care information that they do not have a need to know. Limiting user access to EHRs is a critical part of ensuring that only authorized users have proper access to sensitive health care information stored in Cerner Millennium.

²¹ Report No. DODIG-2021-106, "Audit of the Department of Defense's Controls on Health Information of Well-Known Department of Defense Personnel," August 25, 2021.

Therefore, the FEHRM Program Office Director, in coordination with the DHA Director; VA Program Executive Director, Electronic Health Record Modernization Integration; and DHMSM Program Manager, should develop and implement a plan to modify Cerner Millennium user roles to ensure that users are granted access to only the patient health care information necessary to perform their job responsibilities.

The FEHRM Program Office Did Not Provide Direction to the Departments for Joint Actions to Achieve Interoperability

The DoD and VA have not taken all the actions necessary to achieve the FY 2020 NDAA interoperability requirements because the FEHRM Program Office did not take an active role to manage the EHR program as authorized by its charter. Although the FEHRM Program Office developed an interoperability modernization strategy that describes the goals and objectives for implementing existing and new interoperability initiatives, the Office did not execute the responsibilities outlined in its charter. In addition, while the interoperability modernization strategy did seek “alignment” with other aspects of the FY 2020 NDAA, the strategy provided little concrete implementation timelines or actionable guidance to enable the Departments to achieve interoperability. According to the FEHRM Program Office’s charter, the FEHRM Program Office is responsible for providing unified direction to the DoD and VA to ensure that the DoD and VA deliver an EHR system that contributes to interoperability. In addition, the FEHRM Program Office is responsible for determining what constitutes a complete EHR, which in turn defines what legacy data should be migrated to Cerner Millennium. Specifically, the FY 2020 NDAA established that one of the FEHRM Program Office’s purposes is to express the content and format of health data of the Departments using a common language to improve the exchange of data between the Departments and with the private sector, and to ensure that clinicians of the Departments have access to integrated, computable, and comprehensive patient health records.

While the FEHRM Program Office managed and oversaw the joint cybersecurity program for Cerner Millennium, their charter also requires them to develop joint processes for the DoD and VA to follow when addressing all of the issues that we identified in this audit report. However, instead of the FEHRM providing direction to the DoD and VA as outlined in its charter and the NDAAAs, the FEHRM Program Office limited its role to facilitating discussions between the DoD and VA on the functions that would achieve interoperability. According to the FEHRM Program

Office Director, the FEHRM Program Office would provide direction only if the DoD and VA reported problems with executing joint activities outlined in the FEHRM Program Office's charter.

Without direction from the FEHRM Program Office, the DoD and VA took separate actions to migrate patient health care information, develop interfaces, and grant user access to Cerner Millennium. It is critical for the FEHRM Program Office to provide direction to the DoD and VA on joint actions to reduce the risk of inconsistent implementation of processes for achieving EHR interoperability. Therefore, the Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs should review the actions of the FEHRM Program Office and direct the FEHRM Program Office to develop processes and procedures that would allow it to execute all of its responsibilities as outlined in its charter and the NDAs.

Implementing processes to identify the type of EHR information to migrate to Cerner Millennium would create a complete patient EHR and improve the efficiency of DoD and VA health care providers when diagnosing patients, which could reduce the risk of medical errors from having incomplete health care records.

The DoD and VA May Not Achieve Full Interoperability Without Clear Direction From the FEHRM Program Office

According to the DHA, the Military Health System is critical to providing high-quality health care for Service members, dependents, retirees, and veterans, which is one of the Nation's top priorities. The VA OEHRM stated that transitioning to a new EHR system allows health care providers to easily access a patient's full medical history in one location. An interoperable EHR system allows DoD, VA, and external health care providers to share past, current, and future health care information. Cerner Millennium was designed to improve access to health care information across the DoD and VA, and with external health care providers. The DoD, VA, and external health care providers may not achieve full interoperability, as defined in the FY 2020 NDAA, because external health care providers must agree to participate in the voluntary JHIE program. However, EHR interoperability between the DoD and VA can be achieved if the FEHRM Program Office provides clear and timely direction on data migration, interface development, and data transfers.

An EHR system that does not give health care providers access to a patient's complete EHR at the time care is administered jeopardizes the health care provider's ability to effectively treat patients. Specifically, critical health care information that health care providers need to administer care could be missing from a patient's EHR if the DoD and VA do not migrate legacy health data domains

to Cerner Millennium. In addition, implementing interfaces that would allow medical devices to exchange health care information with Cerner Millennium decreases the risk that health care providers will make incomplete or inaccurate diagnoses, which could cause harm to a patient. DoD and VA health care providers, as well as external health care providers, should be equipped with the most accurate and complete patient health care information as they make potentially life-changing decisions about a patient's health. Unless the DoD and VA connect remaining medical devices to Cerner Millennium, health care providers will need to manually input medical information from those medical devices into Cerner Millennium, which could create delays in providing care or cause harm to patients if their health care information is input incorrectly.

Management Comments on the Finding and Our Response

The Defense Healthcare Management Systems Program Executive Officer provided the following comments on the finding. For the full text of these comments, see the Management Comments section of the report.

Defense Healthcare Management Systems Program Executive Officer Comments

Although not required to comment, the Defense Healthcare Management Systems Program Executive Officer disagreed that DoD user role coordinators granted some health care providers more access to Cerner Millennium than was needed to perform their duties. The Program Executive Officer stated that user access was assessed as Cerner Millennium was deployed, and that Cerner Millennium was configured to balance the need to comply with the Health Insurance Portability and Accountability Act with the need to ensure that the quality of care and patient safety is not compromised. The Program Executive Officer also stated that Cerner Millennium includes robust auditing tools and administrative processes that would help ensure patient privacy.

Our Response

We agree that the user role coordinators should balance user access to ensure compliance with the Health Insurance Portability and Accountability Act while ensuring quality of care and patient safety. However, the access to patient health care information should also be consistent with DoD and VA's information

security requirements and directives.²² We determined that user role coordinators assigned users multiple user roles, which provided the users access to health care information not needed to perform their official duties. For example, to fill prescriptions, a pharmacy technician requires access to a patient's medication history but does not require access to a patient's specific diagnosis. The Health Insurance Portability and Accountability Act Privacy Rule requires covered entities, including health care facilities, to limit the use of protected health care information, such as patient EHRs, to the minimum access necessary for users to perform their official duties. Properly configuring user roles is a critical part of ensuring that only authorized users have access to sensitive health care information stored in Cerner Millennium.

Recommendations, Management Comments, and Our Response

Recommendation 1

We recommend that the Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs review the actions of the Federal Electronic Health Record Modernization Program Office and direct the Federal Electronic Health Record Modernization Program Office to develop processes and procedures in accordance with the Federal Electronic Health Record Modernization Program Office charter and the National Defense Authorization Acts.

Deputy Secretary of Defense Comments

The Deputy Secretary of Defense agreed, stating that she would review the actions of the FEHRM Program Office and direct the FEHRM Program Office to develop processes and procedures in accordance with the recommendation. The Deputy Secretary also stated that she would ensure the FEHRM Program Office complied with its charter and applicable requirements from the FY 2008 and FY 2020 NDAs.

²² DoD Manual 6025.18, "Implementation of the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule in DoD Health Care Programs," March 13, 2019, requires that a covered entity, such as a health care facility, must make reasonable efforts to limit the use, disclosure, or request of protected health care information to the minimum necessary to complete the assigned task. According to VA Directive 6500, "VA Cybersecurity Program," February 24, 2021, the principle of least privilege will be employed, allowing users only authorized accesses necessary to accomplish assigned tasks in accordance with organizational mission and business functions.

Deputy Secretary of Veterans Affairs Comments

The Deputy Secretary of Veterans Affairs agreed, stating that the VA would coordinate with the DoD to review the actions of the FEHRM Program Office and direct the FEHRM Program Office to develop processes and procedures in accordance with its charter and the NDAs by September 30, 2022.

Our Response

Comments from the Deputy Secretary of Defense and the Deputy Secretary of Veterans Affairs addressed the specifics of the recommendation; therefore, the recommendation is resolved and remains open. We will close the recommendation once the Deputy Secretary of Defense and the Deputy Secretary of Veterans Affairs provide documentation verifying that they reviewed the actions of the FEHRM Program Office and directed the FEHRM Program Office to develop processes and procedures in accordance with the FEHRM charter and the NDAs.

Recommendation 2

We recommend that the Director of the Federal Electronic Health Record Modernization Program Office, in coordination with the Director of the Defense Health Agency; Program Executive Director for Electronic Health Record Modernization Integration; and Program Manager for DoD Healthcare Management System Modernization:

- a. Determine the type of patient health care information that constitutes a complete patient electronic health record.
- b. Develop and implement a plan for migrating legacy patient health care information needed for a patient's complete electronic health record once the Federal Electronic Health Record Modernization Program Office determines the health care data domains of patient health care information that constitutes a complete patient electronic health record.
- c. Develop and implement a plan for creating interfaces that would allow medical devices to connect and transfer patient health care information to Cerner Millennium.

Federal Electronic Health Record Modernization Program Office Director Comments

The FEHRM Program Office Director agreed with Recommendations 2.a., 2.b., and 2.c., stating that the FEHRM Program Office worked closely with the DoD and VA to determine the type of patient health care information that constitutes a complete patient EHR and that a clear plan was needed for migrating legacy patient health care information to Cerner Millennium. The Director stated that the DoD and VA focused on connecting medical devices to Cerner Millennium for five core

hospital functions—Laboratory, Radiology, Physiology, Pharmacy, and Operating Room—and planned to connect more medical devices to Cerner Millennium in the future. The Director added that the Functional Champion was developing new strategies to connect medical devices to Cerner Millennium. However, the Director stated that the FEHRM needed sufficient resourcing and appropriate delegations of authority from the DoD and VA to properly address the recommendations. The Director also stated that the FEHRM Program Office was prepared to begin executing actions when funding, staffing, and authorities are allocated.

Our Response

Although the FEHRM Program Office Director agreed with Recommendations 2.a., 2.b., and 2.c., his comments did not address the specifics of the recommendations; therefore, the recommendations are unresolved. It is the Director's responsibility to identify the resources needed to meet the FEHRM Program Office's responsibilities outlined in its charter and the NDAs and to request those resources from the Deputy Secretary of Defense and the Deputy Secretary of Veterans Affairs. Therefore, we request that the Director provide additional comments to the final report describing what actions the FEHRM Program Office plans to take to identify the resources needed to execute its mission and request the authorities needed to address the recommendations. In addition, we request that the Director provide additional comments on the actions the FEHRM Program Office plans to take to determine the type of health care information that constitutes a complete EHR, develop and implement a plan to migrate that patient information to Cerner Millennium, and develop and implement a plan for creating interfaces between medical devices and Cerner Millennium.

Deputy Secretary of Veterans Affairs Comments

Although not required to comment, the Deputy Secretary of Veterans Affairs stated that VA would coordinate with the FEHRM Program Office to address the recommendations. According to the Deputy Secretary, VA prioritized the migration of nine health care data domains to Cerner Millennium based on clinical value and information readiness. In addition, the Deputy Secretary stated that, during the audit, VA migrated two additional health care data domains to Cerner Millennium. The Deputy Secretary added that, in total, VA migrated 22 health care data domains to HealtheIntent, a supporting EHR data analysis platform, for patient health care information from all of VA's health care facilities. Furthermore, the Deputy Secretary stated that VA would work with the FEHRM Program Office, DoD, and United States Coast Guard to coordinate all future data migration plans and would continue to share lessons learned from prior data migrations.

