



**FEDERAL ELECTRONIC
HEALTH RECORD
MODERNIZATION**



FEHRM

Interoperability Progress Quarterly Report

FOURTH QUARTER, FISCAL YEAR 2023

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Director
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Modernization (FEHRM) Office

FEHRM Director's Message

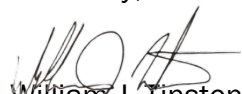
The Federal Electronic Health Record Modernization (FEHRM) office, Department of Defense (DOD) and Department of Veterans Affairs (VA) (henceforth, referred to as 'the Departments') are focused on the synchronous deployment of the federal electronic health record (EHR) at Captain James A. Lovell Federal 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.

The FEHRM focused on many activities this quarter to help ensure success at Lovell FHCC, and many of these activities are documented in this report. 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

Purpose of this Report

The Federal Electronic Health Record Modernization (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 fourth quarter of fiscal year 2023 (Q4 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 containing 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

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 and is essential to operating the federal EHR, providing DOD, VA, NOAA, and the Department of Homeland Security's U.S. Coast Guard (USCG) functional oversight of all configuration decisions impacting the production baseline.

In Q4 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 Q4 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 enables users, sites and government configuration experts and teams to approve JSaAB-level activities at a lower level, resulting in a more rapid turn-around 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 Q4 FY2023 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 aligning common inpatient workflows that enhance both the user experience and patient outcomes mapping the common EHR's capability to a standardized inpatient experience. Additionally, the FEHRM has established the Federal PowerPlans Working Group. Like the other FEHRM federal working groups, this working group 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 organizing meetings with identified Departmental counterparts.

In Q4 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 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. This cycle's quarterly topics include the Separation Health Assessment (SHA), DOD/VA End-to-End Process Engagement and Requirements Capture and VHA Electronic Health Record Modernization (EHRM) 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 between DOD, VA, NOAA and USCG, where the SHA Working Group developed a new form that will subsume using DOD Forms 2807-1 and 2808. The SHA project's objectives include establishing 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-developing 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 those projects and onboarding partners that come with external funding sources (e.g., SHA Joint Incentive Fund Project, USCG, NOAA), where the FEHRM will be most impactful advocating for those projects and helping those onboarded partners navigate the emerging capabilities environments.

Federal Interface Team

During Q4 FY2023, the Federal Interface Team (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).

The FIT is now part of a multi-agency implementation team for the synchronous deployment of the federal EHR at Lovell FHCC. The FIT's role is focused on improving and maximizing interfaces for Lovell FHCC.

Joint Enclave Data Management

During the Q4 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 Q4 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 are governed by the Data Governance Board (DGB) and Analytics Governance Board (AGB), respectively. 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 focusing 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 Q4 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 are governed by the AGB. The FEHRM established nine committees in support of analytic/reporting standards and data warehouse access controls.

Federated Interagency Terminology Service

The Federated Interagency Terminology Service (FITS) now reports up to the DGB, engaging 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 (CHDR) legacy and federal EHR clinical domains, including medication status, allergens, medications, laboratory results and document types.

FEHRM Revenue Cycle/Business Processes

In Q4 FY2023, the FEHRM, DHA and VHA continued to work with the Federal Charge Services Workgroup, which was created to implement a standardized process for reviewing proposed modifications to the charge master shared by VA and DOD in the federal EHR.

The FEHRM also continues to facilitate the Ancillary Business Service Workgroup weekly meetings, which have been focused on a solution that is satisfactory to VA and DOD for interdepartmental billing of order-based shared services. JSS has Resource Sharing Agreements (RSA), where DOD often provides laboratory and radiology services for VA. Because the VA provider sends requests for these services directly to DOD, there is no authorization sent with the order request because 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 Q4 FY2023, the FEHRM hosted two working sessions with DOD, VA, Department of Homeland Security (DHS) and vendor partners. The FEHRM analyzed items associated with the agreed-upon path forward of using the Electronic Data Interchange Personal Identifier (EDIPI) as the long-term solution for all future partners. The Defense Manpower Data Center was tasked with analyzing the cost to scale the use of EDIPI as the long-term solution. The VA was tasked with authoring a formal interoffice memorandum to the Under Secretary for Personnel and Readiness requesting concurrence to continue using EDIPI as the long-term solution. Both tasks are to be presented to the October 2023 ITEC committee.

