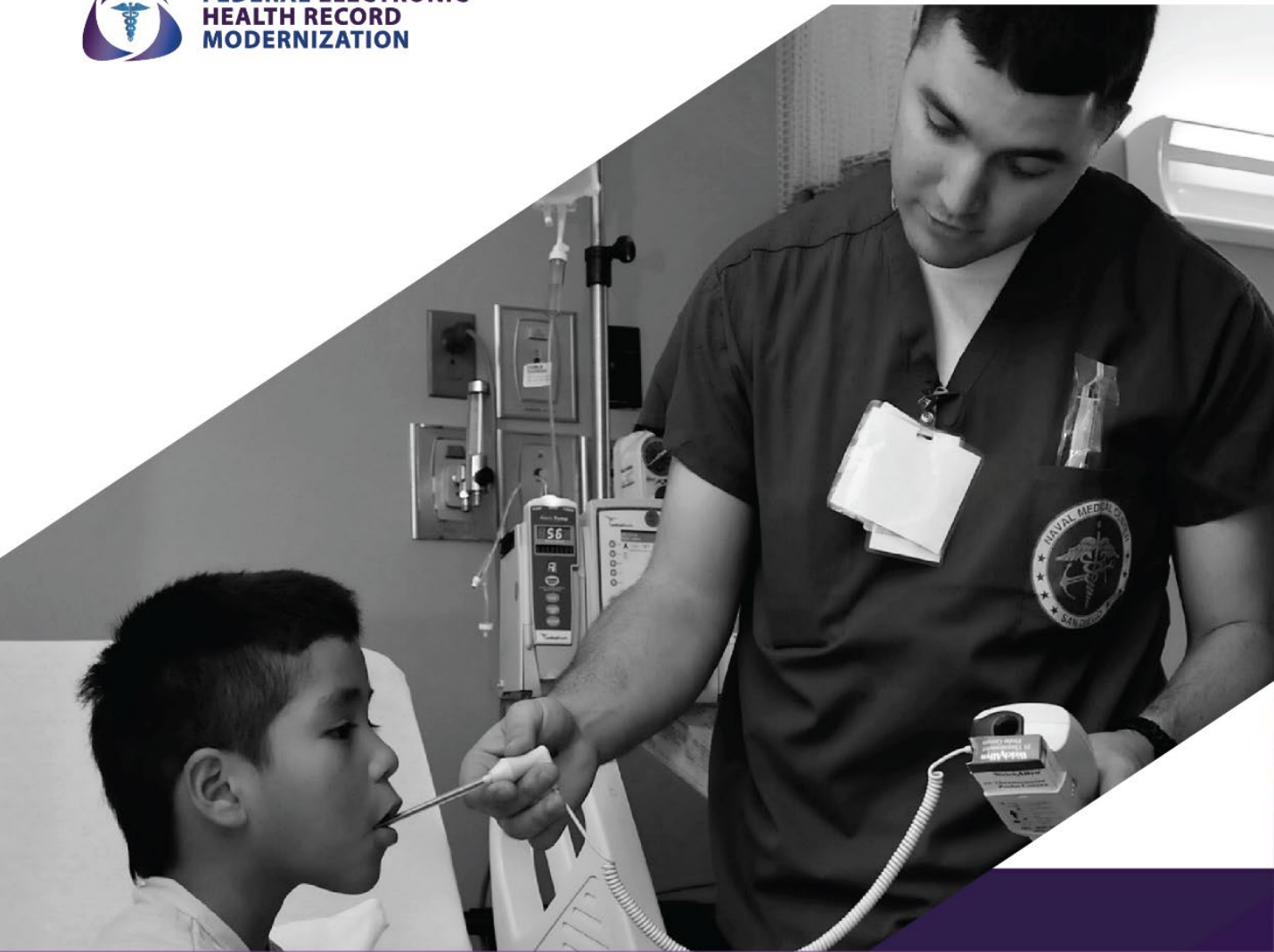




**FEDERAL ELECTRONIC  
HEALTH RECORD  
MODERNIZATION**



# FEHRM

## Interoperability Progress Quarterly Report

THIRD QUARTER, FISCAL YEAR 2023

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

## FEHRM Director's Message

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The Federal Electronic Health Record Modernization (FEHRM) office, Department of Defense (DOD) and Department of Veterans Affairs (VA) are focused on the synchronous deployment of the federal electronic health record (EHR) at Captain James A. Lovell Federal Health Care Center (Lovell FHCC) in March 2024. Lovell FHCC is the most integrated joint sharing site that serves both DOD and VA patient populations, providing opportunities to streamline care for all.

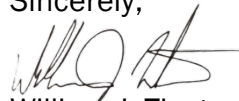
Lovell FHCC federal EHR implementation is fundamental to interoperability and the federal EHR moving forward. The deployment of the federal EHR at Lovell FHCC will lead the way for how two large health care systems work together to make the best care decisions without technology being a barrier. By ensuring the Departments can work together as a single unit, Lovell FHCC becomes a model for how this can be done across the broader health care space to ensure seamless, integrated care for patients. It will help simplify our ability to work together and how the Departments can demonstrate interoperability. Additionally, the federal EHR cannot succeed at other joint sharing sites until it is successfully implemented and refined at Lovell FHCC.

With all DOD waves within the continental United States completed and VA not executing other deployments at this time, the power and focus of both Departments, along with the FEHRM, are free to create the right results at Lovell FHCC.

As you will see in this report, the FEHRM focused on many activities this quarter to help ensure success at Lovell FHCC. From synchronizing efforts and supporting Lovell FHCC leadership to coordinating and managing Lovell FHCC Federal Health Legacy Application Interoperability Solutions, the FEHRM continues to prioritize the federal EHR implementation at Lovell FHCC.

Ultimately, Lovell FHCC will serve as a prototype for how we can all work together in new and exciting ways to deliver care. The FEHRM, DOD and VA, along with Lovell FHCC stakeholders, are committed to getting the federal EHR deployment right for our providers and patients within the federal health care system and beyond.

Sincerely,



William J. Tinston

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# Introduction

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## Purpose of this Report

The FEHRM Interoperability Progress Quarterly Report responds to House Report 117-388, page 261, accompanying H.R. 8236, the Department of Defense Appropriations Bill, 2023.

## FEHRM Office Overview

During the third quarter of fiscal year 2023 (Q3 FY2023), the FEHRM prioritized a strategy of operationalization and convergence in its mission to implement a single, common federal EHR to enhance patient care and provider effectiveness, wherever care is provided. This operationalization and convergence strategy unified efforts across the federal EHR ecosystem and delivered common capabilities. The common capabilities the FEHRM delivers include:

- Governing and overseeing the Federal Enclave, a shared environment to contain the federal EHR and supporting systems.
- Governing and overseeing the joint health information exchange (HIE), a data-sharing capability.
- Overseeing configuration and content changes to the EHR agreed on by the Departments through a joint decision-making process facilitated by the FEHRM.
- Tracking and facilitating software upgrades and solutions to optimize EHR performance.
- Tracking joint risks, issues and opportunities as well as lessons learned regarding EHR implementation to inform continuous improvement.
- Maintaining an integrated master schedule to help coordinate EHR activities.
- Developing and updating deployment maps to show real-time status of deployments.
- Advancing interoperability, the meaningful use and exchange of data, to improve continuity of care among and between public and private-sector providers.
- Leading analysis and integration of deployment activities at joint sharing sites (JSS), sites where resources are shared between DOD and VA.

# Federal Electronic Health Record Strategy

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## Joint Configuration Management

The FEHRM manages and optimizes the Joint Sustainment and Adoption Board (JSaAB). This joint governance body approves all federal EHR content and configuration changes. The JSaAB directly informs the Federal Change Control Board (FCCB) and is essential to operating the federal EHR, providing DOD, VA and the Department of Homeland Security's U.S. Coast Guard (USCG) functional oversight of all configuration decisions impacting the production baseline.

In Q3 FY2023, the JSaAB approved 465 content and configuration change items, including one go-live item that surfaced during the DOD Wave WRIGHT-PATTERSON go-live. The FEHRM coordinates an e-JSaAB process for urgent and emergent issue resolution during off-hours and successfully used it seven times during Q3 FY2023.

During the reporting period, the JSaAB continued to optimize quarterly updates to approval authority levels to allow for issue resolution and decision making at the lowest level with DOD and VA. This process allows users, sites and government configuration experts and teams to approve JSaAB-level activities at a lower level, resulting in a more rapid turnaround and execution of end-user needs. The JSaAB approved and reviewed 32 awareness items and 20 catalog reduction requests.

Additionally, the FEHRM manages the Functional Decision Group (FDG), a body of senior clinical, business and health informatics leaders from the VA Electronic Health Record Modernization Integration Office (EHRM-IO), Veterans Health Administration (VHA) and Defense Health Agency (DHA). The FDG reviews, analyzes and makes decisions on critical joint federal EHR issues.

The FDG expanded on an initiative to evaluate proposed DOD and VA configuration change requests for convergence. FDG staff evaluated the possibility of combining Functional Subject Matter Expert (SME) Councils into joint DOD/VA Workgroups.

The FEHRM also chartered the Federal Inpatient Workgroup in Q3 2023 to jointly review, endorse and standardize positions across DOD and VA. In the latest quarter, the FEHRM has further expanded bringing together DOD and VA experts across both Departments with the establishment of two more federal working groups. The Federal Inpatient Working Group focuses on the alignment of common inpatient workflows that enhance both the user experience and patient outcomes mapping the capability of the common EHR to a standardized inpatient experience. Additionally, the FEHRM has also established the Federal PowerPlans Working Group. This working group, like the other FEHRM federal working groups, aligns informatics professionals, including DOD Solution Owners and VA Solution Experts, with clinical and business SMEs into a joint federal team, under the FEHRM, to

execute common configuration changes to the common EHR. The Federal PowerPlans Working Group is specifically committed to normalizing the plans, order sets and other patient care components that can be shared and managed between the Departments, leading to better patient outcomes.

## Joint Functional Requirements

During the reporting period, the FEHRM continued to engage DOD and VA in collaborative projects occurring in the federal New Requirements workspace for the federal EHR. The FEHRM actively facilitates DOD and VA by coordinating briefings, establishing rules of engagement for requirements analysis and elicitation workshops, and by organizing meetings with identified Departmental counterparts.

In Q3 FY2023, the FEHRM drafted a charter for establishing a Federal New Requirements Working group (FNRWG). The primary responsibility of the FNRWG is to establish a common understanding of how DOD, VA, and onboarded partners will plan joint emerging capabilities development and management activities for new functional requirements in the common federal EHR. The FNRWG provides briefings and recommendations to the FDG regarding new, additional, or revised applications, devices, features, functionality, interfaces, services and technology that is requested by the functional community for system optimization. Core membership consists of clinical and business system end-users, business analysts and requirements experts. Membership changes with each new and approved functional requirements project, where inclusion is based on the capabilities area involved and the resources needed. The FNRWG leadership, comprised of DOD and VA Clinical, Requirements and Program Management Office (PMO) Leads, provides oversight and direction throughout the requirements development and deployment processes.