The Deputy Secretary agreed that connecting medical devices would decrease the risk of data input errors and that VA was already standardizing the use of medical devices across the VA enterprise. According to the Deputy Secretary, standardized medical devices would decrease the costs associated with developing and maintaining individual interfaces for different medical devices. In addition, the Deputy Secretary added that VA would work with the FEHRM Program Office, DoD, and United States Coast Guard to develop information and security standards for medical devices and advocate for industry medical device standards for easier integration in the future.

Defense Healthcare Management Systems Program Executive Officer Comments

Although not required to comment, the Defense Healthcare Management Systems Program Executive Officer stated that the DHMSM could collect patient health care information that met existing stakeholder requirements. The Program Executive Officer stated that DHMSM executed additional requirements to support DHA Health Informatics and that the DHA Health Informatics worked with the FEHRM Program Office to develop a broad list of parameters to further define joint guidelines. The Program Executive Officer added that a clear plan was needed for migrating legacy patient health care information for a complete medical record and that the DHMSM supported plans being developed by DHA Health Informatics and the Enterprise Intelligence and Data Solutions Program Office to migrate legacy patient health care information to Cerner Millennium.

The Program Executive Officer stated that DHMSM collaborated with DHA Health Informatics to develop interfaces to connect medical devices to Cerner Millennium. According to the Program Executive Director, the DoD and VA focused on connecting medical devices to Cerner Millennium for five core hospital functions, Laboratory, Radiology, Physiology, Pharmacy, and Operating Room, and planned to connect more medical devices to Cerner Millennium in the future. In addition, the Program Executive Officer also stated that the Functional Champion was developing new strategies to connect medical devices to Cerner Millennium.

Our Response

We acknowledge the proposed actions by the Deputy Secretary of Veterans Affairs and the actions taken by the Defense Healthcare Management Systems Program Executive Officer to ensure patient health care information is available to health care providers.

- d. **Develop and implement a plan to modify Cerner Millennium user roles to ensure users are granted access to only the patient health care information necessary to perform their job responsibilities.**

Federal Electronic Health Record Modernization Program Office Director Comments

The FEHRM Program Office Director partially agreed, stating that user access was assessed as Cerner Millennium was deployed and that Cerner Millennium was configured to balance the need to comply with the Health Insurance Portability and Accountability Act with the need to ensure that the quality of care and patient safety are not compromised. The Director also stated that the FEHRM Program Office would lead a joint assessment of assigned user roles during future deployments of Cerner Millennium. The Director added that it was important to maintain patient privacy and health care provider access to necessary patient health care information when developing Cerner Millennium user roles. The Director stated that it was critical to not over-specify user roles because restricting access to patient's health care information could lead to potential patient safety concerns. Furthermore, the Director stated that Cerner Millennium included robust auditing tools and administrative processes that would help ensure patient privacy.

Our Response

Although the FEHRM Program Office Director partially agreed, comments from the Director did not address the specifics of the recommendation; therefore, the recommendation is unresolved. We agree that the user role coordinators should balance user access to ensure compliance with the Health Insurance Portability and Accountability Act while ensuring quality of care and patient safety. However, the access to patient health care information should also be consistent with DoD and VA information security requirements and directives. We determined that user role coordinators assigned users multiple roles, which provided the users access to health care information not needed to perform their official duties. For example, to fill prescriptions, a pharmacy technician requires access to a patient's medication history but does not require access to a patient's specific diagnosis. The Health Insurance Portability and Accountability Act Privacy Rule requires covered entities, including health care facilities, to limit the use of protected health care information, such as patient EHRs, to the minimum access necessary for users to perform their official duties. Properly configuring Cerner Millennium user roles is a critical part of ensuring that only authorized users have access to sensitive health care information stored in Cerner Millennium. Therefore, we request that the Director provide additional comments to the final report describing what

actions the FEHRM Program Office plans to take to ensure that Cerner Millennium users are granted access to only the patient health care information necessary to perform their job responsibilities.

Deputy Secretary of Veterans Affairs Comments

Although not required to comment, the Deputy Secretary of Veterans Affairs disagreed, stating that overly defining user roles would negatively impact users' access to patient health care information necessary to perform their job. According to the Deputy Secretary, the DoD and VA learned that overly defined user roles made it more difficult for users to access required patient health care information in Cerner Millennium. The Deputy Secretary stated that VA would review existing user roles for opportunities to make them more appropriate for clinical use; however, health care facility personnel were responsible for enforcing and monitoring user access to patient health care information.

Our Response

Our recommendation does not require that user roles to be "overly defined." Our recommendation helps ensure that Cerner Millennium users will not have excessive access to patient health care information, consistent with DoD and VA's own information security requirements and directives. We determined that user role coordinators assigned users multiple roles, which provided the users access to health care information not needed to perform their official duties. The Health Insurance Portability and Accountability Act Privacy Rule requires covered entities, such as the health care facility, to limit the use of protected health information, such as patient EHRS, to the minimum access necessary for users to perform their official duties. Properly configuring Cerner Millennium users' roles to align with their job responsibilities is a critical part of ensuring that only authorized users have proper access to sensitive health care information stored in Cerner Millennium.

Appendix A

Scope and Methodology

The DoD OIG, as the lead agency, ensured that this performance audit was conducted from February 2020 through February 2022 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.

Internal Control Assessment and Compliance

We assessed internal controls and compliance with laws and regulations necessary to satisfy the audit objective. To achieve this objective, we specifically reviewed the:

- ability of the Departments to jointly manage Cerner Millennium and address interoperability issues as they arise.
- ability for relevant stakeholders (including health care providers), to access, exchange, integrate, and use the data within the Cerner Millennium.
- ability for medical systems, devices, and applications to effectively interpret, use, and exchange information.
- actions by the Departments to ensure the integrity and reliability of health care information migrated to Cerner Millennium.

In particular, we assessed actions by the DoD and VA to ensure that health care providers can access and use a patient's complete EHR; that DoD and VA health care providers can access and use Armed Forces members, dependents, retirees, and veteran's health care information generated by an external health care provider; and that external health care providers that participate in DoD and VA health information exchanges can access EHRs of veterans and active duty members of the Armed Forces. As part of our assessment we interviewed officials from the:

- Program Executive Office, Defense Healthcare Management Systems; DHA;
- DoD Healthcare Management System Modernization Program Office;
- Veterans Health Administration;
- VA Office of Information and Technology;
- VA OEHRM; and
- FEHRS Program Office.

We selected these DoD and VA Components because each had responsibilities for ensuring that the Departments achieved interoperability as defined by the FY 2020 NDAA. We conducted interviews from February 2020 through April 2021 and discussed EHR acquisition, the migration of EHR information from DoD and VA legacy EHR systems, the connection of medical devices to Cerner Millennium, health care provider access to EHRs, and the FEHRM Program Office's responsibilities for ensuring that the Departments achieved interoperability.

In addition, we reviewed:

- requirements outlined in the FY 2020 NDAA for achieving interoperability;
- Cerner Millennium deployment schedules;
- Cerner Millennium vulnerability scans and incident logs;
- DoD and VA data management plans;
- Director, Operational Test and Evaluation, Cerner Millennium test reports;
- user access profiles;
- DHMSM Program Office and VA OEHRM medical device testing plans;
- policies and procedures for connecting medical devices to Cerner Millennium; and
- the FEHRM Program Office's charter.

Because our review was limited to these internal control components and underlying principles, it may not have disclosed all internal control deficiencies that may have existed at the time of this audit.

Use of Computer-Processed Data

We did not use computer-processed data to perform this audit.

Prior Coverage

During the last 5 years, the Government Accountability Office (GAO), the DoD OIG, and the VA Office of Inspector General (VA OIG) issued 13 reports discussing DoD and VA EHR and EHR system interoperability.

Unrestricted GAO reports can be accessed at <http://www.gao.gov>. Unrestricted DoD OIG reports can be accessed at <http://www.dodig.mil/reports.html/>. Unrestricted VA OIG reports can be accessed at <https://www.va.gov/oig/apps/info/OversightReports.aspx>.

GAO

Report No. GAO-21-224, "Electronic Health Records: VA Has Made Progress in Preparing for New System, but Subsequent Test Findings Will Need to Be Addressed," February 2021

The GAO determined that the VA had made progress toward implementing its new EHR system by making system configuration decisions, developing system capabilities and system interfaces, conducting end user training, and completing system testing events. However, the GAO noted that the department had not yet resolved all critical severity test findings (that could result in system failure) and high severity test findings (that could result in system failure, but have acceptable workarounds), as called for in its testing plan. Specifically, 17 critical severity test findings and 361 high severity test findings remained open as of late September 2020. As a result, the VA was at risk of deploying a system that did not perform as intended and could negatively impact the likelihood of its successful adoption by users if these test findings were not resolved before initial deployment.

Report No. GAO-20-473, "Electronic Health Records: Ongoing Stakeholder Involvement Needed in the Department of Veterans Affairs' Modernization Effort," June 2020

The GAO determined that the VA used a multi-step process to help ensure that its future commercial EHR system is configured appropriately for, and is compatible with, its clinical work processes. To configure the EHR system, the VA established 18 EHR councils comprising VA clinicians, staff, and other experts in various clinical areas and held eight national workshops between November 2018 and October 2019. The VA also held eight local workshops at both medical centers to help ensure that the EHR configuration supported local practices. As of March 2020, the EHR councils were continuing to meet to complete configuration decisions. Furthermore, the VA plans to hold local workshops in advance of the EHR system implementation at future VA health care facilities. In April 2020, the Secretary of Veterans Affairs announced that the VA had shifted priorities to focus on caring for veterans in response to the pandemic created by coronavirus disease–2019. According to program officials, at that time, they paused the implementation of the EHR system and were assessing the impact of the coronavirus disease–2019 pandemic on the VA's planned implementation schedule.

Report No. GAO 18-696T, "Clear Definition of the Interagency Program Office's (IPO) Role in Department of Veteran Affairs New Modernization Effort Would Strengthen Accountability," September 13, 2018

The GAO determined that although the IPO led efforts to identify data standards that are critical to interoperability between systems, the office was not effectively positioned to be the single point of accountability as required by the FY 2008 NDAA because the leadership positions in the office had not been permanently filled, staffing was not complete, and facilities to house the office had not been designated. In addition, the implementation plan for setting up the office was in draft and, although the plan included schedules and milestones, the dates for several activities (such as implementing a capability to share immunization records) had not yet been determined, even though all capabilities were to be achieved by September 2009.

Report No. GAO-14-302, "VA and DoD Need to Support Cost and Schedule Claims, Develop Interoperability Plans, and Improve Collaboration," February 2014

The GAO determined that the DoD and VA abandoned their plans to develop an EHR system and were instead pursuing separate efforts to modernize or replace their existing systems in an attempt to create an interoperable EHR. Specifically, in February 2013, the Secretaries of the DoD and VA cited challenges in the cost and schedule for developing the single, integrated system and announced that each department would focus instead on either building or acquiring similar core sets of EHR capabilities, then ensuring interoperability between them. In addition, the Departments initiated their separate EHR system efforts with a lack of governance between the agencies. The Departments had not updated their joint strategic plan to reflect the new approach or to disclose what the interoperable EHR will consist of, as well as how, when, and at what cost it will be achieved.