Implementation Support to Joint Sharing Sites

In Q4 FY2023, the FEHRM documented the lessons learned captured by the JSS team members while on-site supporting care delivery by those working in the joint space at two JSS—88th Medical Group (MDG), Wright Patterson Air Force Base (AFB) and 375th MDG, Scott AFB—impacted by DOD Wave WRIGHT PATTERSON, which transitioned to the federal EHR in June 2023. These lessons learned were shared with various team members within the FEHRM and with our interagency partners (i.e., DHMSM PMO, EHRM-IO, DHA HI, and VHA OHI). Additionally, the FEHRM’s overall approach to engaging the JSS impacted EHRM PMOs’ deployment activities was updated to incorporate some of these lessons learned as best practices. The FEHRM JSS team continued to collaborate with the DHA HI team to find a suitable solution to support the identification, in the federal EHR, of the 700 plus DOD TRICARE Plus beneficiaries empaneled at the 88th MDG and receiving care in its VA Patient Aligned Care Team Clinic. Through this effort, a solution was identified and is currently being tested. If successful, the goal is to identify other JSS where this solution could be implemented to increase access to care for both DOD and VA beneficiaries in the joint space.

Additionally, the FEHRM continued its effort in the planning, analysis and execution of activities to support the unique health informatics and operational needs of one identified JSS—Naval Hospital (NH) Guam—with its sharing partner the VA Guam Community-Based Outpatient Clinic (CBOC), a subsidiary of the Pacific Island VA Health Care Services, (PI VAHCS). The FEHRM performed an analysis of all the information (i.e., sharing agreements, deployment data and discovery assessment outcomes) previously captured regarding this facility to form an initial understanding of the present sharing relationship and flag possible risks necessitating further study.

Through this process, the FEHRM highlighted three critical areas (i.e., operational, clinical, and business) that mandated further discussions with staff from NH Guam and its sharing partner. The outcome of this fact-finding risk-analysis process revealed that other than ensuring that VA users currently accessing the DOD legacy EHR systems are accounted for to access the federal EHR, no interim mitigation steps, such as interim clinical or business workflows, would be warranted to support continuity of care delivery while these sharing facilities function in the interim state.

The FEHRM JSS and Chief Health Informatics (CHIO) teams, together with its DHA (clinical and business) and VHA OHI partners, assessed the nature of the shared clinical, business and administrative services between NH Guam and VA Guam CBOC:

- NH Guam provides a broad range of primary, surgical, specialty and dental services to more than 26,000 eligible DOD and VA beneficiaries. Through its sharing relationship with PI VAHCS, located about 3,798 air miles away, it offers diabetic education services using VA staff embedded in its internal medicine

clinic. Additionally, it houses a VA Transition Center, which helps Veterans living near this medical facility to access care at that location.

More specifically, using the FEHRM JSS risk-analysis process, the FEHRM constructed a questionnaire portraying its understanding of the current clinical and business-sharing relationships, which was provided to NH Guam for validation. The purpose of this questionnaire is to confirm data collected to date and identify key personnel who can serve as POCs throughout the DOD deployment process and afterward while these facilities operate in the interim state. The collected information clarified 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 the screening process used to determine Veterans' eligibility. The analysis of this information influenced the scope of service calls, along with follow-up questions with the DOD/VA team at impacted JSS, directly supporting the delivery of the shared services.

The FEHRM then identified risks and developed mitigation steps in collaboration with its partners, to include ongoing participation of stakeholders from these impacted JSS and DOD and VA EHRM PMOs. For example, the FEHRM worked closely with both Departments' EHRM PMOs to ensure that both the VA users working at NH Guam and the users remotely accessing its EHR systems would have access to the common federal EHR, either from the VA or DOD access point. A reference document explaining how to perform this task will be provided as a guide to these individuals, prior to go-live.

During this period, the FEHRM JSS team communicated with its collaborating partners (i.e., DHA HI, VHA OHI, both EHRM PMOs and its supporting vendors) to stand up a working group charged with reviewing an existing set of Joint Users Provisioning and Deprovisioning Scenarios (five sets, each comprised of eight use cases) which outline the process to provision and deprovision joint users at all JSS, including Lovell FHCC. The effort aims to get these scenarios formally approved by both EHRM PMOs, DHA HI and other external partners, once completed to streamline and expedite joint users access to the federal EHR in a standardized fashion.

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

The FEHRM led key activities and collaborated with DHMSM PMO and EHRM-IO for several deployment-related onsite events to move forward with the Captain James A. Lovell Federal Health Care Center (Lovell FHCC) Federal EHR Implementation Project. Additionally, the FEHRM supported high-interest visits by the Office of Management and Budget (OMB) in August 2023 and the Government Accountability Office (GAO) in September 2023 to Lovell FHCC, focusing on successes, challenges and opportunities.

ERA Executive Decision Memo and Follow-On Actions: Following the conclusion of the Lovell FHCC Federal EHR Enterprise Requirements Adjudication (ERA) process, which took place from January 2022 to March 2023, the FEHRM drafted, coordinated review and signature, and distributed the ERA Executive Decision Memo (EDM) in September 2023. This memo documents concurrence by ASD Health Affairs and VA USH with the results of the ERA process and provides direction for FEHRM to move forward in coordination with DHMSM and EHRM-IO in a singular federal EHR implementation effort.