The FEHRM briefs the FDG in a joint forum monthly on new requirements-related projects to share information, seek guidance and promote transparency and situational awareness on emerging topics. Quarterly topics presented this cycle include the Separation Health Assessment (SHA), DOD/VA End-to-End Process Engagement and Requirements Capture and VHA Electronic Health Record Modernization Requirements Prioritization Results. The VHA brief also focused on the prioritized implementation of the new capabilities that will address patient safety issues.

Currently, the FEHRM coordinates the SHA requirements development project among DOD, VA, and USCG, where the SHA Working Group developed a new form that will subsume using DOD Forms 2807-1 and 2808. Objectives of the SHA project include the establishment of a Service-member-facing portal for data collection and electronic data flow capabilities among DOD, VA and USCG for information sharing and analytics.

Furthermore, the FEHRM advocates for DOD and VA to consider a joint solution development project for similar problems found in the 14 Patient Safety issues (New Service Requests) that have already been approved for prioritized implementation by VA. The FEHRM also spearheads discussions between DOD and VA regarding the 3M360 encounter-based



coding interface, which is common to both platforms and where joint forces would benefit by using combined resources to address their mutually identified concerns.

In collaboration with the DOD Healthcare Management System Modernization (DHMSM) PMO, EHRM-IO, DHA Health Informatics (DHA HI) and VHA Office of Health Informatics (VHA OHI), a new process is in development that will support projects and onboarding partners that come with external funding sources (e.g., SHA Joint Incentive Fund project, USCG). The FEHRM will be most impactful advocating for these projects and helping the onboarded partners navigate the emerging capabilities environments.

## Federal Interface Team

In Q3 FY2023, the FEHRM One Interface Team was renamed the Federal Interface Team (FIT). The FIT collaborated with the FEHRM Interoperability Team, EHRM-IO and DHMSM PMO to establish the FIT's strategy and roadmap. The FIT successfully brought DOD, VA and vendor partners together for a FIT kickoff meeting. Subsequently, the first Integrated Project Team (IPT) session was held to define "Interface" for each agency.

The FIT established an IPT schedule for continued collaboration with DHMSM PMO, EHRM-IO and vendor partners, with a short-term goal of creating a holistic interface catalog. The FIT will continue to explore opportunities for optimization and standardization while also working to establish a potential common mental model (i.e., CAMEO Architecture Modeling Tool) to integrate both DOD and VA modes (e.g., interfaces, architectural diagrams).

## Joint Enclave Data Management

During the Q3 FY2023 reporting period, several ongoing projects addressed different focus areas, including Oracle Cerner code sets, terminology and data and analytics governances.

### *Executive Data Management Board*

In Q3 FY2023, the Executive Data Management Board (EDMB), which functions as the formal Data Management and Governance of FEHRM Data Assets, served as the authorizing and prioritizing function for joint data management activities impacting the Federal Enclave. Under the executive body, data and analytics is governed by the Data Governance Board (DGB) and Analytics Governance Board (AGB), respectively. In Q3 FY2023, the FEHRM established and chartered committees under the purview of the DGB and AGB.

Further, the FEHRM established integrated processes and workflows between governance boards with a focus on efficiency, effectiveness, and traceability. In support of governance integration, workflows and processes were developed into the FEHRM management solution.

## *Data Governance*

Under the EDMB, data is governed by the DGB with stakeholder representation from constituent bodies. In Q3 FY2023, the FEHRM established and chartered committees under the purview of the DGB to ensure full support of data standards, quality and sharing.

## *Analytics Governance*

Under the EDMB, analytics is governed by the AGB. In Q3 FY2023, the FEHRM established nine committees in support of analytic/reporting standards and data warehouse access controls.

## *Federated Interagency Terminology Service*

In Q3 FY2023, the Federated Interagency Terminology Service (FITS), now reporting up to the DGB, engaged with the vendor and Departments to jointly review and manage critical terminology projects. Mappings for EHR Clinical Notes textual renditions and body sites are in progress. FEHRM terminologists also continue to monitor and normalize Joint Longitudinal Viewer (JLV) and Clinical Data Repository/Health Data Repository legacy and federal EHR clinical domains, including medication status, allergens, medications, laboratory results and document types.

## **FEHRM Revenue Cycle/Business Processes**

In Q3 FY2023, the FEHRM, DHA and VHA continued to work with the Federal Charge Services Workgroup, created to implement a standardized process for reviewing proposed modifications to the charge master shared by both VA and DOD in the federal EHR. The FEHRM also continues to facilitate the Ancillary Business Service Workgroup weekly meetings, which focus on a solution that is satisfactory to both VA and DOD for interdepartmental billing of order-based shared services. JSS have Resource Sharing Agreements (RSA), where DOD often provide laboratory and radiology services for VA. Because the VA provider requests these services directly to DOD, there is no authorization sent with the order request since the service provision is written in the RSA. This process causes a gap in the billing process; hence the workgroup is working on a solution for this issue.

## **Identity, Credential and Access Management**

In Q3 FY2023, the FEHRM hosted three sessions dedicated to determining the path forward for the unique identifier as required by the Joint Executive Committee (JEC). Representatives from DOD, VA, Department of Homeland Security (DHS) and vendor partners participated. VA proposed pivoting away from the previously agreed upon federal unique identifier in favor of continuing to use the Electronic Data Interchange Personal Identifier (EDIPI) as the unique identifier. This proposal was agreed upon by DOD and VA senior executives, presented to the JEC and accepted as the path forward. Concurrence to continue using EDIPI as the long-term unique identifier must be requested by VA and confirmed by the Office of the Under



Secretary for Personnel and Readiness via an interagency memorandum. The Defense Manpower Data Center is analyzing the cost to scale the use of EDIPI as the long-term solution for all future partners.

Furthermore, the FEHRM HealthIntent team, in collaboration with Oracle Cerner, Leidos Partnership for Defense Health (LPDH) and Microsoft vendor partners, successfully added the Azure Active Directory identity provider as the multifactor authentication access point for DHS to the HealthIntent platform.

## Implementation Support to Joint Sharing Sites

In Q3 FY2023, the FEHRM engaged in the planning, execution and analysis of activities to support the unique health informatics and operational needs of two identified JSS impacted by DOD Wave WRIGHT PATTERSON, which transitioned to the federal EHR in June 2023. The FEHRM conducted a review of all the information (i.e., sharing agreements, deployment data and discovery assessments) previously captured regarding these facilities to craft a basic understanding of the current sharing relationship and identify possible risks requiring further investigation.

Through this process, the FEHRM identified three critical areas (i.e., operational, clinical and business) that would require further dialogue with these sites. The outcome of this investigative risk analysis process was the recognition that interim mitigation steps, such as joint patient care location (PCL) build under DOD facility, would be warranted to support continuity of care delivery while these facilities function in the interim state. The FEHRM then actively worked with its interagency partners (i.e., DHMSM PMO, EHRM-IO and DHA HI) and local JSS stakeholders to ensure the agreed-upon interim solutions had been implemented and readiness for go-live. FEHRM JSS team members were onsite to support deployment go-live activities and advocate on behalf of those working in the two facilities of the joint space.

More specifically, the FEHRM, alongside its DHA (clinical and business) and VHA OHI partners, evaluated the nature of the shared clinical and administrative services at two JSS:

- 88th Medical Group (MDG), Wright Patterson Air Force Base (AFB), one of the Air Force Military Treatment Facilities (MTFs) provides primary and specialty care to more than 67,000 eligible DOD and VA beneficiaries and has an integrated military/civilian educational platform supporting advanced specialty training of physicians, nurses, and technicians. Additionally, this location—through its sharing relationship with Dayton VA Medical Center (VAMC) located about 12 miles away—has within its midst multiple embedded VA users currently accessing DOD legacy systems in three different settings:

- A VA discharge planner assigned to the inpatient surgical ward to manage Veterans being discharged or transferred to Dayton VAMC for continued care.
- A VA medical/administrative team managing the DOD/VA Transition Center to assist DOD members who are either separating or retiring from active duty.
- A VA Patient Aligned Care Team, which is a team of health care professionals running a VA outpatient care clinic and focusing on life-long health and wellness for more than 700 Veterans enrolled in said clinic.
- The 375th MDG, Scott AFB, provides health services to 26,000 beneficiaries, including more than 1,400 aeromedical patients. Through its sharing relationship with the St. Louis VAMC, located about 26 miles away, it offers orthopedic services using VA staff embedded in its physical therapy clinic. Additionally, it houses a VA Community-Based Outpatient Clinic, which provides primary care to Veterans living near the base.

Using the FEHRM JSS risk analysis process, the FEHRM created a questionnaire depicting its understanding of the current clinical and business sharing relationships and submitted it to these facilities' leadership. The purpose of this questionnaire is to validate data collected to date and identify key personnel who can serve as points of contact throughout the deployment process and while these facilities continue to function in the interim state.

The collected information provided clarity on key operational procedures put in place to support care delivery in the joint space, such as how and who had system access to each Department's EHR and what system was used to place ancillary orders. The analysis of this information influenced the scope of services calls, along with follow-up questions with the DOD/VA team at the impacted JSS, directly supporting the delivery of the shared services.

The FEHRM then identified risks and developed mitigation steps in coordination with its partners, while ensuring active participation of stakeholders from these impacted JSS as well as DOD and VA Electronic Health Record Modernization (EHRM) PMOs. For example, the FEHRM worked closely with both Departments' EHRM PMOs to ensure that a group of VA users assigned at the 88th MDG and 375th MDG could access the common federal EHR, either from the VA or DOD access point. A reference document explaining how to perform this task was provided as guide to these individuals. While onsite during the go-live period, FEHRM JSS team members validated the usefulness and accuracy of the reference document.

Furthermore, the FEHRM, in collaboration with the Enterprise PCL Working Group, composed of PCL SMEs from both Departments' EHRM PMOs, collected the data to support recommended joint PCL builds under the DOD facility for the joint sharing activities impacted

by the DOD deployment at both JSS. The recommendations were then presented to the FEHRM FDG for a vote.

Before the June 3, 2023, DOD go-live, the FEHRM secured consensus for a joint orthopedic PCL build to support continued delivery of orthopedic services at the 375th MDG and a joint PCL build for the 88th MDG to support care delivery for the 700 plus Veterans being seen at the VA Patient Aligned Care Team Clinic. The benefits of these actions include improved or ensured continuity of care delivery to both DOD and VA beneficiaries; and increased use and benefits of the federal EHR by both joint users and their empaneled patient population.