DoD OIG

Report No. DODIG-2018-109, "Protection of Patient Health Information at Navy and Air Force Medical Treatment Facilities," May 2, 2018

The DoD OIG determined that officials from the DHA, Navy, and Air Force did not consistently implement security protocols to protect systems that stored, processed, and transferred EHRs and patient health care information. Specifically, the audit identified problems with security protocols related to:

- accessing networks using multifactor authentication;
- mitigating known network vulnerabilities;
- granting users access based on the user's assigned duties;

- reviewing system activity reports to identify unusual or suspicious activities and access;
- implementing adequate physical security protocols to protect electronic and paper records containing patient health care information from unauthorized access;
- maintaining an inventory of all Service-specific systems operating that stored, processed, and transferred patient health care information; and
- developing or maintaining privacy impact assessments.

Report No. DODIG-2017-085, “Protection of Electronic Patient Health Information at Army Medical Treatment Facilities,” July 6, 2017

The DoD OIG determined that DHA and Army officials did not consistently implement effective security protocols to protect systems that stored, processed, and transferred EHRs and electronic patient health care information. Specifically, DHA and Army officials did not enforce the use of Common Access Cards; and comply with DoD password complexity requirements. In addition, the DoD OIG found that officials from the U.S. Army Medical Command and the medical treatment facilities also were not aware of all Army-specific systems operating on their network that stored, processed, and transferred patient health care information.

Report No. DODIG-2016-094, “Audit of the DoD Healthcare Management System Modernization Program,” May 31, 2016

The DoD OIG determined that, although the DHMSM Program Office had approved user-validated requirements and an approved and documented acquisition strategy, the mandated execution schedule may not be realistic for meeting the required initial operational capability date of December 2016. The DoD OIG also determined that, while the DHMSM Program Office identified risks and developed mitigation strategies, it was still at risk of not obtaining an EHR system by December 2016. The mandated execution schedule may not be realistic because of the risks and potential delays involved in developing and testing the interfaces needed to interact with legacy systems; ensuring the system is secure against cyber attacks; and ensuring that the fielded system works correctly and that users are properly trained.

VA OIG

Report No. 21-00434-233, “New Patient Scheduling System Needs Improvement as VA Expands Its Implementation,” November 10, 2021

The VA OIG determined that VHA and OEHRM knew of significant system and process limitations before or after implementing the new scheduling system at the Columbus and Spokane facilities without fully resolving them. According to the VA OIG, these limitations reduced the system's effectiveness and risked delays in patient care. The VA OIG found that VA schedulers felt that they had not been trained to handle real, complex scheduling scenarios; that their training was not tailored to their roles; and that they did not have enough time to practice using the new scheduling system.

Report No. 20-01930-183, "Training Deficiencies with VA's New Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington," July 8, 2021

The VA OIG identified deficiencies related to training content and delivery of training for VA's transition to new EHR system; the VA Office of Electronic Health Record Modernization's (OEHRM's) attempt to evaluate training; the contractor's work on training; and concerns with governance. The OIG observed that facility staff demonstrated a commitment to the EHR transition while prioritizing patient care during a global pandemic. The OIG identified training gaps and factors that may have negatively affected end users' ability to use the new EHR: insufficient time for training; limitations with the training domain; challenges with user role assignments; and gaps in training support. The OIG determined that the VA OEHRM training plan did not include an actionable evaluation of training and VA OEHRM withheld and altered evaluation training data. Furthermore, evidence was not found in the current governance structure that the Veterans Health Administration had a defined role in participating in EHR modernization decision-making or oversight activities.

Report No. 20-03185-151, "Unreliable Information Technology Infrastructure Cost Estimates for the Electronic Health Record Modernization Program," July 7, 2021

The VA OIG identified weaknesses in how OEHRM developed and reported cost estimates. The two \$4.3 billion infrastructure upgrade estimates reported to Congress were not reliable and, because of incomplete documentation, determining the accuracy of the estimates was not possible. The OIG also found VA did not report to Congress other IT upgrade costs of about \$2.5 billion because OEHRM did not include costs other VA agencies would bear. OEHRM also did not update the cost estimates it provided to Congress.

Report No. 20-03178-116, "Deficiencies in Reporting Reliable Physical Infrastructure Cost Estimates for the Electronic Health Record Modernization Program," May 25, 2021

The VA OIG determined from its audit that the Veterans Health Administration's (VHA) cost estimates for these upgrades to their physical infrastructure were not reliable. VHA's estimates did not fully meet VA standards for being comprehensive, well-documented, accurate, and credible. The audit team projected that VHA's June and November 2019 cost estimates were potentially underestimated by as much as \$1 billion and \$2.6 billion, respectively. The estimates also omitted escalation and cabling upgrade costs and were based on low estimates at the initial operating capability sites. The Office of Electronic Health Record Modernization (OEHRM) did not include cost estimates for upgrading physical infrastructure in the program's life cycle cost estimates in congressionally mandated reports. Although VHA provided OEHRM with an approximately \$2.7 billion estimate for physical infrastructure upgrade costs in June 2019, OEHRM did not in turn include them in life cycle cost estimate reports to Congress as of January 2021.

Report No. 19-08980-95, "Deficiencies in Infrastructure Readiness for Deploying VA's New Electronic Health Record System," April 27, 2020

The VA OIG determined that critical physical and IT infrastructure upgrades have not been completed, even as recently as January 8, 2020, at the Mann-Grandstaff VA Medical Center and its associated facilities. The lack of important upgrades jeopardizes the VA's ability to properly deploy the new EHR system and increases risks of delays to the overall schedule. In fact, some infrastructure upgrades needed to help ensure end users do not experience diminished system performance on the deployment date are not projected to be completed until months later. Until modifications are complete, many aspects of the physical infrastructure existing in the telecommunications rooms (such as cabling) and data center do not meet national industry standards or the VA's internal requirements. In addition, 31 percent of end-user devices needed for the go-live date remained to be upgraded as of October 7, 2019. Moreover, VA medical devices require authorization from the DoD to connect to the new EHR system, and this authorization had not yet been received by the VA as of January 2020. The VA OIG also determined that infrastructure upgrades were not completed at the Mann-Grandstaff VA Medical Center in a timely manner to properly prepare for deployment of the new health record system primarily because the VA lacked:

- initial comprehensive site assessments that included physical infrastructure to determine a realistic go-live date,
- requisite specifications for infrastructure,
- appropriate monitoring mechanisms, and
- adequate staffing.

Report No. 19-09447-136, “Review of Access to Care and Capabilities during VA’s Transition to a New Electronic Health Record System at the Mann-Grandstaff VA Medical Center, Spokane, Washington,” April 27, 2020

The VA OIG determined that facility leaders continually monitored access to care risks related to the transition to the new EHR system. The VA OIG found that based on the experiences of the MHS GENESIS rollout, facility leaders anticipated a 30-percent decrease in access to care “lasting at least for 12 to 24 months following go-live” and devised a plan to mitigate the anticipated loss. Facility leaders documented the access to care risks in a white paper sent to Veterans Integrated Service Network (VISN) leaders on three occasions—the first version was drafted on June 10, 2018, with an updated version on June 24, 2018, and a third version in September 2018. Facility leaders identified specific access to care concerns that included the need for financial investment to expand facility personnel and space, potential loss of clinical staff, and local community saturation of VA referrals for primary and specialty care. The white paper detailed a series of mitigation strategies to address the identified concerns.

Appendix B

Prior EHR Interoperability Initiatives

The FY 2008 and 2020 NDAs required the DoD and VA to jointly develop and implement EHR systems or capabilities that create interoperability of health care information. However, since 2008, the DoD and VA have struggled to execute the following initiatives designed to achieve interoperability.

- In 2009, the DoD and VA established the Virtual Lifetime Electronic Record initiative, which focused on transferring EHRs between the DoD, VA, and external health care providers. However, the DoD and VA used different medical terminology and codes, which prevented the Departments from automatically migrating EHRs into their respective EHR systems. Instead, the DoD, VA, and external health care providers had to manually input the patient health care information for every EHR transferred between the three entities, which was not a viable solution to exchanging health care records. Although the DoD and VA continue to use the Virtual Lifetime Electronic Record, the Departments continued to identify other initiatives that would help to achieve interoperability.
- In 2010, the DoD and VA established the Joint Federal Health Care Center initiative, which focused on increasing cooperation between the DoD and VA by creating joint DoD and VA health care centers. The Departments deployed four joint health care centers to allow DoD and VA patients to receive care at the same facility, and improve the Departments' ability to work together. However, the use of separate DoD and VA EHR systems continued to prevent the DoD and VA from exchanging EHRs, and the Departments ended the initiative.
- In 2011, the DoD and VA established the Integrated EHR system initiative, which focused on developing a new EHR system that would be accessible to DoD and VA providers. The DoD and VA expected to transition to the Integrated EHR system by 2017. However, the DoD and VA never moved past system development because, according to DHA Chief Health Informatics Officer, the DoD and VA lacked the expertise to build an EHR system. In addition, full implementation and deployment of the Integrated EHR system was considered too costly, with cost estimates around \$29 billion. Therefore, in February 2013, the DoD and VA ended the initiative to concentrate on integrating DoD and VA health care information using other methods.
- In 2013, the DoD and VA established the JLV and the Data Exchange Service initiative, which focused on developing systems and applications to provide read-only access to EHRs for the DoD, VA, and external health care providers. The JLV, similar to the Virtual Lifetime Electronic Record,

allows providers to access EHRs from the DoD, VA, and external health care providers. The JLV queries DoD and VA data centers to retrieve patient health care information from the EHRs. Although health care providers can view shared patient health care information, the JLV does not allow health care providers to produce reports for long-term care decisions or automatically integrate the patient health care information into their respective EHR system. The DoD and VA health care providers continue to use the JLV to access patient records for the DoD, VA, and external health care providers. According to the Director of Program Integration for the Program Executive Office for Defense Healthcare Management Systems, the DoD and VA will re-evaluate the need to continue using the JLV at the end of its life cycle in FY 2023.

Appendix C

Health Care Facilities Using Cerner Millennium

The DoD and VA deployed Cerner Millennium to 49 DoD health care facilities and one VA health care facility as of May 2021.