The ERA process generated a set of follow-on action items derived from discussion sessions requiring changes to the production environment, or localization for Lovell FHCC, which are being closed out via the implementation team's sub-workgroups. These actions do not impact the overall FHCC project deployment schedule, but rather enhance the federal EHR configuration based on mutual agreement between the DOD and VA functional community teams that utilize and support the federal EHR. The ERA EDM highlights the importance of this first-of-its-kind collaborative approach of the FEHRM office.

Mass Readiness Clinical Walkthrough: The FEHRM, along with DHMSM, EHRM-IO, VHA-OHI, Leidos Partners for Health, and Oracle Health, attended an FHCC Implementation Team-led Mass Readiness Clinical Walkthrough on July 25-26, 2023, at the Lovell FHCC USS Red Rover facility—where all Lovell FHCC naval recruits are processed for mass readiness—to showcase the federal EHR's new capability for mass readiness. The goal of the walkthrough was to observe current-state activities and provide demos to users as a preview of the future state.

Lessons Learned from Previous Deployments: The FEHRM team accompanied the Lovell FHCC Executive Leadership Team (ELT) to Walter Reed Medical Center on August 14-15, 2023, to capture lessons learned and advice from Walter Reed staff as FHCC prepares for deployment as part of the VA EHRM Program Reset improvement initiatives.

Deployment Activity Support: The program's operational tempo has continued to increase 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. During the period, the FEHRM continued efforts to support solutions via the sub-workgroups. Notable outcomes include-

- The Functional Sub-Workgroup successfully secured three major design decisions related to referral management with the Functional Decision Group (FDG), a decision body chartered and chaired by the FEHRM, with functional champion leads from DOD and VA.
- The Communications Sub-Workgroup developed the one-pager "Federal EHR Brands You May See" about the brands Lovell FHCC staff may see related to the federal EHR and to assist them in navigating the different names or brands used across programs during implementation.

The Sustainment Sub-Workgroup began multi-agency discussions to draft and operationalize a Sustainment and Optimization Plan for Lovell FHCC. The FEHRM continues to lead project coordination, solutions and execution activities for the interagency Lovell FHCC Federal EHR Implementation Team, including management of sub-workgroups across multiple disciplines charged with adjudicating items that require multi-party decisions related to execution and implementation of the federal EHR at Lovell FHCC. The FEHRM is monitoring the schedule, and to date, no major impediments have been identified impacting the March 2024 Go-Live date. In addition, the FEHRM is documenting and tracking risks, issues and opportunities, as well as watchlist items, through established risk management processes.

Lovell FHCC Federal EHR Legacy Operations

Medical Single Sign-On Context Management

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 healthcare providers to sign on each time they switch applications, thereby automating the user login process 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 healthcare providers to duplicate patient searches from one application to other participating clinical applications.

Key MSSO-CM accomplishments include the completion of an Imprivata G4 Appliance upgrade in the Production environment. In addition, the team completed the installation of the July and August Context Management Information Assurance Vulnerability Alert patches in the Development, Integration and Production environments.

Enterprise Service Bus/Orders Portability

Enterprise Service Bus/Orders Portability (ESB-ORP) capabilities enable DOD and VHA clinicians to place orders that are actionable and displayed within CHCS, AHLTA, VistA or CPRS.

The VA Orders Portability (ORP) Sustainment team completed testing and implementing several functional enhancements and sustainment fixes to improve the end-user experience and patient safety in collaboration with VA.

The key ESB-ORP accomplishments include the completion of the following Order Portability interface sustainment fix and enhancement in Q4 FY2023: The performing lab, Quest Diagnostics, addressed a mismatch between the DOD CHCS name and VA VistA Quest Diagnostics name; the Quest Diagnostics duplicate address fix resolved the address duplication when the orders cross from DOD to VA. The Proxy Location Solution enhancement has been developed to handle incoming traffic from DOD. It allowed unmapped locations to be assigned a default value, which enables the receiving system to process messages smoothly. Another enhancement, called Capture the Proxy Location Name and Add a Free Text Comment, has been added to identify the actual hospital location when the proxy location is invoked. The Exception/Error Logging capabilities and FilterOut PII Logging enhancement ensures that the end user's login credentials are not logged in the report. Lastly, the VA ORP Sustainment team added Check Batch files for the "No-new-Recruits added" enhancement have been added to the JPR application to parse the Daily Batch file and check for the "No-new-Recruits added" notification, which will display an appropriate message on the user interface.

FEHRM Lessons Learned Repository Management

Leading up to the Q4 FY2023 deadline for input and the End-of-Year Showcase, the FEHRM Lessons Learned (LL) Repository maintains 211 lessons associated with the FEHRM Risk-Issue-Opportunity (RIO) Repository, Joint Sharing Sites Integration the Enterprise Operations Center (EOC) and the Departments. The FEHRM RIO/LL team anticipates the presentation of DHMSM's lessons learned from deployments outside of the continental United States as input to the final quarterly data call of the year. A few issues with communication and time zone differences were communicated regarding OCONUS waves, however the discrepancies decreased as the go-lives occurred. Having command center support around the clock has been vital to the success of deploying the MHS GENESIS program.