## **Captain James A. Lovell Federal Health Care Center Federal EHR Implementation**

In collaboration with DHMSM PMO and EHRM-IO, the FEHRM led several key events to progress the Lovell FHCC Federal EHR Implementation Project as the team entered the deployment phase. In May, the FEHRM supported a congressional site visit.

During the reporting period, the FEHRM brought together senior leadership from PEO DHMS, EHRM-IO, DHA, VHA and Veterans Integrated Services Network (VISN) 12 to an FHCC Schedule Milestones Decisional Brief to review the implementation milestones, identify any major impediments to meet the schedule and confirm the go-live date. The senior leaders provided concurrence on the March 2024 deployment date and reaffirmed their commitment for a synchronous deployment approach. They continue to prioritize the Lovell FHCC EHR implementation within their respective organizations.

Additionally, the FEHRM held the Lovell FHCC Federal EHR Implementation Summit to provide an overview of program milestones, outline deployment roles and responsibilities, address various functional and technical questions and review the VA EHRM Program Reset improvement initiatives. Senior leaders from PEO DHMS, EHRM-IO, DHA, VHA OHI and VISN 12 joined site leadership for this two-day onsite event. The first day consisted of several executive sessions addressing the high-level purposes stated above as well as focused on addressing key issues and concerns raised by the site over the past several quarters. Additionally, Senior VHA OHI Leaders provided an overview of and addressed questions related to the VA EHRM Program Reset. The second day involved several in-depth discussions pertaining to functional and technical topics. Participants agreed that the summit was productive and set the stage for moving forward with a unified front towards Lovell FHCC Go-Live.

In Q3 FY2023, the program operational tempo sharply increased, as evidenced by the pace of activities when the multi-agency implementation team fully engaged in the effort to deliver an integrated deployment to the site. Working with DHMSM PMO and EHRM-IO, the FEHRM coordinated the continuation of the User Role Assignment process and various communications activities. The FEHRM supported the initiation of several additional Site

Activation activities to include more than 200 Model System Review sessions designed to introduce key site personnel to the deployment approach, activities and enterprise workflows. The multi-agency implementation team also initiated adoption and training-related activities to include the formal Adoption Launch Event Series, Super User Kickoff, Training Kickoff Workshop, beginning of Training Curriculum Mapping and completion of the first Awareness Fair.

The FEHRM continues to lead project planning and execution activities for the interagency Lovell FHCC Federal EHR Implementation Team, to include management of 12 sub-workgroups across multiple disciplines charged to adjudicate items that require multi-party decisions related to execution and implementation of the federal EHR at Lovell FHCC. Notable accomplishments of the sub-workgroups include validation of the interface list for FHCC, completion of a training classroom walkthrough and finalization and distribution of a core concepts information paper.

## **Captain James A. Lovell Federal Health Care Center Federal EHR Implementation Sustainment**

JSS FHCC Legacy Operations is a component of the overall JSS-FHCC Workstream and is responsible for the coordination and management of the Lovell FHCC Federal Health Legacy Application Interoperability Solutions, which includes the Enterprise Service Bus-Orders Portability (ESB-ORP), Medical Single Sign-on Context Management (MSSO-CM) and associated Test and Evaluation and Cybersecurity activities in coordination with Lovell FHCC, DOD, VA and others. A description of each solution and key accomplishments for Q3 FY2023 are provided below.

### ***Medical Single Sign-On Context Management***

MSSO-CM handles information that is critical to the support of deployed and contingency forces. The MSSO-CM system allows users (i.e., authorized government, military, and contractor personnel) to interoperate seamlessly and securely among clinical applications, such as Armed Forces Health Longitudinal Technology Application (AHLTA), Composite Health Care System (CHCS), Veterans Health Information System and Technology Architecture (VistA) and Computerized Patient Record System (CPRS). MSSO-CM does not determine the authorized users. The MSSO-CM program inherits the users from each system it interfaces with as well as the number and type of users defined by these interfaced systems. The Single Sign-On component eliminates the need for health care providers to sign on each time they switch applications, thereby automating the user login process by using credentials stored in a secure database. It enables users to enter their credentials only once and access multiple applications. The Context Management component synchronizes patient context data across multiple applications, eliminating the need for health care providers to duplicate patient searches from one application to other participating clinical applications.

Key MSSO-CM accomplishments include the completion of Imprivata G4 Appliance Application Update Request for the upgrade in the Production environment and Cybersecurity Risk Assessment. In addition, the team completed the installation of the March, April and May Context Management Information Assurance Vulnerability Alert patches in Development, Integration, and Production environments as well as the MEDCIN Code 22 Update 20.0 upgrade in the Development environment.

### *Enterprise Service Bus/Orders Portability*

ESB-ORP capabilities enable DOD and VHA clinicians to place orders and have those orders actionable and displayed within CHCS, AHLTA, VistA or CPRS. The FHCC Orders Portability interface provides Orders Portability enabling DOD legacy systems to send and receive orders, status updates and results from the VA systems via an ESB for Laboratory, Radiology and Consults.

Key ESB-ORP accomplishments include the completion of the following Order Portability interface enhancement in Q3 FY2023: the Performing Lab Enhancement requested by Joint Commission on Accreditation of Healthcare Organizations Inspector to enable a granular level of reporting between the two systems by identifying the performing laboratory for each laboratory result. This enhancement will ensure that the performing laboratory location's address is included in the laboratory results' message flow between CHCS and VistA in the Order Portability interface. This is a site-specific package and is required for the hospital's JACHO accreditation.

In addition, progress continued on the development of the Proxy Location Solution for incoming traffic from DOD. This enhancement will improve message processing and operational efficiency.

## **FEHRM Lessons Learned Repository Management**

The approach to collecting lessons learned input for the third quarter of Q3 FY2023 focused on tracking how lessons are being shared and implemented. The repository currently contains 198 lessons learned associated with the FEHRM Risk-Issue-Opportunity Repository, Joint Sharing Sites Integration, the Enterprise Operations Center (EOC) and the Departments. For Q3 FY2023, partners from the EHRM-IO and EOC Lessons Learned teams revised submissions with additional data, and the DHMSM PMO team submitted two additional lessons from the deployments of Waves WRIGHT-PATTERSON and National Oceanic and Atmospheric Administration (NOAA).

The top five categories remain the same from the previous quarter:

1. Go-Live Training
2. Go-Live Communication

3. User Provisioning/Credentialing
4. Stakeholder Coordination
5. Workflows – Process Improvements

For the remainder of FY2023, the FEHRM will ensure lessons learned are applied, and not simply documented, by conducting interviews with each Department and FEHRM program area to learn their best practices of lessons learned management processes (i.e., documentation, submission/intake, prioritization and externalization).

## **Federal Electronic Health Record Operations**

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### **Enterprise Operations Center**

The EOC is critical to operationalizing the FEHRM. The EOC prepares federal EHR system partners and ecosystem colleagues for the intense schedule of go-live activities. The EOC supports cross-organizational collaboration and executive-level reporting on the Federal Enclave and ecosystem during federal go-live events. During Q3 FY2023, in addition to monitoring planned activities that could impact FEHRM partners, the EOC monitored and reported 61 unplanned incidents impacting the federal EHR or partners and supported Executive Updates for the deployment of Waves WALTER REED/BELVOIR WRIGHT-PATTERSON and NOAA. These reports included root cause analyses, when known, and corrective actions taken for unplanned incidents. The EOC added value to the federal EHR by automating analysis tools; enabling shared agency reporting; refining response processes; participating in joint problem management improvement efforts; sharing observations regarding traceability of incidents and changes in the ecosystem; and expanding and enriching stakeholder engagements.

### **Federal Enclave Management**

The FEHRM drove regular enterprise technical activities, including Enterprise Technical sessions, Enterprise Technical/Functional sessions with clinical leaders, Technical/Programmatic sessions, Environment Management Operations Center (EMOC) sessions and EMOC-Cyber sessions. These activities focused on the Federal Enclave, in partnership with DOD, VA and DHS; vendors; and key stakeholders responsible for segments of the federal EHR ecosystem. In Q3FY2023, those activities included a session on Revenue Cycle Expansion Lessons Learned.

In Q3 FY2023, the FEHRM continued to work with stakeholders to track Federal Enclave measures included in the DOD-VA Interoperability Modernization Strategy. The FEHRM continues to analyze shared metrics, Oracle Cerner LightsOn and PEO DHMS Major Incident Response Team (MIRT) Incident Management data to produce and deliver the Enterprise DOD, VA and DHS monthly EHR health report to all Technical Directors, Chief Engineers, Systems Engineers and their organizations. This comprehensive report provides key service



availability, metrics and performance trends. The FEHRM works with DOD and VA to actively manage the domains comprising the Federal Enclave to meet the needs of the Departments using the federal EHR.

## **Federal Release and Domain Management**

In Q3 FY2023, the FEHRM continued to federalize the joint release management processes. The Federal Release Working Group (FRWG) Charter was finalized based on final input from DOD, VA, and FEHRM Release Management and Federal Leads. The FEHRM delivered the completed charter to leadership and is awaiting final signatures. The FEHRM continues to deliver meeting documentation records for each FRWG meeting to more than 200 stakeholders across the enterprise.

During Q3 FY2023, the FEHRM continued to support the new Domain Management Lead at the DHMSM PMO. The FEHRM also continued to disseminate and update domain availability schedules across multiple workstreams within the enterprise. This effort continues to support Solution Owners and Experts to work within the correct domain as the path to production, and it reduces the impact of domain availability.

## **Federal Electronic Health Record Cybersecurity**

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### **Cybersecurity – Cyber Tabletop**

Consistent with the direction contained in the Office of Management and Budget (OMB) Memorandum M-17-12, the FEHRM planned and executed a focused cyber tabletop (CTT) exercise, with DOD, VA, Oracle Cerner, LPDH and MITRE participants, to test and fine-tune the cybersecurity posture of the federal EHR to include prevention, detection, escalation and response coordination. Additionally, the FEHRM prepared and disseminated a detailed After-Action Report that encapsulated the overall efforts and lessons learned. The FEHRM plans additional CTTs for FY2024 with the objectives of strengthening Federal Enclave security, joint communications and cyber threat information sharing and reporting.

### **Cybersecurity – Joint Incident Management Framework**

Foundational to the cybersecurity posture of the federal EHR is documenting and optimizing a framework for jointly responding to cybersecurity incidents. In Q3 FY2023, the FEHRM facilitated the development of a joint cyber incident response framework that includes identification, escalation, roles and responsibilities, management and reporting across the Federal Enclave. For FY2023, efforts continue to engage stakeholders to ensure consistent incident management and reporting procedures are in place across the Federal Enclave supporting joint communications, situational awareness and cyber-threat intelligence sharing.