Health Care Facility	Location	Cerner Millennium Deployment Date
92nd Medical Group	Fairchild Air Force Base, Washington	February 7, 2017
Naval Health Clinic Oak Harbor	Naval Air Station Whidbey Island, Oak Harbor, Washington	July 15, 2017
Naval Hospital Bremerton	Naval Station Bremerton, Bremerton, Washington	September 23, 2017
Madigan Army Medical Center	Joint Base Lewis-McChord, Washington	October 21, 2017
David Grant U.S. Air Force Medical Center	Travis Air Force Base, Fairfield, California	September 7, 2019
Naval Health Clinic Lemoore	Lemoore Station, California	September 7, 2019
U.S. Army Health Clinic	Presidio of Monterey, California	September 7, 2019
Mountain Home Air Force Base Medical Group (366th Medical Group)	Mountain Home Air Force Base, Idaho	September 7, 2019
Mike O'Callaghan Military Medical Center (99th Medical Group)	Nellis Air Force Base, Nevada	September 26, 2020
Weed Army Community Hospital	Fort Irwin, California	September 26, 2020
Naval Hospital Twentynine Palms	Twentynine Palms, California	September 26, 2020
Edwards Air Force Base Clinic (412th Medical Group)	Edwards Air Force Base, California	September 26, 2020
Beale Air Force Base Clinic (9th Medical Group)	Beale Air Force Base, California	September 26, 2020
61st Medical Squadron	Los Angeles Air Force Base, California	September 26, 2020
Vandenberg Clinic	Vandenberg Air Force Base, California	September 26, 2020
Naval Branch Health Clinic Port Hueneme	Port Hueneme Naval Base, California	September 26, 2020
Naval Branch Health Clinic Fallon	Naval Air Station Fallon, Nevada	September 26, 2020
Mann-Grandstaff VA Medical Center	Spokane, Washington	October 24, 2020

Health Care Facilities Using Cerner Millennium (cont'd)

Health Care Facility	Location	Cerner Millennium Deployment Date
Naval Hospital Camp Pendleton	Marine Corps Base Camp Pendleton, California	October 31, 2020
673rd Medical Group - Joint Base Elmendorf-Richardson	Joint Base Elmendorf-Richardson, Alaska	October 31, 2020
Bassett Army Community Hospital	Fort Wainwright, Alaska	October 31, 2020
354th Medical Group	Eielson Air Force Base, Alaska	October 31, 2020
Naval Medical Center San Diego	San Diego, California	February 27, 2021
341st Medical Group	Malmstrom Air Force Base, Montana	April 24, 2021
319th Medical Group	Grand Forks Air Force Base, North Dakota	April 24, 2021
5th Medical Group	Minot Air Force Base, North Dakota	April 24, 2021
55th Medical Group	Offutt Air Force Base, Nebraska	April 24, 2021
56th Medical Group	Luke Air Force Base, Arizona	April 24, 2021
Branch Medical Clinic Yuma	Yuma, Arizona	April 24, 2021
Raymond W. Bliss Army Health Center	Fort Huachuca, Arizona	April 24, 2021
355th Medical Group	Davis Monthan Air Force Base, Arizona	April 24, 2021
377th Medical Group	Kirtland Air Force Base, New Mexico	April 24, 2021
75th Medical Group	Hill Air Force Base, Utah	April 24, 2021
460th Medical Group	Buckley Air Force Base, Colorado	April 24, 2021
10th Medical Group	USAF Academy, Colorado	April 24, 2021
Evans Army Community Hospital	Fort Carson, Colorado	April 24, 2021
21st Medical Group	Peterson Air Force Base, Colorado	April 24, 2021
Munson Army Health Center	Fort Leavenworth, Kansas	April 24, 2021
Irwin Army Community Hospital	Fort Riley, Kansas	April 24, 2021
22nd Medical Group	McConnell Air Force Base, Kansas	April 24, 2021
509th Medical Group	Whiteman Air Force Base, Missouri	April 24, 2021
General Leonard Wood Army Community Hospital	Fort Leonard Wood, Missouri	April 24, 2021
28th Medical Group	Ellsworth Air Force Base, South Dakota	April 24, 2021
90th Medical Group	Warren Air Force Base, Wyoming	April 24, 2021
27th Special Operations Medical Group	Cannon Air Force Base, New Mexico	April 24, 2021
15th Medical Group	Hickam Air Force Base, Hawaii	September 25, 2021

Health Care Facilities Using Cerner Millennium (cont'd)

Health Care Facility	Location	Cerner Millennium Deployment Date
Navy Medicine Readiness and Training Command Pearl Harbor	Joint Base Pearl Harbor Hickam, Hawaii	September 25, 2021
Tripler Army Medical Center	Honolulu, Hawaii	September 25, 2021
Desmond T. Doss Health Clinic	Wahiawa, Hawaii	September 25, 2021
3rd Dental Battalion	Kaneohe Bay, Hawaii	September 25, 2021

Source: The DoD OIG and VA OIG.

Appendix D

FY 2020 National Defense Authorization Act Electronic Health Records Interoperability Requirements

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“SEC. 712. SUPPORT BY MILITARY HEALTHCARE SYSTEM OF MEDICAL REQUIREMENTS OF COMBATANT COMMANDS.”.

(2) CLERICAL AMENDMENT.—The table of contents for such Act is amended by striking the item relating to section 712 and inserting the following new item:

“Sec. 712. Support by military healthcare system of medical requirements of combatant commands.”.

SEC. 713. REQUIREMENTS FOR CERTAIN PRESCRIPTION DRUG LABELS.

(a) REQUIREMENT.—Section 1074g of title 10, United States Code, is amended—

- (1) by redesignating subsections (h) and (i) as subsections (i) and (j), respectively; and
- (2) by inserting after subsection (g) the following new subsection (h):

“(h) LABELING.—The Secretary of Defense shall ensure that drugs made available through the facilities of the armed forces under the jurisdiction of the Secretary include labels and other labeling that are in compliance with the requirements of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.).”.

(b) CONFORMING AMENDMENT.—Subsection (b)(1) of such section is amended by striking “under subsection (h)” and inserting “under subsection (j)”.

(c) IMPLEMENTATION.—Beginning not later than 90 days after the date of the enactment of this Act, the Secretary of Defense shall implement subsection (h) of section 1074g of title 10, United States Code, as added by subsection (a).

SEC. 714. OFFICERS AUTHORIZED TO COMMAND ARMY DENTAL UNITS.

Section 7081(d) of title 10, United States Code, is amended by striking “Dental Corps Officer” and inserting “commissioned officer of the Army Medical Department”.

SEC. 715. IMPROVEMENTS TO INTERAGENCY PROGRAM OFFICE OF THE DEPARTMENT OF DEFENSE AND THE DEPARTMENT OF VETERANS AFFAIRS.

(a) LEADERSHIP.—Subsection (c) of section 1635 of the Wounded Warrior Act (title XVI of Public Law 110–181; 10 U.S.C. 1071 note) is amended to read as follows:

“(c) LEADERSHIP.—

“(1) DIRECTOR.—The Director of the Office shall be the head of the Office.

“(2) DEPUTY DIRECTOR.—The Deputy Director of the Office shall be the deputy head of the Office and shall assist the Director in carrying out the duties of the Director.

“(3) REPORTING.—The Director shall report directly to the Deputy Secretary of Defense and the Deputy Secretary of Veterans Affairs.

“(4) APPOINTMENTS.—

“(A) DIRECTOR.—The Director shall be appointed by the Secretary of Defense, with the concurrence of the Secretary of Veterans Affairs, for a fixed term of four years. For the subsequent term, the Secretary of Veterans Affairs, with the concurrence of the Secretary of Defense, shall appoint the Director for a fixed term of four years, and thereafter, the appointment of the Director for a fixed term of four years shall alternate between the Secretaries.

Deadline.
10 USC 1074g
note.

FY 2020 National Defense Authorization Act Electronic Health Records Interoperability Requirements (cont'd)

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“(B) DEPUTY DIRECTOR.—The Deputy Director shall be appointed by the Secretary of Veterans Affairs, with the concurrence of the Secretary of Defense, for a fixed term of four years. For the subsequent term, the Secretary of Defense, with the concurrence of the Secretary of Veterans Affairs, shall appoint the Deputy Director for a fixed term of four years, and thereafter, the appointment of the Deputy Director for a fixed term of four years shall alternate between the Secretaries.

“(C) MINIMUM QUALIFICATIONS.—The Secretary of Defense and the Secretary of Veterans Affairs shall jointly develop qualification requirements for the Director and the Deputy Director. Such requirements shall ensure that, at a minimum, the Director and Deputy Director, individually or together, meet the following qualifications:

“(i) Significant experience at a senior management level fielding enterprise-wide technology in a health care setting, or business systems in the public or private sector.

“(ii) Credentials for enterprise-wide program management.

“(iii) Significant experience leading implementation of complex organizational change by integrating the input of experts from various disciplines, such as clinical, business, management, informatics, and technology.

“(5) SUCCESSION.—The Secretary of Defense and the Secretary of Veterans Affairs shall jointly develop a leadership succession process for the Office.

“(6) ADDITIONAL GUIDANCE.—The Department of Veterans Affairs-Department of Defense Joint Executive Committee may provide guidance in the discharge of the functions of the Office under this section.

“(7) INFORMATION TO CONGRESS.—Upon request by any of the appropriate committees of Congress, the Director and the Deputy Director shall testify before such committee, or provide a briefing or otherwise provide requested information to such committee, regarding the discharge of the functions of the Office under this section.

Testimony.
Briefing.

(b) AUTHORITY.—Paragraph (1) of subsection (b) of such section is amended by adding at the end the following new sentence: “The Office shall carry out decision making authority delegated to the Office by the Secretary of Defense and the Secretary of Veterans Affairs with respect to the definition, coordination, and management of functional, technical, and programmatic activities that are jointly used, carried out, and shared by the Departments.”

(c) PURPOSES.—Paragraph (2) of subsection (b) of such section is amended by adding at the end the following new subparagraphs:

“(C) To develop and implement a comprehensive interoperability strategy, which shall include—

“(i) the Electronic Health Record Modernization Program of the Department of Veterans Affairs; and

“(ii) the Healthcare Management System Modernization Program of the Department of Defense.

“(D) To pursue the highest level of interoperability for the delivery of health care by the Department of Defense and the Department of Veterans Affairs.

Strategy.

FY 2020 National Defense Authorization Act Electronic Health Records Interoperability Requirements (cont'd)

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“(E) To accelerate the exchange of health care information between the Departments, and advances in the health information technology marketplace, in order to support the delivery of health care by the Departments.

“(F) To collect the operational and strategic requirements of the Departments relating to the strategy under subsection (a) and communicate such requirements and activities to the Office of the National Coordinator for Health Information Technology of the Department of Health and Human Services for the purpose of implementing title IV of the 21st Century Cures Act (division A of Public Law 114–255), and the amendments made by that title, and other objectives of the Office of the National Coordinator for Health Information Technology.

“(G) To plan for and effectuate the broadest possible implementation of standards, specifically with respect to the Fast Healthcare Interoperability Resources standard or successor standard, the evolution of such standards, and the obsolescence of such standards.

“(H) To actively engage with national and international health standards setting organizations, including by taking membership in such organizations, to ensure that standards established by such organizations meet the needs of the Departments pursuant to the strategy under subsection (a), and oversee and approve adoption of and mapping to such standards by the Departments.

“(I) To express the content and format of health data of the Departments using a common language to improve the exchange of data between the Departments and with the private sector, and to ensure that clinicians of the Departments have access to integrated, computable, comprehensive health records of patients.

“(J) To inform the Chief Information Officer of the Department of Defense and the Chief Information Officer of the Department of Veterans Affairs of any activities of the Office affecting or relevant to cybersecurity.

“(K) To establish an environment that will enable and encourage the adoption by the Departments of innovative technologies for health care delivery.

“(L) To leverage data integration to advance health research and develop an evidence base for the health care programs of the Departments.

“(M) To prioritize the use of open systems architecture by the Departments.

“(N) To ensure ownership and control by patients of personal health information and data in a manner consistent with applicable law.