In addition to the Q4 data call, partners completed a Lessons Learned Implementation Survey, which allows the FEHRM to track metrics and data related to the implementation of lessons, resulting in improvements made to regular protocols and best practices. The End-of-Year Lessons Learned Showcase will highlight the most impactful lessons from all Departments, as well as incorporate an overview of lessons and best practices from the FEHRM's End-User Engagement Team to ensure the repository captures and enhances the end user's voice. These activities will add depth to the most frequently viewed and shared lessons-learned categories, such as go-live training and stakeholder coordination.

Federal Electronic Health Record Operations

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 Q4 FY2023, in addition to monitoring planned activities that could impact FEHRM partners, the EOC monitored and reported 59 unplanned incidents impacting the federal EHR or partners and supported executive updates for the deployment of Waves LANDSTHUL/LAKENHEATH/GUANTANAMO BAY – FORT BUCHANAN. 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 Q4 FY2023, those activities included a session on the Technical Roadmap Update.

In Q4 FY2023, the FEHRM continued 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 report is a comprehensive analysis of incident management data – including Oracle Cerner LightsOn availability, Major Incident Response Team (MIRT) monthly accounting for service interruption and Oracle Cerner federal KPI metrics. The monthly EHR health report provides a month-over-month analysis of service availability and performance trends of the federal EHR Core, federal HA-CAS, CAS/VAN, infrastructure (DEERS) and other solutions.

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 Q4 FY2023, the FEHRM continued to support the federalization of the joint release management process. With direct input from DOD, VA and FEHRM release management and

federal leads, the FEHRM produced a standard operating procedure (SOP) to accompany the Federal Release Working Group (FRWG) charter. The purpose of the SOP is to represent agreed upon processes of the FRWG. The FEHRM continues to deliver meeting documentation records for every FRWG meeting to more than 200 stakeholders across the enterprise.

During Q4 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 in working within the correct domain as the path to production and reduces the impact of domain availability.

Federal Electronic Health Record Cybersecurity

Cybersecurity – Joint Incident Management Framework

Documenting and optimizing a framework for jointly responding to cybersecurity incidents is foundational to the cybersecurity posture of the federal EHR. In Q4 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. The FEHRM's 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 Q4 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 Q4 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 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 of shared experiences, trend analysis and best practices to drive innovation.

Cybersecurity Risk Mitigation

Beginning in Q3 FY2023, the FEHRM produces a monthly Authority to Operate (ATO) status report for all systems in the Federal EHR that tracks individual ATO lifecycles. The FEHRM works with stakeholders to ensure ATOs are current.

Interoperability Modernization

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 Q4 FY2023 monthly average of 18.9 million documents delivered to connected provider organizations and retrieved a monthly average of 152.5 million documents from connected provider organizations. In addition to making progress with onboarding, the FEHRM successfully onboarded an additional trusted exchange, Carequality, that gives access to 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 initial implementation in Washington, recent Q4 FY2023 implementations in Oklahoma, California, Florida, and North Carolina, and VA's implementations in Washington, Idaho, Montana, and Ohio, the DOD and VA continue to incrementally grow the immunization exchange connections. DOD is currently preparing a list of 25 priority states for FY2024 deployments. VA is coordinating implementation for Illinois, and Wisconsin.

HealthIntent

In Q4 FY2023, the FEHRM Solutions Integration team accomplished a technical milestone by way of a critical design review which will allow 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.

The FEHRM Solutions Integration team guided the appropriate RES mpage upgrade which enhances HealtheRegistries performance and implemented new waves of measures to be brought on and engaged.

The FEHRM led a successful HIDUU file ingestion effort to ensure legacy data can be retrieved, validated, and successfully ported into HealthIntent. This unprecedented effort proved successful and will set the foundation for all data ingestion efforts and methodologies going forward.

Additional technical milestones were achieved through a successful Critical Design Review (CDR) which outlines a plan to migrate the HealthIntent platform into a dedicated region within Oracle Cloud Infrastructure (OCI). This will enable increased scalability, data platform expansion, and more robust opportunities for usage of the HealthIntent platform. The objectives were to establish an initial Cloud migration model, moving the HealthIntent Platform into the OCI data center in Chicago. These objectives were successfully outlined in the form of a CDR, while the current focus is on producing a detailed engineering review board and the startup of the Cybersecurity Risk Management Framework Process.