## Cybersecurity – Memoranda of Agreements

The FEHRM continues to facilitate working sessions with all stakeholders to review, update and consolidate existing joint Memoranda of Agreements related to the Federal Enclave operations. For Q3 FY2023, the FEHRM engaged with SMEs from DOD and VA to ensure Memorandum of Understanding/Memorandum of Agreement content is complete, accurate and up to date. This ongoing activity is also required for National Institute of Standards and Technology and Federal Information Security Management Act compliance.

## Cybersecurity – Joint Security Operations Center

The FEHRM is facilitating the creation of a Joint Security Operations Center (JSOC) that shares the responsibility of monitoring, detecting and responding to cybersecurity incidents. JSOC participants will also share information and coordinate responses to incidents. For Q3 FY2023 and beyond, the FEHRM is working with stakeholders to design a JSOC that will incorporate joint processes and procedures to manage, monitor, analyze, detect, prevent and respond to threats and ensure the confidentiality, availability and integrity of the Federal Enclave.

The development of a JSOC will establish robust communication between the VA Cybersecurity Operations Center and DOD Cybersecurity Service Provider that handles notification, communication and reporting of Cyber Threat Indicators across all partner agencies. Furthermore, the JSOC will address relevant Mission/Capabilities Assurance entities and management and facilitation of cybersecurity incident processes and procedures. A key component of this effort is the ongoing development of a JSOC Project Plan that identifies key milestones, challenges, mitigations and potential courses of action. By embracing a unified approach to facilitate cyber-threat intelligence sharing and coordinate rapid response capabilities, the JSOC will bolster the resilience of the Federal Enclave and stand as a beacon of continuous improvement, leveraging shared experiences, trend analyses and best practices to drive innovation.

## Cybersecurity Risk Mitigation

Consistent with its charter to orchestrate the Joint Cybersecurity Program, the FEHRM continues to actively address cybersecurity risks to the Federal Enclave, as well as include the guidance contained in Executive Order (EO) 14028 on Improving the Nation's Cybersecurity (May 12, 2021), to improve investigative and remediation capabilities. The FEHRM continues to respond to implementing a zero-trust architecture, including multifactor authentication, data encryption, zero-trust and cloud technology strategies, data sensitivity and EO-critical software, as referenced in OMB Memorandum M-22-09, Moving the U.S. Government Toward Zero Trust Cybersecurity Principles. This activity includes evaluating methods to consolidate incident response and management information to ensure a coordinated effort to report, remedy and mitigate risks across the Federal Enclave.

In Q3 FY2023, the FEHRM is working with stakeholders to plan and conduct an interagency red team exercise to ensure Federal Enclave vulnerabilities are identified, mitigated and remediated, and that management, technical and operational security control implementations are fine-tuned and improved.

## Interoperability Modernization

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### Joint Health Information Exchange

The FEHRM continues to amplify joint HIE's connections to the private sector with biweekly HIE and hospital system onboards resulting in a Q3 FY2023 monthly average of 16.4 million documents delivered to connected provider organizations and retrieved a monthly average of 121.9 million documents from connected provider organizations. As the FEHRM continues to progress with onboarding, there is a focus on pursuing connections to additional trusted exchanges, like CareQuality, to access more HIE and hospital systems for patient data exchange.

### Immunization Exchange with State IIS

Immunization Exchange is the capability that utilizes the Centers for Disease Control and Prevention (CDC) Immunization (IZ) Gateway to allow DOD and VA clinicians to report administered vaccines to and query from state/jurisdictional immunization information systems (IIS) and import records into the federal EHR database. With DOD's implementation in Washington, and VA's implementations in Washington, Idaho, Montana, and Ohio, the DOD and VA are planning future state strategies to incrementally grow the immunization exchange connections in FY2023. DOD is currently testing with four states—Oklahoma, California, Florida, and North Carolina—for a planned Q4 FY2023 deployment. VA is coordinating implementation for Ohio.

### HealthIntent

In Q3 FY2023, the FEHRM Solutions Integration Team accomplished a technical milestone with the Federal EHR Individual Longitudinal Exposure Record (ILER) Interface Critical Design Review, allowing detailed system configurations and integration testing to proceed. The end goal is to deliver a patient's critical exposure flags directly in the PowerChart record for clinicians and EHR-integrated detailed exposure querying.

Solutions-integration-guided application performance improvements are run largely through a PMO risk-management formal process, including a technical governance body and deliberate action-item burn down. New application containers (i.e., HealtheRegistries) were deployed in Q3 FY2023, and HealtheRegistries is now on schedule for a new user interface upgrade under capability block 9 during Q4 FY2023 and Q1 FY2024.

The FEHRM led a key effort on behalf of the USCG, adding a new Federal Tenant Identity Provider (i.e., Microsoft Azure AD) authentication option for more feasible access to data warehousing and custom enterprise reporting applications daily use. Efforts were driven across DHA, Oracle Health Cloud teams and USCG end users.

Additional technical milestones were achieved through a successful HealthIntent Platform Preliminary Design Review working with PMO Technical Directors. The objectives are to establish an initial Cloud migration model, moving the HealthIntent Platform into the Oracle Cloud Infrastructure data center in Chicago. The current focus is on a successful detailed engineering review board, startup of the Cybersecurity Risk Management Framework Process and Critical Design Review. The goal is to continue building onto application performance effort improvements for all agencies that use the platform's applications and services.

## Longitudinal Natural Language Processing

Longitudinal Natural Language Processing (NLNP) is a capability that applies natural language processing and artificial intelligence (AI) to unstructured notes to make the unstructured data searchable and codified in a way to better understand medical concepts and context. The current NLNP production capability is used by accessing an Advanced Search link within the JLV Community Health Summaries & Documents Widget. This link launches a new browser tab that enables granular search of clinical content within health record documents from participating provider organization sources received via the joint HIE. This initial capability is very useful to providers, as joint HIE documents often have inadequately named titles or large amounts of unstructured free text. The next major NLNP release is planned for July 2023 and will incorporate a feature that will allow U.S. Military Entrance Processing Command users to quickly and easily pinpoint disqualifying medical factors within a prospective Service member's EHR.

## Military Service Exposures and the Electronic Health Record

Several provisions of the Sergeant First Class (SFC) Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022 will have direct and implied effects on the federal EHR and the ILER—a novel information technology (IT) system that correlates occupational and environmental exposures with individual Service members based on their work history and geographic proximity to known exposure events.

The FEHRM maintains several lines of effort focused on advancing the interoperability of exposure information and incorporation of exposure information into the federal EHR.

- **Delivery of the Individual Exposure Summary to Clinicians and Veterans.** ILER's principal product is the Individual Exposure Summary (IES), a listing of potential occupational and environmental exposures sustained by an individual Service member. The FEHRM coordinated the delivery of the IES to clinicians via a PDF file in

the JLV and remains engaged in the planning phase for delivery of the IES directly to Veterans via a website.

- **National Standards for Exposure Exchange.** At present, the names of military-service-related exposures are not standardized. The lack of standardization impairs the exchange of exposure information between IT systems, makes it difficult to implement clinical decision support for specific exposures and research efforts that require aggregating individuals with similar exposures. The FEHRM leads efforts to identify existing health data standards that could be enhanced to enable the standards-based exchange of exposure information. One effort is examining the Health Level Seven (HL7) Fast Healthcare Interoperability Resources (FHIR) resource known as “U.S. Public Health Contact Information,” which can serve as the basis for the exchange of an exposure. Another effort is analyzing the Systematized Nomenclature of Medicine (SNOMED) to understand how it may be expanded to encode concepts related to exposures. The FEHRM is in the process of submitting several exposure terms frequently tracked within ILER but not represented in SNOMED for inclusion. The FEHRM will continue to collaborate with the Office of the National Coordinator for Health Information Technology (ONC) and the Departments to advance these efforts for all federal partners involved in exposure-related clinical care and research.

## Enterprise Reporting and Performance Measurement

One of the most important and anticipated benefits of the federal EHR is the convergence of clinical information for multiple federal organizations into one electronic system. The Health Data Interoperability (HDI) Dashboard displays key metrics that describe and trend progress toward increased levels of inter-organizational interoperability. Metrics are divided into four categories—Department Integration, Community Partnerships, Patient Engagement and Federal Partner Onboarding. The current HDI metrics are presented and discussed in Appendix A. The FEHRM continues to review new and existing measures for presentation on the dashboard in future quarters.

## Standards Development and Adoption

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A successful interoperability ecosystem enables information sharing across the organization's boundaries to advance the effective delivery of health care for individuals and communities. Sophisticated and advanced policies, standards and technologies must come together for interoperability to realize effective health care delivery.

The FEHRM analyzes standards and fosters the development of and establishes guidelines for the use of data standards that support seamless integration of health data between the federal EHR and legacy and community partner systems. In furtherance of its goals, the

FEHRM collaborates with HL7 federal and industry partners and other standards development organizations (SDOs) to advance national HDI.

As part of its National Defense Authorization Act (NDAA) FY2020 mandate, the FEHRM focuses on FHIR, which is a modern HL7 standard that leverages internet technologies to securely exchange health information. FHIR improves granular data retrieval, so that a request returns just the relevant data rather than a full record or document that itself must then be searched. Simultaneously, the FEHRM seeks to improve the interoperability of HL7 Clinical Document Architecture, which is a widely used XML-based document standard that defines the structure of certain medical records such as discharge summaries and progress notes. Below are FEHRM interoperability standards initiatives and activities that are anchored to the FEHRM's mission.

- **Strategy Development.** During Q3 FY2023, the Standards Group reprioritized its involvement in SDOs to monitor and report trends to the stakeholders. These changes were aligned with NDAA FY2020, which directs the FEHRM to actively engage with national and international health standards to advance interoperability across the federal and private sectors.
- **Standards Development.** The FEHRM's Standards Group engaged in standards development at HL7, ONC and the Institute of Electrical and Electronics Engineers (IEEE) to influence interoperability and data exchange in various subject areas or domains. The subject areas were selected by the Standards Group based on their alignment with NDAA FY2020, national and stakeholder priorities.

## Federal Agency Standards Collaboration

The FEHRM regularly collaborates with other federal agencies in its pursuit of the development and implementation of standards that will improve interoperability. In response to a request from the CDC, the FEHRM reviewed CDC's framework for Hierarchy of PH Emergency Preparedness and Response Vocabulary, Concepts and Value Sets and suggested the addition of domains and code sets to the framework. The FEHRM also briefed the CDC on the privacy and security implications of Emergency Preparedness.