“(O) To prevent contractors of the Departments or other non-departmental entities from owning or having exclusive control over patient health data, for the purposes of protecting patient privacy and enhancing opportunities for innovation.

“(P) To implement a single lifetime longitudinal personal health record between the Department of Defense and the Department of Veterans Affairs.

“(Q) To attain interoperability capabilities—

FY 2020 National Defense Authorization Act Electronic Health Records Interoperability Requirements (cont'd)

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“(i) sufficient to enable the provision of seamless health care by health care facilities and providers of the Departments, as well as private sector facilities and providers contracted by the Departments; and

“(ii) that are more adaptable and far reaching than those achievable through bidirectional information exchange between electronic health records of the exchange of read-only data alone.

“(R) To make maximum use of open-application program interfaces and the Fast Healthcare Interoperability Resources standard (or successor standard).”.

(d) IMPLEMENTATION MILESTONES.—Subsection (e) of such section is amended to read as follows:

“(e) IMPLEMENTATION MILESTONES.—

“(1) EVALUATION.—With respect to the electronic health record systems of the Department of Defense and the Department of Veterans Affairs, the Office shall seek to enter into an agreement with an independent entity to conduct an evaluation by not later than October 1, 2021 of the following:

“(A) Whether a clinician of the Department of Defense, can access, and meaningfully interact with, a complete patient health record of a veteran, from a military medical treatment facility.

“(B) Whether a clinician of the Department of Veterans Affairs can access, and meaningfully interact with, a complete patient health record of a member of the Armed Forces serving on active duty, from a medical center of the Department of Veterans Affairs.

“(C) Whether clinicians of the Departments can access, and meaningfully interact with, the data elements of the health record of a patient who is a veteran or is a member of the Armed Forces which are generated when the individual receives health care from a community care provider of the Department of Veterans Affairs or a TRICARE program provider of the Department of Defense.

“(D) Whether a community care provider of the Department of the Veterans Affairs and a TRICARE program provider of the Department of Defense on a Health Information Exchange-supported electronic health record can access patient health records of veterans and active-duty members of the Armed Forces from the system of the provider.

“(E) An assessment of interoperability between the legacy electronic health record systems and the future electronic health record systems of the Department of Veterans Affairs and the Department of Defense.

“(F) An assessment of the use of interoperable content between—

“(i) the legacy electronic health record systems and the future electronic health record systems of the Department of Veterans Affairs and the Department of Defense; and

“(ii) third-party applications.

“(2) SYSTEM CONFIGURATION MANAGEMENT.—The Office shall—

“(A) maintain the common configuration baseline for the electronic health record systems of the Department of Defense and the Department of Veterans Affairs; and

Contracts Deadline.

Assessment.

Assessment.

FY 2020 National Defense Authorization Act Electronic Health Records Interoperability Requirements (cont'd)

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Time period.

“(B) continually evaluate the state of configuration and the impacts on interoperability; and
“(C) promote the enhancement of such electronic health records systems.

“(3) CONSULTATION.—

“(A) ANNUAL MEETING REQUIRED.—Not less than once per year, the Office shall convene a meeting of clinical staff from the Department of Defense, the Department of Veterans Affairs, the Coast Guard, community providers, and other leading clinical experts, for the purpose of assessing the state of clinical use of the electronic health record systems and whether the systems are meeting clinical and patient needs.

“(B) RECOMMENDATIONS.—Clinical staff participating in a meeting under subparagraph (A) shall make recommendations to the Office on the need for any improvements or concerns with the electronic health record systems.

“(4) CLINICAL AND PATIENT SATISFACTION SURVEY.—Beginning October 1, 2021, and on at least a biannual basis thereafter until 2025 at the earliest, the Office shall undertake a clinician and patient satisfaction survey regarding clinical use and patient experience with the electronic health record systems of the Department of Defense and the Department of Veterans Affairs.”.

(e) RESOURCES AND STAFFING.—Subsection (g) of such section is amended—

(1) in paragraph (1), by inserting before the period at the end the following: “, including the assignment of clinical or technical personnel of the Department of Defense or the Department of Veterans Affairs to the Office”; and

(2) by adding at the end the following new paragraphs:
“(3) COST SHARING.—The Secretary of Defense and the Secretary of Veterans Affairs shall enter into an agreement on cost sharing and providing resources for the operations and staffing of the Office.

“(4) HIRING AUTHORITY.—The Secretary of Defense and the Secretary of Veterans Affairs shall delegate to the Director the authority under title 5, United States Code, regarding appointments in the competitive service to hire personnel of the Office.”.

(f) REPORTS.—Subsection (h) of such section is amended to read as follows:

“(h) REPORTS.—

“(1) ANNUAL REPORTS.—Not later than September 30, 2020, and each year thereafter through 2024, the Director shall submit to the Secretary of Defense and the Secretary of Veterans Affairs, and to the appropriate committees of Congress, a report on the activities of the Office during the preceding calendar year. Each report shall include the following:

“(A) A detailed description of the activities of the Office during the year covered by such report, including a detailed description of the amounts expended and the purposes for which expended.

“(B) With respect to the objectives of the strategy under paragraph (2)(C) of subsection (b), and the purposes of the Office under such subsection—

FY 2020 National Defense Authorization Act Electronic Health Records Interoperability Requirements (cont'd)

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“(i) a discussion, description, and assessment of the progress made by the Department of Defense and the Department of Veterans Affairs during the preceding calendar year; and

“(ii) a discussion and description of the goals of the Department of Defense and the Department of Veterans Affairs for the following calendar year, including updates to strategies and plans.

“(C) A detailed financial summary of the activities of the Office, including the funds allocated to the Office by each Department, the expenditures made, and an assessment as to whether the current funding is sufficient to carry out the activities of the Office.

“(D) A detailed description of the status of each of the implementation milestones, including the nature of the evaluation, methodology for testing, and findings with respect to each milestone under subsection (e).

“(E) A detailed description of the state of the configuration baseline, including any activities which decremented or enhanced the state of configuration under subsection (e).

“(F) With respect to the annual meeting required under subsection (e)(3)—

“(i) a detailed description of activities, assessments, and recommendations relating to such meeting; and

“(ii) the response of the Office to any such recommendations.

“(2) AVAILABILITY.—Each report under this subsection shall be made publicly available.”.

(g) DEFINITIONS.—Such section is further amended by adding at the end the following new subsection (k):

“(k) DEFINITIONS.—In this section:

“(1) The term ‘appropriate congressional committees’ means—

“(A) the congressional defense committees; and

“(B) the Committees on Veterans’ Affairs of the House of Representatives and the Senate.

“(2) The term ‘configuration baseline’ means a fixed reference in the development cycle or an agreed-upon specification of a product at a point in time that serves as a documented basis for defining incremental change in all aspects of an information technology product.

“(3) The term ‘Electronic Health Record Modernization Program’ has the meaning given that term in section 503 of the Veterans Benefits and Transition Act of 2018 (Public Law 115–407; 132 Stat. 5376).

“(4) The term ‘interoperability’ means the ability of different information systems, devices, or applications to connect, regardless of the technology platform or the location where care is provided—

“(A) in a coordinated and secure manner, within and across organizational boundaries, and across the complete spectrum of care, including all applicable care settings;

“(B) with relevant stakeholders, including the person whose information is being shared, to access, exchange,

Assessment.
Financial
summary.
Assessment.

Public
information.

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integrate, and use computable data regardless of the origin or destination of the data or the applications employed; “(C) with the capability to reliably exchange information without error;

“(D) with the ability to interpret and to make effective use of such exchanged information;

“(E) with the ability for information that can be used to advance patient care to move between health care entities; and

“(F) without additional intervention by the end user.

“(5) The term ‘meaningfully interact’ means the ability to view, consume, act upon, and edit information in a clinical setting to facilitate high-quality clinical decision making.

“(6) The term ‘seamless health care’ means health care which is optimized through access by patients and clinicians to integrated, relevant, and complete information about the clinical experiences of the patient, social and environmental determinants of health, and health trends over time, in order to enable patients and clinicians to—

“(A) move efficiently within and across organizational boundaries;

“(B) make high-quality decisions; and

“(C) effectively carry out complete plans of care.

“(7) The term ‘Secretary concerned’ means—

“(A) the Secretary of Defense, with respect to matters concerning the Department of Defense;

“(B) the Secretary of Veterans Affairs, with respect to matters concerning the Department of Veterans Affairs; and

“(C) the Secretary of Homeland Security, with respect to matters concerning the Coast Guard when it is not operating as a service in the Department of the Navy.

“(8) The term ‘TRICARE program’ has the meaning given that term in section 1072 of title 10, United States Code.”.

(h) INTEROPERABILITY STRATEGY.—

(1) REPORT REQUIRED.—Not later than 270 days after the date of the enactment of this Act, the Director shall submit to each Secretary concerned and to the appropriate congressional committees a report that contains a comprehensive interoperability strategy with respect to electronic health records jointly developed by the Secretary of Defense and Secretary of Veterans Affairs, including any accompanying or associated implementation plans and supporting plans.

(2) ELEMENTS.—The comprehensive interoperability strategy under paragraph (1) shall discuss the purposes described in paragraphs (K) through (R) of section 1635(b)(2) of the Wounded Warrior Act (title XVI of Public Law 110–181; 10 U.S.C. 1071 note), as amended by subsection (c).

(3) DEFINITIONS.—In this subsection:

(A) The term “appropriate congressional committees” means—

(i) the Committees on Armed Services of the Senate and the House of Representatives; and

(ii) the Committees on Veterans’ Affairs of the Senate and the House of Representatives.

(B) The term “Director” means the individual described in section 1635(c) of the Wounded Warrior Act (title XVI

FY 2020 National Defense Authorization Act Electronic Health Records Interoperability Requirements (cont'd)

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of Public Law 110–181; 10 U.S.C. 1071 note), as amended by subsection (a).

(C) The term “interoperability” has the meaning given that term in subsection (k) of such section, as added by subsection (g).

(i) CONFORMING REPEAL.—Section 713 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113–66; 10 U.S.C. 1071 note) is repealed.

SEC. 716. EXPANSION OF STRATEGY TO IMPROVE ACQUISITION OF MANAGED CARE SUPPORT CONTRACTS UNDER TRICARE PROGRAM.

Section 705(c)(1) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328; 10 U.S.C. 1073a note) is amended, in the matter preceding subparagraph (A), by striking “, other than overseas medical support contracts”.

SEC. 717. INCLUSION OF BLAST EXPOSURE HISTORY IN MEDICAL RECORDS OF MEMBERS OF THE ARMED FORCES.

10 USC 1071 note.

Coordination.

(a) REQUIREMENT.—If a covered incident occurs with respect to a member of the Armed Forces, the Secretary of Defense, in coordination with the Secretaries of the military departments, shall document blast exposure history in the medical record of the member to assist in determining whether a future illness or injury of the member is service-connected and inform future blast exposure risk mitigation efforts of the Department of Defense.

(b) ELEMENTS.—A blast exposure history under subsection (a) shall include, at a minimum, the following:

(1) The date of the exposure.

(2) The duration of the exposure, and, if known, the measured blast pressure experienced by the individual during such exposure.

(3) Whether the exposure occurred during combat or training.