Longitudinal Natural Language Processing

Longitudinal Natural Language Processing (LNLP) is a capability that applies natural language processing (NLP) and machine learning (ML) to unstructured notes to make the unstructured data searchable and codified in a way to better understand medical concepts and context. On July 12, 2023, the FEHRM successfully deployed LNLP version 1.0.1.0 to production. This latest LNLP version incorporates a Military Entrance Processing Command (MEPCOM) workflow feature that has the potential to significantly reduce MEPCOM case review times for about 70% of the 200,000 annual prescreened military candidates whose records contain joint HIE community partner data. LNLP accomplishes this by applying several NLP and ML modules that aggregate and make the joint HIE data easier to search and pinpoint disqualifying factors during MEPCOM users' screening of candidates. The next LNLP release (version 1.0.2.0) is targeted for late October 2023 and will allow for the display of combined NLP results across all joint HIE community partner documents and also further refines the MEPCOM workflow feature that was deployed as part of LNLP version 1.0.1.0.

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 Federal EHR Individual Longitudinal Exposure Record (ILER) Interface 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 the 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), which is a list of potential occupational and environmental exposures experienced by individual Service members. Access to the IES by clinicians at the point of care supports the evaluation and treatment of potential health outcomes related to exposures. Additionally, documenting exposure-related conditions and health effects helps expedite the processing and adjudication of exposure-related claims. The FEHRM coordinated the delivery of DOD and VA functional requirements to the configuration team to make IES data available directly within the federal EHR to improve clinician workflow and reduce cognitive burden. The FEHRM remains engaged in the development phase for delivery of the IES to clinicians and directly to Veterans via a forthcoming 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, making 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 including both substances and events. One effort, detailed in the following section, 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 is analyzing the Systematized Nomenclature of Medicine Clinical Terms (SNOMED) to understand how it may be expanded to encode concepts related to exposures. The FEHRM worked to identify exposure concepts frequently tracked in ILER but unavailable in SNOMED. The FEHRM is now researching these missing concepts and identifying academic citations to justify inclusion in SNOMED. The FEHRM submitted its first batch of exposure terms in June 2023 for consideration for the September 2023 quarterly SNOMED release. These terms were accepted and published in SNOMED and will be available for clinical use in the near future. A subsequent batch of terms will be submitted in October 2023 for

potential inclusion in the March 2024 release. FEHRM will continue to develop SNOMED terms for submission to include exposure substances and events tracked in ILER, called out in legislation, and considered high visibility and high priority by the Departments. The FEHRM is taking special consideration for inclusion of per- and polyfluoroalkyl substances (PFAS) and those chemicals related to toxic burn pits. The FEHRM will continue to collaborate with the Office of the National Coordinator for Health Information Technology (ONC), the National Institute of Environmental Health Sciences and the Departments to advance these efforts for all federal partners involved in exposure-related clinical care and research.

- **Participation in the Toxic Exposure Research Working Group.** Section 501 of the SFC Heath Robinson Honoring our Promise to Address Comprehensive Toxics Act of 2022 established a Toxic Exposure Research Working Group. This Working Group is charged with identifying collaborative research activities and resources available and to develop a five-year strategic plan to carry out collaborative research activities related to toxic exposures. The FEHRM's Exposure Interoperability workstream is a member of this Working Group and contributes to the advancement of the Group's priorities.

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

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 and establishment of 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 (CDA), 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 Q4 FY2023, the Standards Group refined 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.
- Recently, the FEHRM initiated collaboration with the ONC and the American Dental Association (ADA) to promote incorporation of the HL7 and ADA Dental Data Exchange Implementation Guide into the United States Core Data for Interoperability (USCDI). This is to promote federal and international dental standards and interoperability of dental electronic health data.

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 addition to its ongoing participation in the Monthly Stakeholder Meeting, the FEHRM collaborated with ONC to better understand and contribute to their development of USCDI v4/v5 and USCDI+, and met with ONC Standards Director and ADA Coding/Dental Data Exchange Director regarding USCDI acceptance of HL7/ADA Dental Data Exchange IG (DDX IG) and ADA CDT codes. The FEHRM discussed the possibility of developing a USCDI+ dental domain and will continue to analyze the efficacy of such an approach.

The Standards Team and the CHIO Data Management Team analyzed potential data elements for USCDIv5 and submitted comments to ONC including recommendations on Exposure, Care Team Member and Care Team Location, and Provenance.

FEHRM and Department-Led Groups

The FEHRM 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 enhanced the meeting through the addition of presentations from federal agencies, such as the Veterans Health Administration on FHIR Guidance for Successful Adoption, the CDC on Public Health, DHA on Artificial Intelligence (AI) in Dentistry, and ONC on USCDI+.