In addition to its ongoing participation in the Monthly Stakeholder Meeting, the FEHRM collaborated with ONC to better understand and contribute to their development of United States Core Data for Interoperability (USCDI) v4 and USCDI+ Quality Data Elements as well as the Health Data, Technology, and Interoperability: Certification Program Updates, Algorithm Transparency, and Information Sharing Regulation (HTI-1) Rule.

The HTI-1 Rule seeks to implement provisions of the 21st Century Cures Act and makes updates to the ONC Health IT Certification Program with new and updated standards, implementation specifications and certification criteria. Implementation of the proposed rule's provisions will advance interoperability, improve transparency and support the access, exchange and use of electronic health information. ONC shared with our stakeholders'



responses to questions the FEHRM developed regarding the HTI-1 Rule, and the FEHRM submitted input to ONC regarding combat period and exposures (hazardous substances) and the proposed USCDI v4 data classes and data elements.

## FEHRM and Department-Led Groups

The FEHRM planned, managed and hosted monthly Standards Stakeholder Group meetings to share the national and international standards landscape to the Departments and key stakeholders. The Standards Stakeholder Group meeting is a venue to promote standards that are released by HL7, International Organization for Standardization and IEEE working groups. The FEHRM provided updates on standards and trends in a variety of administrative and clinical health domains, such as FHIR Privacy and Security, AI, Da Vinci Burden Reduction, Consolidated Clinical Document Architecture (C-CDA) and Social Determinants of Health (SDOH). The FEHRM also provided stakeholders with updates on potential standards' impact of AI, the HTI-1 Rule; and USCDI v4, and USCDI+Quality.

## Health Level 7

HL7 is an SDO dedicated to providing a comprehensive framework and related standards for exchanging, integrating, sharing and retrieving electronic health information. SDOs are member-supported organizations, often accredited by the American National Standards Institute, that develop and maintain standards to meet industry needs. During Q3 FY2023, the FEHRM engaged with HL7 through numerous mechanisms and forums, including:

- **HL7 Balloting.** FEHRM engagement with HL7 benefits the Departments by improving interoperability between them and with external health care organizations. HL7 Ballot Cycles and associated working group meetings provide valuable opportunities for the FEHRM to influence the direction of interoperability initiatives and standards development. HL7 Affinity Group meetings and FEHRM Monthly Standards Stakeholder Group meetings provide ongoing opportunities for the team to lead initiatives and communicate progress on projects and activities within HL7.
- **HL7 Government Birds of a Feather (BOF).** The BOF meeting is the only forum during HL7 working group meetings that brings together government agencies to discuss standards and exchange ideas. The FEHRM planned and hosted the May 2023 BOF meeting. The event allowed the participants to facilitate, promote and collaborate on interoperability. Attendees included 85 representatives from several federal Departments and agencies, as well as state agencies, international consultants, insurance associations and industry groups.
- **HL7 Working Groups.** During the May 2023 HL7 Working Group Meeting, the FEHRM contributed to several working groups. HL7 working group meetings allow federal agencies, stakeholders and the HL7 community to work on standards and network with global industry leaders. Attendance allows SMEs to provide perspectives on

current trends and initiatives, remain current on standards activities and ballots and influence ballots and policy outcomes through contributions to working sessions. HL7 is an opportunity to collaborate with industry leaders and discuss trends and gaps in interoperability. The FEHRM attended the May 2023 HL7 Working Group Meeting and discussed, collaborated and advocated on behalf of Service members and Veterans regarding their health data requirements. During Q3 FY2023, the FEHRM engaged with, co-chaired or led the following HL7 workstreams with the areas of focus noted:

- **C-CDA Product Management.** In Q3 FY2023, the FEHRM team led design discussions on all data classes in ONC’s USCDI v3. The design sessions included over 20 industry representatives, government liaisons and ONC. The team developed designs of Health Insurance Information, Health Status Assessments, Laboratory, Medications, Patient Demographics (including Gender Identity), and Procedures. In partnership with HL7 and ONC, the FEHRM hosted weekly calls to vet and refine the proposed designs. These designs were included in the C-CDA Companion Guide R3 January 2023 Ballot and received 90 industry comments. All comments were resolved by the end of February, a month earlier than prior years. The FEHRM team prepared the final document in March and submitted for publication in April. HL7 published the C-CDA Companion Guide R3 on May 4, 2023.
- **Da Vinci.** The HL7 Da Vinci Project brings together payers, providers and health care technology vendors, along with HL7, with a common goal of accelerating the adoption of HL7 FHIR as the standard to support and integrate value-based care data exchange across communities. The FEHRM monitored Coverage Requirements Discovery, Documentation Templates and Rules and Prior Authorization Support Working Groups. The rules could significantly impact the federal EHR capability requirements and provider burden.
- **Gender Harmony.** HL7 is developing standards to improve data accuracy for sex and gender information in health IT systems as a change from the current common situation for a single data element to be used to capture both sex and gender information. The FEHRM leveraged its participation in the Vocabulary Work Group sessions to review and comment on the Sex and Gender Representation ballot to ensure alignment with the Departments’ position on gender fields.
- **Gravity Project (SDOH).** The SDOH Information Exchange Learning Forum brings together health care providers, community-based organizations, government, payers, HIE networks, IT platform developers, innovators and other partners to share lessons learned, promising practices and challenges

related to exchanging SDOH data. The Gravity Project defines data standards for documenting and exchanging social care information in EHRs and related systems across four clinical activities: screening, diagnosis, goal setting and interventions.

The FEHRM provided input in several of the SDOH Information Exchange Learning Forums on issues relevant to the DOD and VA community. The FEHRM provided input in the development of use cases for the close-loop referral process related to SDOH services. This referral process allows health care professionals to send patient information to a community-based organization to help address patient needs that are typically better served outside of clinical workflows. The FEHRM also provided feedback on HL7 FHIR Implementation Guide(s), based on the defined use cases and coded data sets as well as review of findings for the real-world pilots and implementations.

- **Patient Empowerment Working Group.** The FEHRM continued to provide input as the Patient Empowerment Working Group resolved comments regarding the Request for Corrections (to the Medical Record) Implementation Guide. Patients and providers often make requests to VA and DOD for corrections to incorrect information that may appear in their medical records. The working group resolved technical issues regarding how to ensure that the entire thread of a request for a correction can be reviewed (linking subsequent communications to the initial correction request) and discussed the need to allow for multiple appeals if the request for correction is initially rejected.
- **EHR Working Group-Artificial Intelligence.** The FEHRM drafted the Project Scope Statement for Artificial Intelligence (AI), which the Electronic Health Record Working Group finalized and approved on May 23 and the U.S. Realm Steering Committee approved on May 30. The project will consider how to capture, render and share the attributes of provenance, accountability (e.g., audit trails), trustworthiness, context, structure, patterns, annotation and annotation history at each step in the life cycle of AI data. The goals are to provide implementation guidance for AI/machine learning (ML) projects to leverage discoverable patterns and annotations provided by standards-based interoperable datasets; provide a roadmap for AI/ML experts to take advantage of interoperability standards to combine data from multiple, disparate data sources; and, in turn, articulate the return on investment of using interoperable, HL7-conformant data sets to create AI/ML solutions that are trusted by clinicians.

## Institute of Electrical and Electronics Engineers

With an active portfolio of nearly 1,300 standards and projects under development, IEEE is a leading developer of industry standards in a broad range of technologies that drive the functionality, capabilities and interoperability of a wide range of products and services, transforming how people live, work and communicate. The FEHRM helped to author the P2933 Clinical Internet of Things (IoT) Data and Device Interoperability with Trust, Identity, Privacy, Protection, Safety, Security (TIPPSS) Standard. During Q3, the FEHRM reviewed an updated version of the proposed standard, focusing on sections regarding the privacy module that will help to safeguard patients' data. The FEHRM voted to move the standard to the IEEE's next stage of the review and adoption process.

## U.S. Department of Health and Human Services

The FEHRM collaborates with U.S. Department of Health and Human Services (HHS) agencies to advance health care interoperability. Its support of CMS and the Workgroup for Electronic Data Interchange (WEDI) are provided below.

### *Centers for Medicare & Medicaid Services*

CMS continues to release policies to advance nationwide HIE, reduce the administrative burden for providers and incentivize effective use of health IT in 2023 and beyond. During Q3 FY2023, the FEHRM participated in the CMS Interoperability & Standards Collaborative Forums.

### *Workgroup for Electronic Data Interchange*

WEDI is recognized and trusted as a formal advisor to the Secretary of HHS. Its main mission is to advance standards for electronic administrative transactions and promote data privacy and security. WEDI successfully influenced health IT policy and aligned the industry to harmonize administrative and clinical data. WEDI focuses on many areas, including data standards and compliance, interoperability and data sharing, technological advancements and value-based reimbursement models implementation. The FEHRM joins discussions at numerous WEDI forums and monthly seminars. In June 2023, the FEHRM attended the WEDI Advisory Session on Health Care's Role in National Artificial Intelligence Strategy.

## User Engagement and Assessments

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### Federal Electronic Health Record Annual Summit

During Q3 FY2023, the FEHRM completed the review and analysis of feedback collected before, during and after the 2022 Federal EHR Annual Summit. Analyses of outcomes were included in several reports, including a standalone *End User Feedback Summary* and sections of a report that was delivered to Congress. In each case, the outputs focused on action items that were raised during the 2022 Annual Summit—both those that had been

addressed during the Summit and through continued dialogue after the event concluded. A total of 92 action items remained open after the 2022 Federal EHR Annual Summit; continued follow-up work by DHA and VHA Solution Owners and Experts as well as peers who have continued to address other tickets enabled each of those items to close by the conclusion of Q3.

Q3 of 2023 also saw the beginning of the planning process necessary to execute the third Federal Electronic Health Record Annual Summit, which will take place October 24–26. The 2023 Federal Electronic Health Record Annual Summit will bring together clinical staff from DOD, VA, USCG and NOAA; participating provider organizations; and other leading clinical experts to assess the use of the federal EHR. The congressionally mandated summit presents an opportunity for participants to engage in valuable discussions on opportunities that can enhance the federal EHR to better serve Service members, Veterans, and other beneficiaries. It allows end-users to provide valuable feedback to the FEHRM, DOD, and VA Leadership, while also learning about the most recent updates and advances taken by the federal EHR. The summit consists of a series of role-specific sessions, each of which is led by a Solution Owner and/or Solution Expert—leaders who are experts in the clinical field as well as the federal EHR Platform. Participants who attend the 2023 Federal Electronic Health Record Annual Summit will be eligible for continuing education credits, with accreditation stemming directly from one of several professional organizations.