(c) REPORT.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report on the types of information included in a blast exposure history under subsection (a).

(d) COVERED INCIDENT DEFINED.—In this section, the term “covered incident” means a concussive event or injury that requires a military acute concussive evaluation by a skilled health care provider.

SEC. 718. COMPREHENSIVE POLICY FOR PROVISION OF MENTAL HEALTH CARE TO MEMBERS OF THE ARMED FORCES.

10 USC 1074 note.

Deadline.

(a) POLICY REQUIRED.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Defense, acting through the Under Secretary of Defense for Personnel and Readiness, shall develop and implement a comprehensive policy for the provision of mental health care to members of the Armed Forces.

(b) ELEMENTS.—The policy under subsection (a) shall address each of the following:

(1) The compliance of health professionals in the military health system engaged in the provision of health care services to members with clinical practice guidelines for—

(A) suicide prevention;

Appendix E

2019 Federal Electronic Health Modernization (FEHRM) Program Office Charter

Department of Defense / Veterans Affairs

2019 Federal Electronic Health Record Modernization (FEHRM) Program Office

CHARTER

Scope: The Federal Electronic Health Record Modernization (FEHRM) Program Office is authorized by existing statutes that established the Department of Defense/Veterans Affairs (DoD/VA) Interagency Program Office (IPO). This Charter supersedes all previous IPO Charters, and the organization will henceforth be referred to as the FEHRM. It becomes effective upon signatures by both Departments, and will be re-evaluated every two years and modified, as necessary. Modifications will be made in writing and with the written consent of both VA and DoD Deputy Secretaries.

Purpose: The FEHRM's primary mission is to implement a single common federal electronic health record (EHR) to enhance patient care and provider effectiveness, regardless of the location of care. The modern, secure electronic health record enables an integrated patient-centered continuum of care, to include nationwide health information exchange and adoption of interoperable health care data standards.

The FEHRM serves as a single point of accountability in the delivery of a common record that contributes to full interoperability of health care information between the Departments themselves and will advance interoperability with the private sector. To further that purpose, as outlined in the September 26, 2018 Joint Commitment letter signed by the VA and DoD Secretaries, the FEHRM is chartered to be an agile, single decision-making authority that efficiently manages implementation risk, to include potential functional, technical, and programmatic issues, in support of the Departments' single, seamless integrated EHR objectives.

Structure: The Director and Deputy Director manage an organizational structure to enable decision-making in the joint space and to implement the stated objectives and responsibilities. The structure evolves as the organization matures with changes captured through updates in a FEHRM Implementation Plan.

With the exception of acquisition matters, the FEHRM Director and Deputy Director report to the Deputy Secretary of Defense and the Deputy Secretary of Veterans Affairs.

For all DoD Acquisition matters, the FEHRM Director and Deputy Director report to the Under Secretary of Defense for Acquisition and Sustainment (USD (A&S)). For all VA acquisition matters, the FEHRM Director and Deputy Director report to the VA Deputy Secretary, as Chair of the VA Operations Board.

Objectives

- Actively manage risks and the operation of the joint EHR Federal Enclave;
- Minimize risk to the Departments' deployment/implementation;
- Identify opportunities for efficiency, standardization and system/process optimization; and
- Advance interoperability across the federal and private sectors.

2019 Federal Electronic Health Modernization (FEHRM) Program Office Charter (cont'd)

Responsibilities

Subject to the direction of the Deputy Secretaries of Veterans Affairs and Defense, the FEHRM Director and Deputy Director:

- Provide direction and oversight for the execution of joint functions;
Note: The attached Appendix includes baseline joint functions as captured by the Joint Electronic Health Record Modernization Working Group. Execution of the baseline is iterative and is assessed and refined by FEHRM leadership, as necessary, to perform the objectives and responsibilities outlined in this charter.
- Analyze opportunities for synergies and advocate for implementation of efficiencies, standardization and system/process optimization;
- Analyze and integrate deployment activities at all joint and VA-DoD sharing sites;
- In conjunction with the Departments, synchronize with the National Coordinator for Health Information Technology and other stakeholders to support enhanced interoperability across the federal and private sectors;
- Determine resources required for FEHRM mission execution (personnel, budget, etc.);
- Direct the activities of all personnel within, aligned, or detailed to the FEHRM to include providing input to and ensuring assigned personnel are evaluated in accordance with the performance management systems of their respective Departments;
- Work with both Departments to formulate, oversee, de-conflict, and ensure adherence to EHR-related VA and DoD policies, as applicable;
- Assist the Departments to prepare, brief, and defend budget requests required to support interagency initiatives that are under the authority and direction of the FEHRM; and
- Brief and respond to inquiries from Congressional Members, Committees and their staffs, and testify, when requested, at hearings related to joint EHR implementation efforts.

Key Stakeholders:

- **Joint Executive Committee (JEC):** provides high-level, overarching guidance concerning FEHRM activities; co-chaired by the Deputy Secretary of Veterans Affairs and the Under Secretary of Defense for Personnel & Readiness (USD P&R);
- **DoD/VA IPO Executive Committee (EXCOM):** advises the FEHRM regarding execution of its purpose and responsibilities; co-chaired by the USD(A&S) and the VA Chief Information Officer for VA's Office of Information & Technology (OIT);
- **VA Operations Board:** provides VA performance/operations oversight; chaired by the Deputy Secretary of Veterans Affairs;
- **Senior Steering Group (SSG)/Configuration Steering Board (CSB):** provides DoD acquisition oversight and approval of major requirement changes; co-chaired by USD (A&S) and the Assistant Secretary of Defense for Health Affairs (ASD(HA));
- **Functional Champions:** the FEHRM partners with the Functional Champions appointed by the respective Departments as the “single voice” of functional requirements;
- **EHR Program Offices:** VA's Office of Electronic Health Record Modernization (OEHRM), and DoD's Healthcare Management System Modernization (DHMSM) Program

2019 Federal Electronic Health Modernization (FEHRM) Program Office Charter (cont'd)

Management Offices, execute Department-specific actions informed by and consistent with FEHRM direction regarding joint decisions; and

- **Chief Information Officers (CIOs):** the FEHRM engages with respective Department/Agency CIOs (OIT, DHA-IO, DoD CIO) responsible for information technology management to ensure the effective implementation of the electronic health record in accordance with formal Interagency Agreements and Memoranda of Agreement/Understanding.

Additional Terms

- The FEHRM complies with all applicable laws, rules and regulations in connection with the performance of its obligations and responsibilities under this Charter.
- With respect to funding, each Department is responsible for all personnel expenses of its respective personnel and all contract expenses of its respective contracts. Other administrative expenses are shared equitably or as otherwise agreed to by the Chief Financial Officers of the two Departments. All funding responsibilities are subject to the availability of appropriations.

David L. Norquist
Deputy Secretary of Defense

James Byrne
Deputy Secretary of Veterans Affairs

DEC 04 2019

References

- a. Section 1635 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2008, Pub. L. 110-181, as amended by Section 252 of the Duncan Hunter NDAA for FY09, Pub. L. 110-417.
- b. Section 713 of the NDAA for FY 2014, Pub. L. 113-66.
- c. Pub. L. 104-113, National Technology Transfer and Advancement Act of 1995
- d. 38 USC § 8111, Sharing of Department of Veterans Affairs and Department of Defense health care resources.
- e. Department of Defense Instruction (DODI) 6010.23, DoD and Department of VA Health Care Resource Sharing Program, January 23, 2012, incorporating Change 1, effective 3 October 2013.
- f. 38 U.S.C. § 320, Department of Veterans Affairs-Department of Defense Joint Executive Committee.
- g. Veterans Health Administration Directive 1660, Health Care Resources Sharing with the Department of Defense, July 29, 2015.
- h. Joint Commitment Letter, September 26, 2018.
- i. Department of Defense and Department of Veterans Affairs Joint Electronic Health Record Modernization Working Group Recommended Course of Action Approval, Feb 27, 2019 (DoD) and March 27, 2019 (VA).
- j. Memorandum of Agreement between Department of Defense and Department of Veterans Affairs for Implementation of the Medical Community of Interest Network, Oct 28, 2019

2019 Federal Electronic Health Modernization (FEHRM) Program Office Charter (cont'd)

APPENDIX:

This appendix includes baseline joint functions proposed by the Joint Electronic Health Record Modernization Working Group for direction and oversight by the FEHRM. Execution of baseline functions is iterative and is assessed and refined by FEHRM leadership as necessary to perform objectives and responsibilities outlined in this charter. This is documented in a regularly-updated FEHRM Implementation Plan.

As a point of emphasis, the FEHRM's primary role is direction and oversight for the **joint** aspects of electronic health record (EHR) Modernization. The **joint** requirements are significant, given plans to implement a single instance of a modernized EHR across the involved Departments.

- **Joint Federal Enclave:** Management of the Federal Enclave (joint hosting environment) that is jointly accessible over approved networks supporting the EHR;
- **Joint Configuration Management/Change Control Board:** Disciplined process for maintaining systems and software in a known, baselined, consistent state; including joint release management;
- **Cybersecurity:** Manage the joint cybersecurity program to include approved medical devices and associated interfaces for the joint hosting environment and deployed system components consistent with cybersecurity requirements and risk management framework processes;
- **Interfaces to Enclave (Joint & Department-Specific):** disciplined process for ensuring interfaces are appropriately assessed, developed, and managed as required;
- **Ensuring Networks/Network Security:** Compliance with security requirements in Memorandum of Agreement between Department of Defense and Department of Veterans Affairs for Implementation of the Medical Community of Interest Network (dated October 28 2019) for joint networks and network security to protect the usability and integrity of the network and data (both hardware and software), and access to the network;
- **End-to-End Performance Monitoring/Troubleshooting:** Manage joint end-to-end performance to collect, monitor, and report on the overall operational health of the joint hosting environment and deployed components to enable end-users, administrators, and organizations to gauge and evaluate the performance of a given system which supports the joint EHR;
- **System-of-Systems Engineering:** Joint System-of-Systems engineering process to provide the technical definition, activities, and resource planning necessary to execute technical requirements, to enforce technical and functional requirements, and to identify the need for, and ensure execution of, all required Interagency Agreements, Memoranda of Agreement/Understanding, and Interconnection Security Agreements;
- **Joint Disaster Recovery/Continuity of Operations Plan:** A joint business and technical plan that lays out the details for the quick and effective resumption of work following a man-made or natural disaster;
- **Joint Access Management (Provider & Patient):** Joint process, policies and technologies to ensure proper user identity and access (provider and patients);
- **Data Migration:** Process/procedures to select, prepare, extract, transform, and transfer data from one system to another system, as it relates to the common EHR;