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. FEHRM engagement with HL7 benefits the Departments by improving interoperability with external health care organizations. During Q4 FY2023, the FEHRM engaged with HL7 through numerous mechanisms and forums, including:

- **HL7 Balloting.** FEHRM prioritized ballots for review that had a direct impact on interoperability between DHA and VHA, including 1) Gender Harmony updates, and FHIR Implementation Guides, (2) Bidirectional Services eReferrals, (3) CDS hooks, (4) Multiple Chronic Conditions Electronic Care Plan, and (5) National Directory for Healthcare.
- **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 September 2023 BOF meeting. The FEHRM's Director of Interoperability updated the group on progress made by the FEHRM towards interoperability through implementation of the Joint Health Information Exchange and its use of the Joint Legacy Viewer to facilitate care for Veterans and DOD beneficiaries. The meeting was very successful with 113 attendees, including federal partners from Centers for Medicare & Medicaid Services (CMS), ONC, and CDC; stakeholders from DOD and VA; industry representative payers; EHR vendors; and experts in health standards.
- **HL7 Working Groups.** The FEHRM participated in and contributed to several HL7 working groups which allow federal agencies, stakeholders and the HL7 community to work on standards and network with global industry leaders. During Q4 FY2023, the FEHRM engaged with, co-chaired or led the following HL7 workstreams with the areas of focus noted:

- **C-CDA Product Management.** In Q4 FY2023, the FERHM, in collaboration with ONC and Health Level Seven International, hosted design sessions for nine data classes and 20 elements included in USCDI v4.
- **Gender Harmony.** 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 Departments' position on gender fields.
- **EHR Working Group-Toxic Exposures.** During FY Q4, the FEHRM worked with HL7 groups and committees to approve the military toxic exposure project under the umbrella of the EHR group.
- **EHR Working Group-Artificial Intelligence.** The FEHRM drafted the Project Scope Statement for AI which the EHR Working Group finalized and approved on May 23, and the U.S. Realm Steering Committee approved on May 30.

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 Q4 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 whose main mission is to advance standards for electronic administrative transactions and promote data privacy and security. The FEHRM joins discussions at numerous WEDI forums and monthly seminars. In September 2023, the FEHRM attended the WEDI Virtual Spotlight: Health Care and Artificial Intelligence: Understanding Best Business Practices in an Evolving Industry.

User Engagement and Assessments

Federal EHR Annual Summit

The congressionally mandated summit presents an opportunity for participants who use the federal EHR to gain insight, share best practices and engage in valuable discussions that help enhance the federal EHR to better serve Service members, Veterans, and other beneficiaries. End-users provide valuable feedback to the Department Leadership teams, while also learning about the most recent updates and advances implemented in the federal

EHR. The summit consists of a series of role or topic-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.

During Q4 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—those that had been addressed during the Summit and through continued dialog after the event concluded. A total of 92 action items were created after the 2022 Federal EHR Annual Summit. Continued follow-up work by DHA and VHA Solution Owners and Experts and peers enabled each of those items to close by the conclusion of Q4 FY2023.

The planning process necessary to execute the third Federal EHR Annual Summit, which scheduled October 24–26, 2023 also began. The 2023 Federal EHR Annual Summit will bring together clinical staff from participating Departments including DOD, VA, USCG and NOAA; participating provider organizations; and other leading clinical experts to assess the use of the federal EHR. 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 EHR Annual Summit planning team established a process to manage all elements of the planning process. To this point, the team completed several milestones, including recruitment of DHA and VHA Solution Owners and Experts who will facilitate individual Summit sessions; updated the pre-registration survey that will provide data on all participants, topics of interest and questions submitted in advance; began design of content and structure of the Summit and selected a technical platform to 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 integrated lessons learned from previous Summits to develop the agenda and scope. This included enhancements to the registration process and pre-event survey to better capture data regarding attendees' frequency of use of the federal EHR and about their experiences.

The FEHRM conducted a one-on-one listening tour with volunteers from DOD (five) and VA (nine), 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 derived from the 14 interviews helped inform the content and topics addressed in the 2023 Federal EHR Annual Summit. Information gathered from the pre-event survey will also guide the direction of the roundtable discussions.

End-user understanding and feedback is 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 and functionality. 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 Q4 FY2023, the FEHRM collaborated with MITRE to execute a comprehensive assessment of interoperability of the federal HER. 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 Q4, the ongoing collaboration saw FEHRM and the 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 Q4 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

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 advance 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 Q4 FY2023, the FEHRM:

- Participated in the Federal Health IT Advisory Committee to recommend to ONC policies and standards relating to implementation of a health information technology infrastructure that advances electronic access, exchange and use of health information.
- Participated as a member of the Federal Health IT Coordinating Council, chaired by ONC, which brings together 30-40 federal partners involved in health IT activities.
- Collaborated with ONC stakeholders through participation in numerous ONC engagements, including the ONC Technical Forum to share and learn about advances in health technology to improve patient care, health equity, data exchange, and interoperability, and the Clinical Decision Support (CDS) Series. The FEHRM also provided comments to support the advancement of the USCDI v5 and the 2024 Interoperability Standards Advisory.
- 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. The FEHRM also participated in the CMS 2023 FHIR Connectathon to learn and test emerging FHIR Application Programming Interfaces and supporting FHIR Implementation Guides.
- The FEHRM initiated collaboration opportunities with ONC, CMS, and other federal agencies by researching and gathering AI information in support of the White House AI Bill of Rights and to identify opportunities to enhance the federal EHR and interoperability. The FEHRM maintains 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.