The 2023 Federal Electronic Health Record Annual Summit planning team established a process to track due-outs and execute change requests. To this point, the team completed several milestones, including having recruited the DHA and VHA Solution Owners and Experts, who will help to facilitate individual Summit sessions; made updates to the pre-registration survey that will provide data on all participants; begun to design the content and structure of the Summit and selected a technical platform that will host the Summit. The team also worked to define success for the third annual iteration of the event, which follows a 2022 version that saw more than 700 individuals registered for the two- and half-day event, including congressional staffers and the VA Office of Inspector General.

The FEHRM has integrated lessons learned to develop the summit's agenda and scope. Part of this was the understanding that the prior summit iterations lacked adequate data regarding attendees, specifically whom among the attendees were daily end-users of the federal EHR and what their experiences were.

The FEHRM conducted a one-on-one listening tour with volunteers from DOD and VA, whereby a FEHRM representative walked each volunteer end-user through a series of approved questions about their experiences with the prior EHR, training and transition to the federal EHR and patient engagement along with day-to-day realities of the federal EHR. The qualitative data that derives from the 14 interviews (i.e., nine VA, five DOD) helps to inform the content and topics that will be addressed in the 2023 Federal Electronic Health Record Annual Summit. Information gathered from the pre-registration summit survey will also guide

the direction of the roundtable discussions. End-user understanding and feedback are essential in the design, development and improvement of the summit. End-user insight serves as a pivotal cornerstone in the development and improvement of future EHR deployments. By directly incorporating user experiences and perspectives, the FEHRM is better positioned to create solutions that are genuinely tailored to user needs, enhancing functionality, usability and overall user satisfaction.

## **FEHRM Testing and Evaluation Initiatives**

In Q3 FY2023, the FEHRM collaborated with MITRE to execute a comprehensive assessment of interoperability of the federal EHR in May 2023. This assessment focused on the accessibility and meaningful interaction within Use Cases A-C, as mandated by NDAA FY2020. The scope of the assessment encompassed the comprehensive health records for both Service members and Veterans. The assessment was conducted at the Jonathan M. Wainwright VA Medical Center in Walla Walla, Washington and the Brooke Army Medical Center in San Antonio, Texas. These sites were chosen based on their ability to meet required criteria and to showcase the desired level of interoperability outlined in the NDAA FY2020. Guided by the FEHRM, and supported by DOD, VA, and the Joint Interoperability Test Command, the assessment successfully demonstrated the desired interoperability between VA and DOD patient health records, thereby meeting the requirements of the NDAA FY2020. This assessment confirmed that clinicians can access and effectively interact with patient health records at Oracle Cerner deployed MTFs and VAMC locations.

## **Clinician and Patient User Satisfaction**

During the reporting period, the FEHRM continued to collaborate with DOD and VA patient and clinician satisfaction SMEs and Joint Work Groups (JWG), which previously established the common instruments and methodologies to survey and measure clinical and patient use and satisfaction with the federal EHR. The FEHRM received results during Q1 and Q2 FY2023 for both clinician and patient satisfaction surveys. During Q3, the ongoing collaboration saw the FEHRM and JWG analyze and report results with Department representatives. The FEHRM started this collaborative effort to equally assess satisfaction across DOD and VA, save government resources and reduce overall costs. Through these efforts, the survey instruments established and used for both clinician and patient satisfaction are nationally recognized as the “KLAS Arch Collaborative for Clinician Satisfaction” and the “Consumer Assessment of Healthcare Providers and Systems Health Information Technology (CAHPS-HIT)” item set for Patient Satisfaction.

In Q3 FY2023, the FEHRM also supported the Clinical Satisfaction JWG to improve survey response rates. The approach leveraged DOD leadership, asking this group to help broadcast the existence of the survey and spur colleagues to complete that survey in a timely manner. The FEHRM supported DOD and VA in their decisions to not alter the survey prior to deployment, though options like new question structures had been explored. In terms of the Patient Satisfaction Survey, results through May 2023 have been collected and



analyzed. As in prior years, the FEHRM and JWG plan to explore options to modernize the Patient Satisfaction Survey to pose questions that more directly assess the impact of the federal EHR on a patient's experience.

## Federal and Industry Stakeholder Engagements

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In keeping with the FEHRM's charter to advance interoperability across the federal and private sectors, the FEHRM collaborates with federal and private organizations that develop policies, provide guidance regarding standards, and advances the development of health information technologies. The FEHRM monitors and analyzes publications from federal agencies; meets with their staff to share knowledge and provide input; and informs internal leaders of significant developments that may affect the deployment of the federal EHR.

Through various events, the FEHRM collaborates with both federal and industry organizations to learn and elevate new ideas in health care interoperability and IT modernization. During Q3 FY2023, the FEHRM:

- Participated in Rounds One and Two of the ONC 2025–2030 Federal Health IT Strategic Plan Goal Working Group Meeting along with 15 other federal agencies to update the strategic plan to ensure it aligns with federal priorities. The FEHRM provided feedback on improving efficiency and trust in the health system; identified several legislative and regulatory areas influencing the health system reflecting technological and social changes; identified several technology trends influencing the health system, including ongoing gaps in broadband, expansion in standards adoption for HIE, and the increased utilization of AI and ML.
- Hosted a quarterly joint coordination meeting with ONC and CMS to share alignment across the federal government in health IT. This meeting consisted of updates on recent and upcoming events; project and program initiatives; new publications; and pending documents for future FEHRM and Department review and feedback. Numerous collaborative opportunities were identified between the FEHRM, ONC and CMS.
- Participated in the Federal Health IT Advisory Committee (HITAC) and Annual Report Workgroup to recommend to ONC policies and standards relating to implementation of a health IT infrastructure that advances electronic access, exchange and use of health information. The FEHRM also participated in the HITAC Annual Report Workgroup to contribute to and review draft and final versions of the HITAC Annual Report to be submitted to the HHS Secretary and to Congress.

Collaborated with ONC stakeholders through participation in numerous ONC engagements, including meetings and webinars such as the SDOH Information Exchange Learning Forums, and public comment periods to inform their work

supporting the USCDI v4, Standards Version Advancement Process and 21st Century Cures Act.

- Participated in the CMS Interoperability & Standards Collaborative Forums, where federal and industry organizations collaborate and learn about technology and interoperability innovations in the field and at CMS. On June 20, Mr. John Short, FEHRM Interoperability Director, was the main speaker at the CMS Forum and discussed “Embracing Change in Operations in an Interoperable Healthcare Landscape.” The FEHRM also participated in the CMS Forum on May 6, discussing “Digital Identity Federation in Healthcare: A Proof of Concept for Digital Identity with CARIN and HHS.”

The FEHRM researched and gathered AI in support of the White House AI Bill of Rights, and to identify opportunities to enhance the federal EHR and interoperability. The FEHRM developed and implemented a FEHRM AI SharePoint site to serve as a repository for governance, technology, tools and applications across the health care ecosystem and a place for inter/intra-Workstream access and collaboration.

## **Federal Electronic Health Record Partner Onboarding**

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The FEHRM is working with various federal agencies to advance their health care operations through the implementation of an EHR. NOAA is a division of the Department of Commerce that focuses on predicting and understanding changes in climate, weather, oceans and coasts. NOAA has seven sites across the country, serving approximately 950 officers and civilian personnel. NOAA deployed the federal EHR on June 3.

The FEHRM continues to meet with the NOAA team to address outstanding items and ensure their continued success.

The National Security Agency’s (NSA) continues progress toward joining the federal EHR. In June, NSA indicated their interest in moving forward with finalizing agreements to deploy the federal EHR at their sites. Cost estimates are underway.

Additionally, the FEHRM is engaging with the Armed Forces Retirement Home (AFRH) in their EHR onboarding efforts. Additional product demonstrations supported ongoing preparation of AFRH’s Functional Requirements Document for submission to DHMSM PMO, and a cost estimate was provided to AFRH at the end of June.

Lastly, the FEHRM delivered the EHR Functional Requirements Document to U.S. Customs and Border Protection for their West Virginia Advanced Training Center health care clinic for review.

## Conclusion

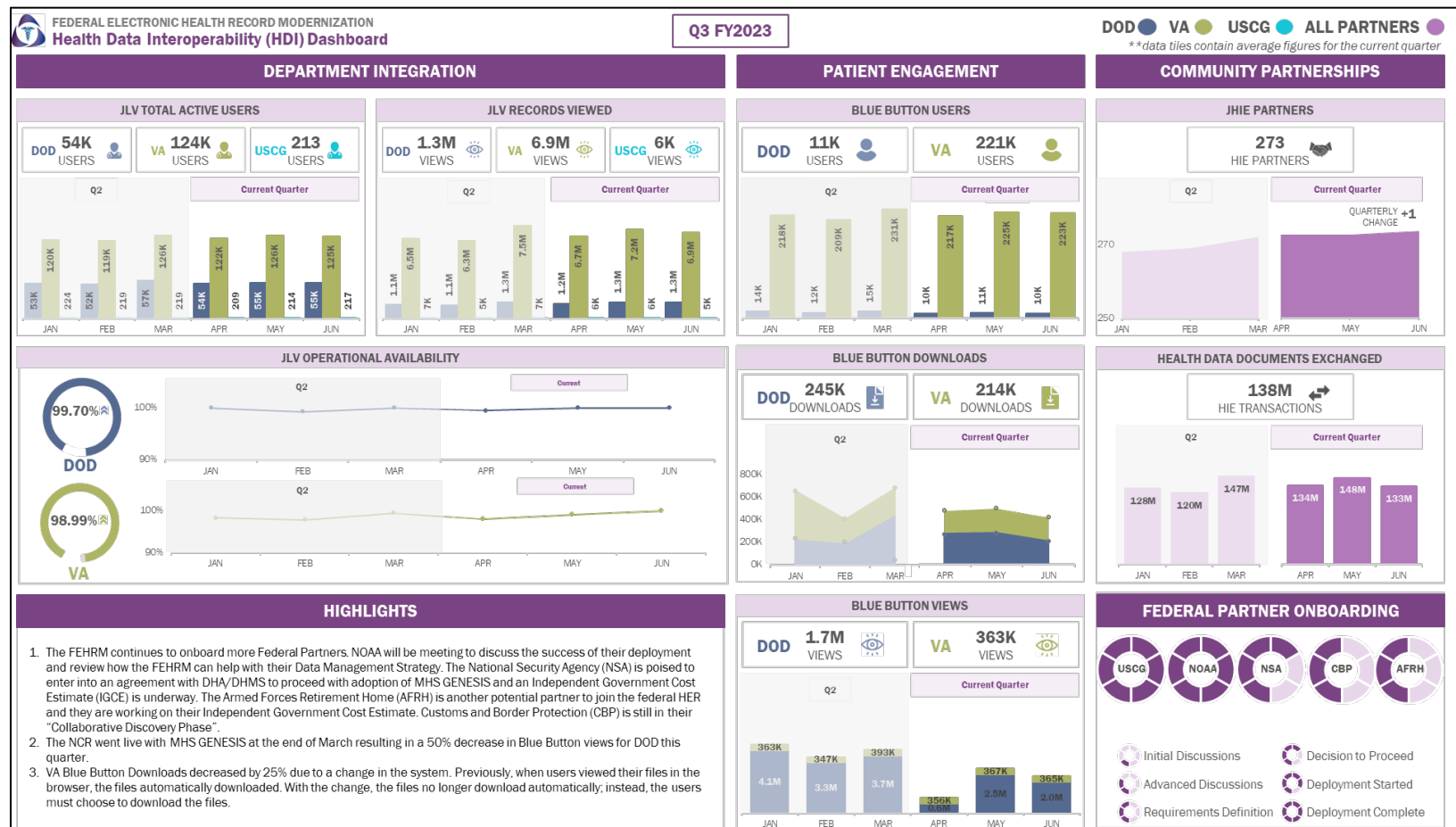
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Throughout Q3 FY2023, the Departments remained committed to measuring, assessing and enhancing HDI with the single, common federal EHR as well as with their private sector partners who care for DOD, VA, USCG and NOAA beneficiaries. Enabling HIE between DOD, VA, USCG and the private sector serves as the foundation for a patient-centric health care experience, seamless care transitions and improved care for Service members, Veterans and their families. To demonstrate the effect on patients and providers as DOD, VA and USCG move forward with their implementation of a seamless EHR system, the FEHRM will monitor and report data sharing among the Departments as part of its broader support of the Departments' commitment to advance HDI through interoperability modernization strategic planning.