2019 Federal Electronic Health Modernization (FEHRM) Program Office Charter (cont'd)

- **Joint Risk Management:** Assessment and management of joint cost/schedule/performance risks to capability delivery;
- **Schedule Integration:** Assessment and integration of Department-specific schedule activity;
- **Joint Trouble Ticket Management:** Process to track the detection, reporting, and resolution of issues associated with test and evaluation, deployment, and sustainment of the EHR;
- **Joint Functional Issue Resolution:** Process for the joint management of training, defect management, content and configuration changes, and enhancement routing to determine a single solution decision for necessary joint configurations, and for resolving issues associated with the test and evaluation, deployment and sustainment of the EHR;
- **Program Integration:** Integration program activities for oversight and strategic communication/legislative affairs engagement; understand and engage key audiences to create, strengthen, or preserve favorable conditions that advance interests, policies, and objectives; congressionally-mandated reporting; audit engagement; executive secretariat for relevant oversight and governance forums;
- **Business Operations, Human Resources, Support Contracts & Budget:** administrative support, human resources and staffing, contracts, budgets, and related formal agreements;
- **Joint Data Sets:** Process for management of joint validated data sets to include the development of deliberate techniques for jointly managing and taking full advantage of the enterprise asset;
- **Joint Enterprise Technical Data Management:** process to effectively (1) create, integrate, disseminate and manage data for enterprise applications, processes and entities requiring timely and accurate data delivery, (2) address the transmission of different data sets within processes and applications that rely on the consumption of these data sets to complete business processes or transactions, (3) provide for data management standardization and technical implementation of the data standards, and (4) adherence to records control policies;
- **Joint Testing & Evaluation:** Support of the EHR's joint Test & Evaluation processes to include managing risks throughout the acquisition process by providing timely and accurate information;
- **Joint Data Standards/Interoperability:** Processes and procedures to implement national health data standards for interoperability to ensure: (1) active engagement/representation of DoD/VA to help shape national and international health standards-setting organizations standards (e.g., data formats, messaging, exchange protocols, meaningful use, usability, privacy, security and safety); (2) adoption of and mapping to national and international health standards; (3) implementation support of the Office of the National Coordinator's Interoperability Roadmap and the Trusted Exchange Framework and Common Agreement effort;
- **Joint Health Information Exchange:** Process that allows health care professionals and patients to appropriately access and securely share a patient's medical information electronically, including execution through trusted exchange documentation or contractual actions; and
- **Joint Longitudinal Viewer (Formerly Joint Legacy Viewer):** Clinical application that provides an integrated, read-only display of health data from the DoD, VA, and private sector partners in a common data viewer.

Management Comments

Deputy Secretary of Defense



DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

MAR 22 2022

MEMORANDUM FOR INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE

SUBJECT: DoD Inspector General Discussion Draft of a Proposed Report, Project No. D2020-D000CR-0092.000, "Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability"

Thank you for the opportunity to review and comment on the attached Draft Report.

I am supportive of the Federal Electronic Health Record Modernization (FEHRM) Office's mission. As the FEHRM incrementally takes on responsibilities in accordance with its Charter, my office is ready to support the FEHRM as necessary to ensure the FEHRM's success. My specific response to Recommendation 1 is attached.

My point of contact for this issue is [REDACTED]

Attachment:
As stated



Deputy Secretary of Defense (cont'd)

**DOD IG DRAFT REPORT
D2020-D000CR-0092.000**

Department of Defense Inspector General Draft Report, "Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability"

**DEPUTY SECRETARY OF DEFENSE RESPONSE
TO THE DOD IG RECOMMENDATIONS**

RECOMMENDATION 1:

We recommend that the Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs review the actions of the Federal Electronic Health Record Modernization Program Office and direct the Federal Electronic Health Record Modernization Program Office to develop processes and procedures in accordance with the Federal Electronic Health Record Modernization Program Office Charter and the National Defense Authorization Acts.

DEPUTY SECRETARY OF DEFENSE RESPONSE:

The Deputy Secretary of Defense (DSD) concur with this recommendation. The DSD will review the actions of the Federal Electronic Health Record Modernization (FEHRM) Office and direct the FEHRM to develop processes and procedures in accordance with the recommendation. The DSD will ensure the FEHRM complies with the FEHRM Charter and applicable requirements from the National Defense Authorization Acts for FY 2008 and FY 2020.

Deputy Secretary of Veterans Affairs

Department of
Veterans Affairs

Memorandum

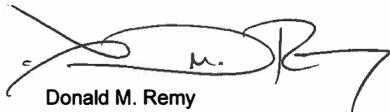
Date: March 28, 2022

From: Deputy Secretary (001)

Subj: Response to Draft Report "Joint Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability" (Project Number 18-04227-CR-0029) (VIEWS 7120727)

To: Acting Assistant Inspector General, Office of Special Reviews (56)

1. Thank you for the opportunity to review the Department of Defense and Department of Veterans Affairs (VA) Office of Inspector General (OIG) draft report "Joint Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability." The report contains two recommendations for VA, the second of which is broken into four parts (2a, 2b, 2c and 2d).
2. I concur with the first recommendation in this report. I have included as an attachment to this memorandum an action plan developed by the Electronic Health Record Modernization Integration Office to address this recommendation as well as a technical comment on the report for OIG's consideration.
3. Regarding the four parts of the second recommendation, I concur with 2a, 2b and 2c, but respectfully do not concur with 2d. I have included additional context for VA's assessment of this recommendation in the attached action plan.



Donald M. Remy

Attachment

VA FORM 2105
MAR 1989

Deputy Secretary of Veterans Affairs (cont'd)

**Department of Veterans Affairs
Response to the VA OIG Draft Report
Joint Audit of the DoD and VA Efforts to Achieve EHR System Interoperability**

Project 18-04227-CR-0029

Recommendation 1

We recommend that the Deputy Secretary of Defense and Deputy Secretary of Veterans Affairs review the actions of the Federal Electronic Health Record Modernization Program Office and direct the Federal Electronic Health Record Modernization Program Office to develop processes and procedures in accordance with the Federal Electronic Health Record Modernization Program Office Charter and the National Defense Authorization Acts.

VA Response: Concur.

The Department of Veterans Affairs (VA) will coordinate with the Department of Defense (DoD) to review the actions of the Federal Electronic Health Record Modernization (FEHRM) Program Office and direct the FEHRM Program Office to develop processes and procedures in accordance with the FEHRM Program Office Charter and the National Defense Authorization Acts.

Target Date for Completion: September 30, 2022

Recommendation 2

We recommend that the Director of the Federal Electronic Health Record Modernization Program Office, in coordination with the Director of the Defense Health Agency; Program Executive Director, Electronic Health Record Modernization Integration Office; and Program Manager for DoD Healthcare Management System Modernization:

- a. Determine the type of patient health care information that constitutes a complete patient electronic health record.**

VA Response: Concur.

VA will coordinate with the FEHRM Program Office to determine the type of patient health care information that constitutes a complete patient electronic health record (EHR).

Target Date for Completion: To be determined; pending coordination with FEHRM

- b. Develop and implement a plan for migrating legacy patient health care information needed for a patient's complete electronic health record once the Federal Electronic Health Record Modernization Program Office determines the**

Deputy Secretary of Veterans Affairs (cont'd)

**Department of Veterans Affairs
Response to the VA OIG Draft Report
Joint Audit of the DoD and VA Efforts to Achieve EHR System Interoperability**

Project 18-04227-CR-0029

health care data domains of patient health care information that constitutes a complete patient electronic health record.

VA Response: Concur.

VA will coordinate with the FEHRM Program Office to develop and implement a plan for migrating any outstanding legacy health care patient information needed for a patient's complete EHR once the associated health care data domains are identified. VA has already prioritized the migration of data domains based on clinical value and information readiness. At the time of this engagement, 9 data domains had been migrated into Cerner Millennium at Spokane, WA. Another two have been migrated since then and more are planned in conjunction with implementation of the Seamless Exchange capability. Furthermore, VA has migrated 22 data domains for all VistA sites within HealthIntent.

VA will work with the FEHRM Program Office, the DoD, and the United States Coast Guard to coordinate all future plans for data migration and will continue to share lessons learned from recent migrations.

Target Date for Completion: To be determined; pending coordination with FEHRM Program Office

c. Develop and implement a plan for creating interfaces that would allow medical devices to connect and transfer patient health care information to Cerner Millennium.

VA Response: Concur.

VA will coordinate with the FEHRM Program Office to develop and implement a plan for creating interfaces that would allow medical devices to connect and transfer patient health care information to Cerner Millennium. VA agrees that connected medical devices decrease the risk of data input errors and is already working to standardize devices used across the enterprise so that more devices may be connected. This will also decrease the costs associated with developing and maintaining individual interfaces for different devices.

VA will work with the FEHRM Program Office, DoD, and the United States Coast Guard to further the development of information and security standards for medical devices and pushing the industry towards standard for more prevalent electronic health record integration in the future.

Target Date for Completion: To be determined; pending coordination with FEHRM

Deputy Secretary of Veterans Affairs (cont'd)

**Department of Veterans Affairs
Response to the VA OIG Draft Report
Joint Audit of the DoD and VA Efforts to Achieve EHR System Interoperability**

Project 18-04227-CR-0029

- d. Develop and implement a plan to modify Cerner Millennium user roles to ensure users are granted access to only the patient health care information necessary to perform their job responsibilities.**

VA Response: Do not concur.

VA and DoD both have lessons learned related to overly defined user roles making it more difficult for users to access required patient health care information in the new EHR. VA is continuing to review existing roles for opportunities to make them simpler and more appropriate for clinical use, but enforcement and monitoring of appropriate access to patient health care information has traditionally and by regulation occurred at the facility level.

VA respectfully non-concurs with this recommendation on the basis that modifying the user roles as recommended (i.e., overly defining user role access) would negatively impact users' access to patient health care information necessary to perform their job.

Target Date for Completion: Not applicable

Page 3 of 3

Federal Electronic Health Record Modernization Director



MEMORANDUM FOR THE DEPARTMENT OF DEFENSE INSPECTOR GENERAL

Subject: Department of Defense Inspector General Draft Report Joint Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability

This is the Federal Electronic Health Record Modernization (FEHRM) office response to the Department of Defense Inspector General Draft Report on Project No. DoD OIG Project No. D2020-D000CR-0092.000, VA OIG Project No. 2018-04227-CR-0029

Thank you for the opportunity to review and comment on the Draft Report.

We understand the responsibilities of the FEHRM identified in the FEHRM Charter and the National Defense Authorization Act (NDAA). The FEHRM's charter is clear that responsibilities will accrue to the FEHRM incrementally as the Departments are willing and able to shift to a joint outlook and provide the necessary support for success. The appropriate resourcing and staffing of the FEHRM remains paramount to achieving the mission in a timely fashion.

The FEHRM's funding is allocated by the Departments. The FEHRM will continue to assume greater responsibilities in accordance with the FEHRM Charter as funding and resources become available. Additionally, as noted in the NDAA for Fiscal Year 2020 NDAA, decision making authority is delegated to the FEHRM by the Secretary of Defense and the Secretary of Veterans Affairs. The FEHRM's ability to deliver on the recommendations will depend on the authorities delegated to its office.

My specific responses to Recommendations 2 a – d, are attached.

My point of contact for this issue is [REDACTED]
who can be reached at [REDACTED].

A handwritten signature in black ink, appearing to read "WJ Tinston".

William J. Tinston
Director
Federal Electronic Health
Record Modernization
(FEHRM) Office

Attachments: as stated.

Federal Electronic Health Record Modernization Director (cont'd)



FEDERAL ELECTRONIC
HEALTH RECORD
MODERNIZATION

DOD IG DRAFT REPORT DATED FEBRUARY 18, 2022 D2020-D000CR-0092.000

Department of Defense Inspector General Draft Report Joint Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability

FEHRM RESPONSE TO THE DOD IG RECOMMENDATIONS

RECOMMENDATION 2: We recommend that the Director of the Federal Electronic Health Record Modernization Program Office, in coordination with the Director of the Defense Health Agency; Program Executive Director, Electronic Health Record Modernization Integration; and Program Manager for DoD Healthcare Management System Modernization:

- a. Determine the type of patient health care information that constitutes a complete patient electronic health record.