- The FEHRM's Interoperability leaders participated in the 3-day Defense Health Information Technology Symposium (DHITS) conference where they shared successes of implementing the EHR, as well as the progress of onboarding new federal agencies into the EHR.

Federal Electronic Health Record Partner Onboarding

The FEHRM is actively collaborating with various federal agencies to advance their health care operations through the implementation of the federal EHR.

The National Oceanic and Atmospheric Association (NOAA) successfully implemented the federal EHR in June 2023. Since then, the FEHRM team has been engaged with NOAA to champion their specific post-deployment requirements.

The Occupational Health Office in the National Security Agency (NSA) continues progress toward joining the federal EHR in 2024. In September, a support agreement for MHS GENESIS was signed. Currently, financial planning and funding activities are underway, with the imminent publication of a task order anticipated in early Q4.

The Armed Forces Retirement Home (AFRH) received a comprehensive Independent Government Cost Estimate, along with a set of fundamental EHR requirements queries in the last quarter. Presently, they are researching and formulating responses, aiming towards a critical board decision regarding funding.

The U.S. Customs and Border Protection's (CBP) West Virginia Advanced Training Center Health Care Clinic is in their Collaborative Discovery Phase. Their EHR Functional Requirements Document is available for their review and consideration of next steps.

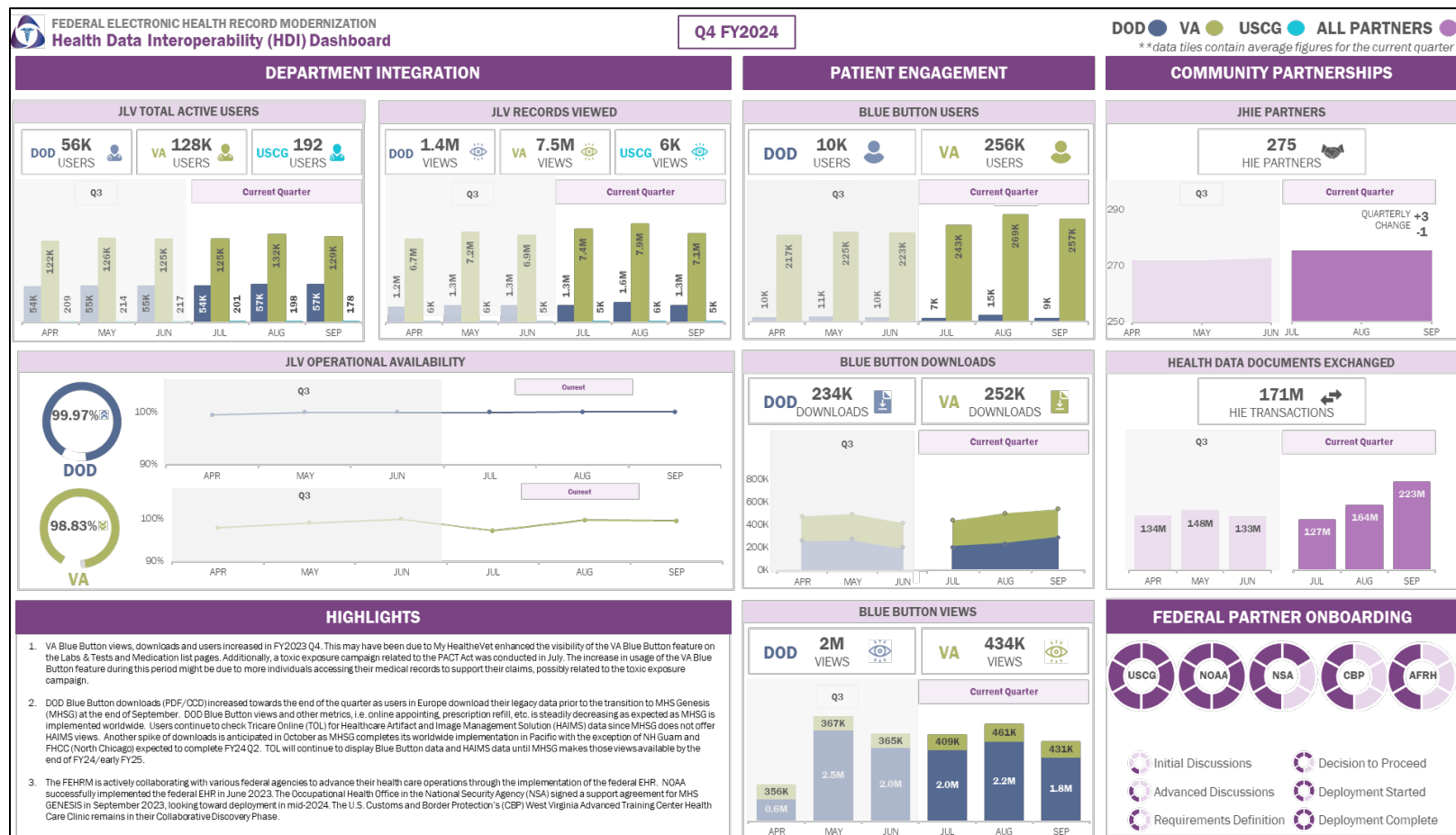
Conclusion

Throughout Q4 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-centered 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 Q4 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 Q4 FY2023 HDI Metrics Dashboard.

Figure 1 – Q4 FY2023 HDI Metrics Dashboard



Q4 FY2023 Highlights: Metric highlights are captured in Table 1 below.

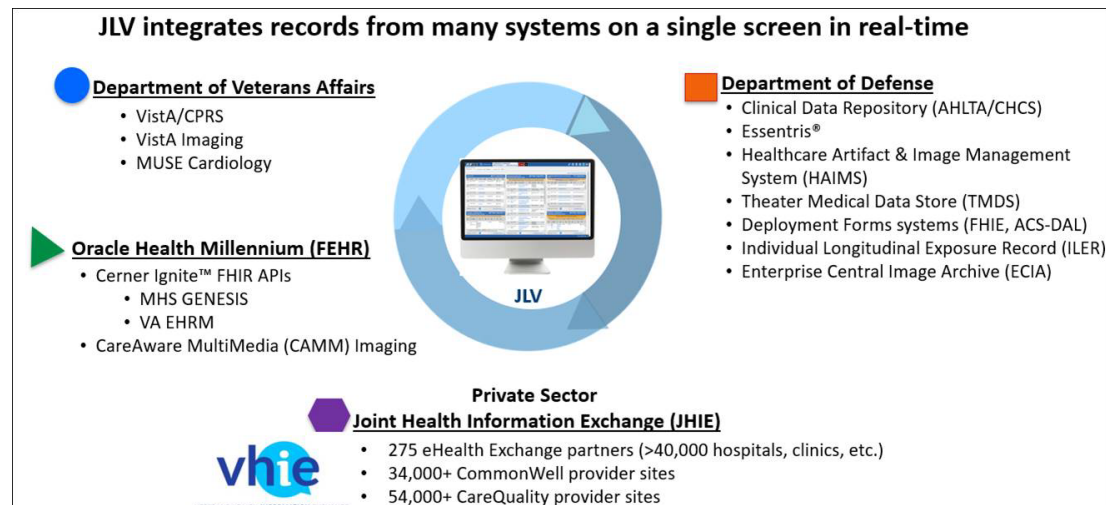
Table 1 – Quarter Highlights

Metrics	Highlights