## Appendix A: Health Data Interoperability Metrics Details

**HDI Metrics Details:** Throughout Q3 FY2023, the FEHRM, DOD and VA continued to collaborate to monitor baseline HDI metrics and the progress toward modernization and enhancement of HDI by both Departments. Each section displays a different interoperability dimension, as derived from the FEHRM's HDI Measurement Framework: Department Integration, Patient Engagement, Community Partnerships, and Federal Partner Onboarding. Figure 1 represents a snapshot of the Q3 FY2023 HDI Metrics Dashboard.

**Figure 1 – Q3 FY2023 HDI Metrics Dashboard**



**Q3 FY2023 Highlights:** Metric highlights are captured in Table 1 below.

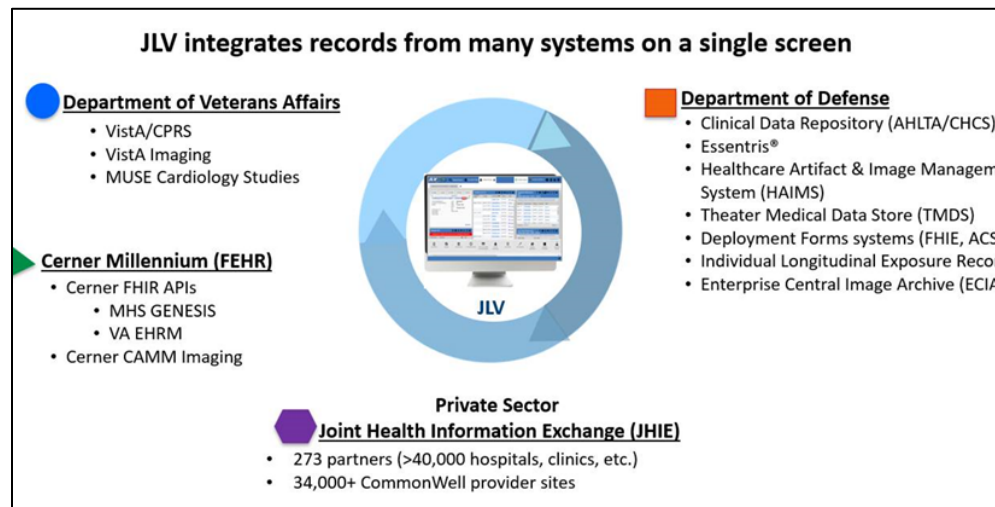
***Table 1 – Quarter Highlights***

Metrics	Highlights
Federal Partner Onboarding	The FEHRM continues to onboard more federal partners. NOAA will be meeting to discuss the success of their deployment and review how the FEHRM can help with their Data Management Strategy. NSA is poised to enter into an agreement with DHA/DHMSM PMO to proceed with adoption of the federal EHR and an Independent Government Cost Estimate is underway. AFRH is another potential partner to join the federal EHR, and they are working on their Independent Government Cost Estimate. U.S. Customs and Border Protection is still in the Collaborative Discovery Phase of the onboarding process.
Blue Button (DOD) Views	National Capital Region (NCR) went live with the federal EHR at the end of March, resulting in a 50% decrease in Blue Button views for DOD this quarter
Blue Button (VA) Downloads	VA Blue Button Downloads decreased by 25% due to a change in the system. Previously, when users viewed their files in the browser, the files automatically downloaded. With the change, the files no longer download automatically; instead, the users must choose to download the files.

DOD and VA use the software applications and tools described below to support EHR data interoperability:

1. **JLV.** The JLV, released in 2013, is a web-based graphical user interface jointly developed by DOD and VA to provide a near real-time, integrated and chronological view of EHR information. It allows clinicians to view an integrated, read-only display of patient data from DOD, VA and joint HIE participating provider organizations within a single application. JLV retrieves clinical data from numerous native data sources and systems, displayed in Figure 2.

**Figure 2 - JLV Data Sources and Systems**





2. **Joint HIE.** The joint HIE is a secure network that shares Veteran and Military Health System beneficiary health care information electronically with participating provider organizations who join the eHealth Exchange<sup>1</sup> and CommonWell.<sup>2</sup> Community partners who join undergo stringent security requirements to access patient records and health information securely, regardless of whether the facility is a civilian provider, military hospital, outpatient clinic or VA Medical Center.
3. **Blue Button.** Blue Button enables patients from DOD and VA to access their personal health data from their EHR, including allergies; laboratory and radiology results; vital signs; and outpatient medications, problem lists and encounters. The new Federal EHR Patient Portal also allows TRICARE beneficiaries to exchange secure messages with their care team; schedule medical and (active duty) dental appointments online; access notes, labs and medications; and request prescription renewals online.

The FEHRM, DOD and VA continue to expand HDI by improving upon the more than seven million patient records currently shared monthly between the two Departments, as defined by the total number of JLV records viewed by the Departments reported as of June 30.

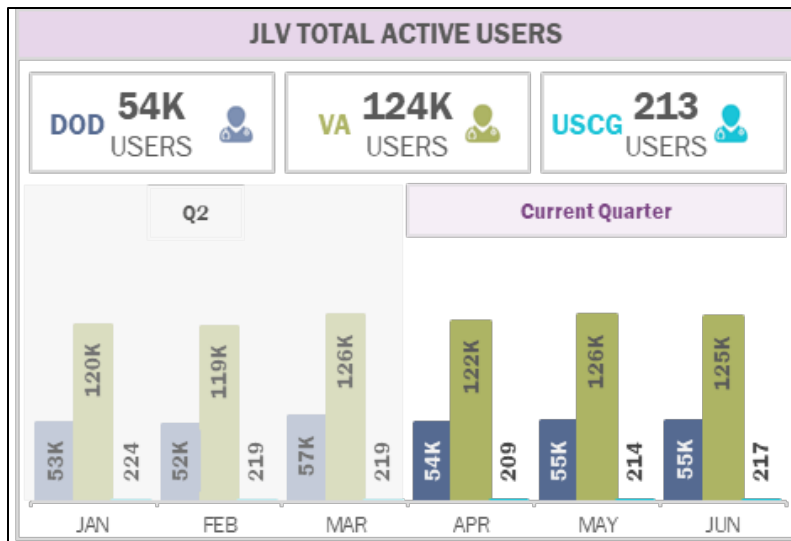
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<sup>1</sup> eHealth Exchange – This network of networks connects federal agencies and non-federal health care organizations so medical data can be exchanged nationwide. eHealth Exchange online, October 14, 2022, <https://ehealthexchange.org/>

<sup>2</sup> CommonWell – This service collectively allows individuals and caregivers to find and access records associated with a patient regardless of where the care was delivered. CommonWell Alliance Online, October 14, 2022, <https://www.commonwellalliance.org/about/faq/>

## Department Integration

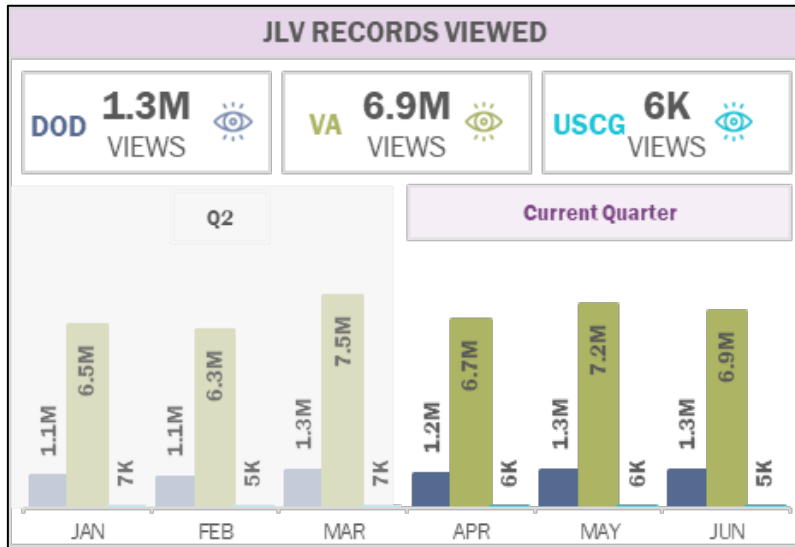
**Value Statement:** The FEHRM tracks utilization of legacy and modern EHRs, which enables Departmental leadership and Congress to assess the reliability of legacy systems and evaluate the Departments' progress in transitioning from legacy systems to the single, common federal EHR.



## Joint Longitudinal Viewer Total Active Users

### Definition

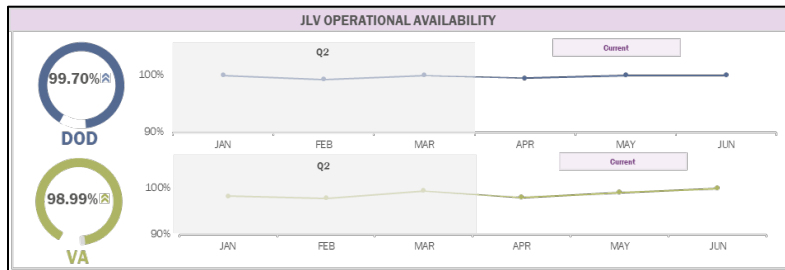
Active User: a unique user who has logged into JLV in a given month.