FEHRM RESPONSE: FEHRM concurs with this recommendation. The FEHRM works closely with both Departments to address the type of patient health care information that constitutes a complete patient electronic health record. However, the FEHRM's ability to properly address this recommendation is dependent upon the FEHRM sufficient resourcing and the appropriate delegations of authority by DoD and VA. The FEHRM is poised, prepared and more than willing to begin executing in support of this recommendation when the requisite funding, staffing and authorities are allocated.

- b. Develop and implement a plan for migrating legacy patient health care information needed for a patient's complete electronic health record once the Federal Electronic Health Record Modernization Program Office determines the health care data domains of patient health care information that constitutes a complete patient electronic health record.

FEHRM RESPONSE: FEHRM concurs with this recommendation. The FEHRM currently works with both Departments and identified that a clear plan should be developed and implemented for migrating legacy patient health care information needed for a patient's complete medical record. The Departments support plans to define and coordinate with their functional communities to develop a comprehensive strategy for migrating legacy patient health care data into the Federal EHR system. However, the FEHRM's ability to properly address this recommendation is dependent upon the FEHRM sufficient resourcing and the appropriate delegations of authority by DoD and VA. The FEHRM is poised, prepared and more than willing to begin executing in support of this recommendation when the requisite funding, staffing and authorities are allocated.

Federal Electronic Health Record Modernization Director (cont'd)



- c. Develop and implement a plan for creating interfaces that would allow medical devices to connect and transfer patient health care information to Cerner Millennium.

FEHRM RESPONSE: FEHRM concurs with this recommendation. DoD's EHR provides capability and a process for developing interfaces that allows medical devices to connect and transfer patient health care information to the federal EHR. The current phase focuses on the five (5) core devices (Laboratory, Radiology, Physiologic, Pharmacy and Operating Room) and continues to expand to other devices capable of sending and receiving data to the EHR. New connection strategies are supported as directed by the office of the Functional Champion. However, the FEHRM's ability to properly address this recommendation is dependent upon the FEHRM sufficient resourcing and the appropriate delegations of authority by DoD and VA. The FEHRM is poised, prepared and more than willing to begin executing in support of this recommendation when the requisite funding, staffing and authorities are allocated.

- d. Develop and implement a plan to modify Cerner Millennium user roles to ensure users are granted access to only the patient health care information necessary to perform their job responsibilities.

FEHRM RESPONSE: FEHRM RESPONSE: FEHRM partially concurs, concurs with this recommendation but does not concur with the finding. An active and detailed assessment of user roles is ongoing as the system is deployed to various sites across the DoD, VA, Coast Guard and other federal health care communities. This configuration takes into consideration the need to comply with HIPAA regulations, credentialing guidance and other compliance measures, while not compromising continuity and quality of care. The FEHRM will continue to lead a joint assessment of assigned user roles throughout the federal implementation of the federal EHR solution.

At the same time, when developing user roles, it is imperative to ensure both patient privacy and provider access to medical information critical to patient care. It is critical to patient safety to avoid over-specifying user roles and potentially restricting access to needed information. To maintain privacy protections, the modern EHR allows for robust auditing of who accesses what information in the record, and administrative processes (e.g. routine use of the audit feature, Privacy and Security training, etc.) can add additional layers of protection.

Defense Healthcare Management Systems Program Executive Officer



**DEFENSE HEALTHCARE MANAGEMENT SYSTEMS
PROGRAM EXECUTIVE OFFICE**

1700 NORTH MOORE STREET, ROSSLYN, VIRGINIA, 22209

MEMORANDUM FOR THE DEPARTMENT OF DEFENSE INSPECTOR GENERAL

Subject: Department of Defense Inspector General Draft Report Joint Audit of the Department of Defense and the Department of Veterans Affairs Efforts to Achieve Electronic Health Record System Interoperability

This is the Defense Healthcare Management Systems (DHMS) Program Executive Office response to the Department of Defense Inspector General Draft Report on Project No. DoD OIG Project No. D2020-D000CR-0092.000.

Thank you for the opportunity to review and comment on the Draft Report. My specific responses to Recommendations 2 a - d, are attached.

My point of contact for this issue is [REDACTED]
[REDACTED] can be reached at [REDACTED].
[REDACTED]

Sincerely,

Holly S. Joers
Program Executive Officer, DHMS

Attachments: as stated

Defense Healthcare Management Systems Program Executive Officer (cont'd)

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DOD IG DRAFT REPORT DATED FEBRUARY 18, 2022 D2020-D000CR-0092.000

"JOINT AUDIT OF THE DEPARTMENT OF DEFENSE AND THE DEPARTMENT OF VETERANS AFFAIRS EFFORTS TO ACHIEVE ELECTRONIC HEALTH RECORD SYSTEM INTEROPERABILITY"

DOD HEALTHCARE MANAGEMENT SYSTEM MODERNIZATION AND DHA HEALTH INFORMATICS RESPONSE TO THE DOD IG RECOMMENDATIONS

RECOMMENDATION 2: We recommend that the Director of the Federal Electronic Health Record Modernization Program Office, in coordination with the Director of the Defense Health Agency; Program Executive Director, Electronic Health Record Modernization Integration; and Program Manager for DoD Healthcare Management System Modernization:

RECOMMENDATION 2A: We recommend that the Director of the Federal Electronic Health Record Modernization Program Office, in coordination with the Director of the Defense Health Agency; Program Executive Director, Electronic Health Record Modernization Integration; and Program Manager for DoD Healthcare Management System Modernization: Determine the type of patient health care information that constitutes a complete patient electronic health record.

RESPONSE: Concur with the recommendation. DHMSM provides the ability to capture the electronic patient health care information that contributes to a complete patient electronic health record with the existing Stakeholder requirement, 36711, "The system shall meet all Department of Defense (DoD) Medical community records management requirements identified for Electronic Medical Records." Source reference for this Stakeholder requirement is DoDI 6040.45, "DoD Health Record Life Cycle Management". Additionally, DHMSM supports DHA Health Informatics in executing additional identified requirements as defined by the office of the Functional Champion. To that end, DHA Health Informatics continues to work with the Federal Electronic Health Record Modernization (FEHRM) Program Office in developing a broad list of parameters to help further define joint guidelines moving forward.

RECOMMENDATION 2B: We recommend that the Director of the Federal Electronic Health Record Modernization Program Office, in coordination with the Director of the Defense Health Agency; Program Executive Director, Electronic Health Record Modernization Integration; and Program Manager for DoD Healthcare Management System Modernization: Develop and implement a plan for migrating legacy patient health care information needed for a patient's complete electronic health record once the Federal Electronic Health Record Modernization Program Office determines the health care data domains of patient health care information that constitutes a complete patient electronic health record.

Defense Healthcare Management Systems Program Executive Officer (cont'd)

2

RESPONSE: Concur with the recommendation that a clear plan should be developed and implemented for migrating legacy patient health care information needed for a patients complete electronic health record. DHMSM supports plans as defined, and in coordination with, DHA Health Informatics the Enterprise Intelligence and Data Solutions Program Office (EIDS) as they develop their strategy for migrating legacy patient health care data into modern electronic health record systems.

RECOMMENDATION 2C: We recommend that the Director of the Federal Electronic Health Record Modernization Program Office, in coordination with the Director of the Defense Health Agency; Program Executive Director, Electronic Health Record Modernization Integration; and Program Manager for DoD Healthcare Management System Modernization: Develop and implement a plan for creating interfaces that would allow medical devices to connect and transfer patient health care information to Cerner Millennium.

RESPONSE: Concur with the recommendation. In collaboration with DHA Health Informatics, DHMSM provides capability and a process for developing interfaces that allows medical devices to connect and transfer patient health care information to Cerner Millennium. The current phase focuses on the five (5) core devices (Laboratory, Radiology, Physiologic, Pharmacy and Operating Room) and continues to expand to other devices capable of sending and receiving data to the EHR. New connection strategies are supported as directed by the office of the Functional Champion.

RECOMMENDATION 2D: We recommend that the Director of the Federal Electronic Health Record Modernization Program Office, in coordination with the Director of the Defense Health Agency; Program Executive Director, Electronic Health Record Modernization Integration; and Program Manager for DoD Healthcare Management System Modernization: Develop and implement a plan to modify Cerner Millennium user roles to ensure users are granted access to only the patient health care information necessary to perform their job responsibilities.

RESPONSE: Partially concur with recommendation. DHMS concurs with this recommendation, but does not concur with the finding. An active and detailed assessment of user roles is ongoing as the system is deployed to various sites across the DoD, VA, Coast Guard and other federal health care communities. This configuration takes into consideration the need to comply with HIPAA regulations, credentialing guidance and other compliance measures, while not compromising continuity and quality of care.

At the same time, when developing user roles, it is imperative to ensure both patient privacy and provider access to medical information critical to patient care. It is critical to patient safety to avoid over-specifying user roles and potentially restricting access to needed information. To maintain privacy protections, the modern EHR allows for robust auditing of who accesses what information in the record, and administrative processes (e.g. routine use of the audit feature, Privacy and Security training, etc.) can add additional layers of protection.

Acronyms and Abbreviations

- DHA** Defense Health Agency
DHMSM DoD Healthcare Management System Modernization
DoD Department of Defense
EHR Electronic Health Record
FEHRM Federal Electronic Health Record Modernization
GAO Government Accountability Office
IPO Interagency Program Office
JHIE Joint Health Information Exchange
JLV Joint Longitudinal Viewer
NDAA National Defense Authorization Act
OEHRM Office of Electronic Health Record Modernization
VA Department of Veterans Affairs

Glossary

Beneficiary. Active duty Service member, reservist, veteran, and approved dependent, who receives health benefits from the DoD or the VA.

Electronic Health Record. An electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards, and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization.

Health Care Information. Information created or obtained by a covered entity for an individual related to the past, present, or future physical or mental health condition of an individual.

Health Care Provider. A provider of medical or health services, and any other person or organization who furnishes, bills, or is paid for health care in the normal course of business.

Health Data Domain. Categories of health care information that lists information such as medications prescribed to patients, procedures performed on patients, and patient lab results.

Health Information Exchanges. Provide the capability to electronically move health care information between disparate health care systems and maintain the meaning of the information being exchanged.

Initial Operating Capability Sites. The first sites to deploy and test the new electronic health record system.

Interface. The common boundary between systems or modules where interaction takes place.

Interoperability. The ability of different information systems, devices, or applications to connect, regardless of the technology platform or location where care is provided:

- a. in a coordinated and secure manner, within and across organizational boundaries, and across the complete spectrum of care, including all applicable care settings;
- b. with relevant stakeholders, including the person whose information is being shared, to access, exchange, integrate, and use computable data regardless of the origin or destination of the data or the applications employed;

- c. with the capability to reliably exchange information without error;
- d. with the ability to interpret and to make effective use of such exchanged information;
- e. with the ability for information that can be used to advance patient care to move between health care entities; and
- f. without additional intervention by the end user.



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