## Joint Longitudinal Viewer Records Viewed

### Definition

Monthly total number of patient records viewed using the JLV for DOD, VA and USCG.



## Joint Longitudinal Viewer Operational Availability

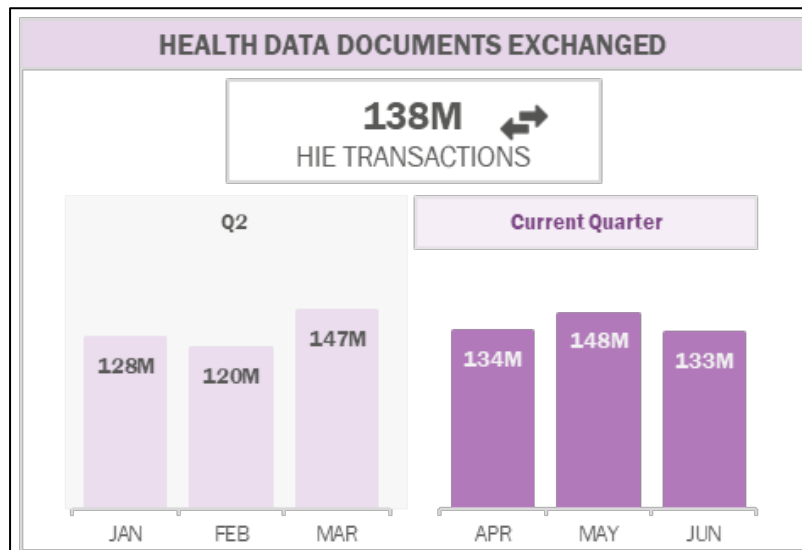
### Definition

**DOD** – The percentage of time during the month that the JLV was available for login and functionally operational by DOD and VA users (i.e., available for users to conduct a patient search and to access both DOD and VA EHR data in the cloud environment).

**VA** – The percentage of time during the month representing the end-user experience where JLV was available for login and functionally operational (users able to conduct patient searched/lookup and retrieve DOD, VA and federal EHR data in production environments).

## Community Partnerships

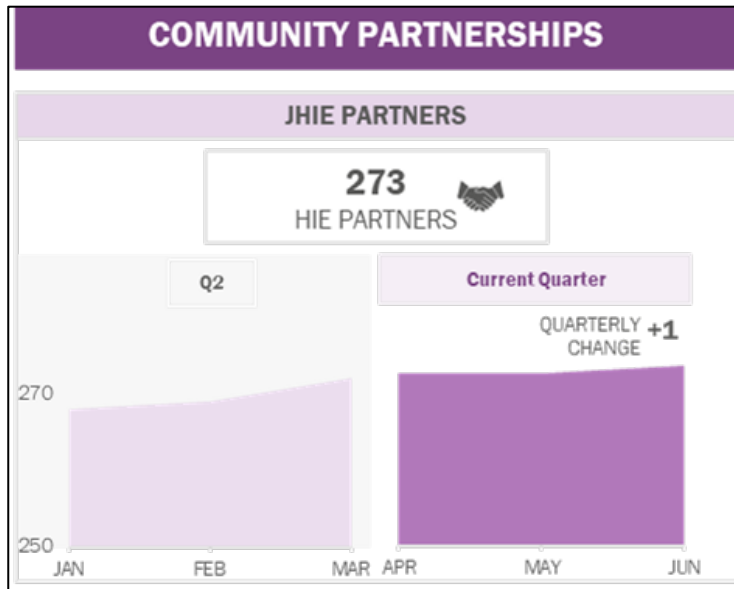
**Value Statement:** The FEHRM monitors the Departments' progress toward consistent, secure and reliable health data exchange by tracking joint HIE partner onboarding, as well as joint HIE transactions between the Departments and private care partners as best practices and improvements are implemented.



## Joint Health Information Exchange Transactions

### Definition

Monthly count of C-CDA, C32 or C62 (document architecture that facilitates interoperability of health data between EHR systems) documents exchanged between the Departments and private partners.



### Joint Health Information Exchange Partners Onboarded

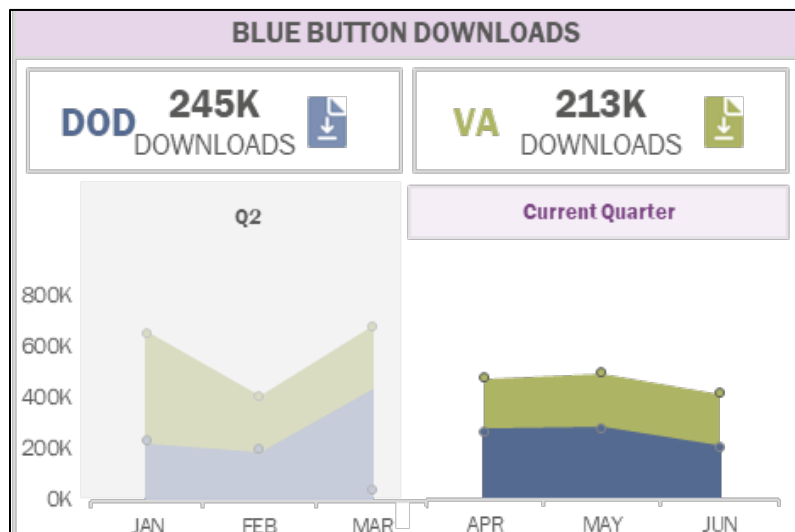
#### Definition

Monthly and cumulative count of participating provider organizations who are partners in the joint HIE. Note: A provider organization is counted as one partner if the provider has one or more data sharing agreement(s) with DOD or VA.



## Patient Engagement

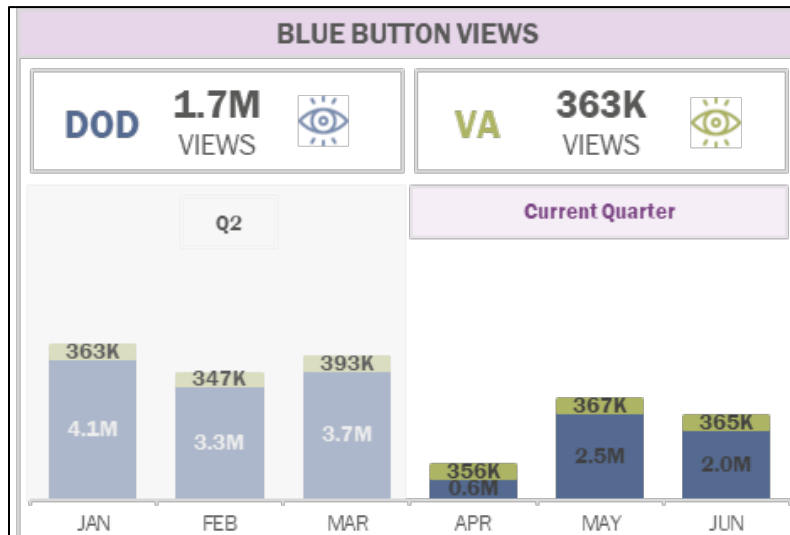
**Value Statement:** Blue Button serves as the foundation for broader patient engagement activities within the Departments, enabling patients to have easy access to their own health information in a usable format. The FEHRM monitors several metrics associated with Blue Button that show patient engagement with their integrated and consolidated health records from DOD and VA legacy systems' patient portals over time.



### Blue Button Downloads

#### Definition

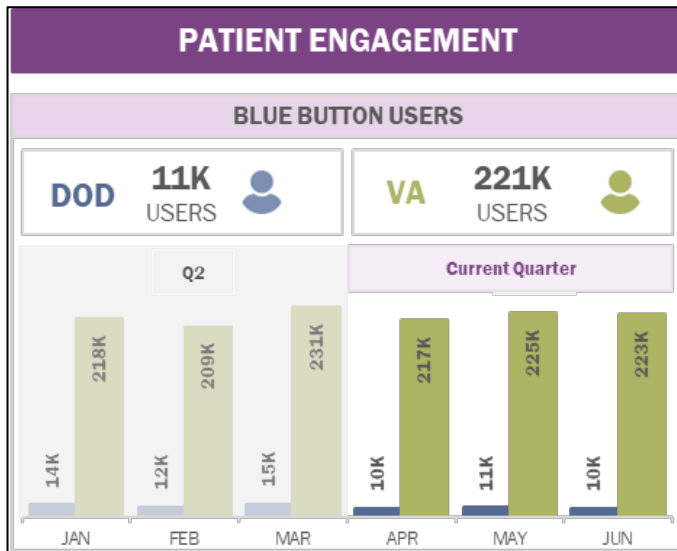
Total number of data downloads (e.g., PDF, text) generated by end users per month.



### Blue Button Views

#### Definition

Average number of views generated by end users per month



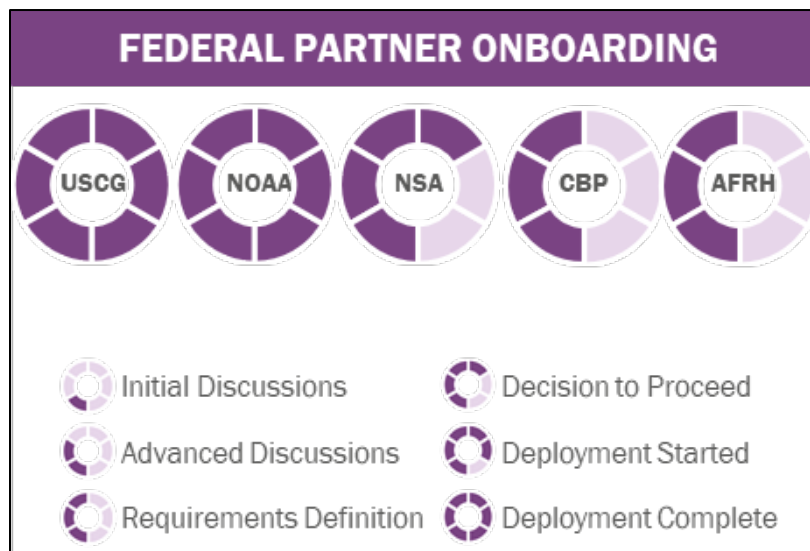
## Monthly Unique Blue Button Users

### Definition

Number of unique Blue Button users within a month.

## Federal Partner Onboarding

**Value Statement:** The FEHRM collaborates with federal partners by providing insight, assisting with requirements and overall support of their interest in joining the federal EHR enterprise.



## Federal Partner Onboarding

### Definition

Progress of collaborations with new federal partners who are interested in joining the federal EHR enterprise.