VA Blue Button Views, Downloads and Users	VA Blue Button views, downloads and users increased in Q4 FY2023. This may have been due to My HealtheVet enhanced the visibility of the VA Blue Button feature on the Labs & Tests and Medication list pages. Additionally, a toxic exposure campaign related to the PACT Act was conducted in July. The increase in usage of the VA Blue Button feature during this period might be due to more individuals accessing their medical records to support their claims, possibly related to the toxic exposure campaign.
DOD Blue Button Downloads and Views	DOD Blue Button downloads (PDF/CCD) increased towards the end of the quarter, after the launch of MHS GENESIS (MHSG) in Europe, likely due to users rushing to access information before system updates stop. However, views and other metrics decreased as MHSG expanded to all locations except the Pacific. Users continue to check Tricare Online (TOL) for Healthcare Artifact and Image Management Solution (HAIMS) data. MHSG does not offer HAIMS views. However, TOL continues to display HAIMS data regardless of whether MHSG or ALTHA is the EHR in use.
Federal Partners Onboarding	The FEHRM is actively collaborating with various federal agencies to advance their health care operations through the implementation of the federal EHR. NOAA successfully implemented the federal EHR in June 2023. The Occupational Health Office in the NSA signed a support agreement for MHS GENESIS in September 2023, looking toward deployment in mid-2024. The CBP West Virginia Advanced Training Center Health Care Clinic remains in their Collaborative Discovery Phase.

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

1. **Joint Longitudinal Viewer (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 Health Information Exchange (HIE).** The joint HIE is a secure network that shares Veteran and Military Health System beneficiary health care information electronically with USMEPCOM, NOAA, and participating provider organizations who join the eHealth Exchange¹ and CommonWell.² Community partners who join undergo stringent

¹ eHealth Exchange - Network of Networks connecting federal agencies and non-federal healthcare organizations so medical data can be exchanged nationwide. eHealth Exchange online, October 14, 2022, <https://ehealthexchange.org/>

² CommonWell – A service that 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/>

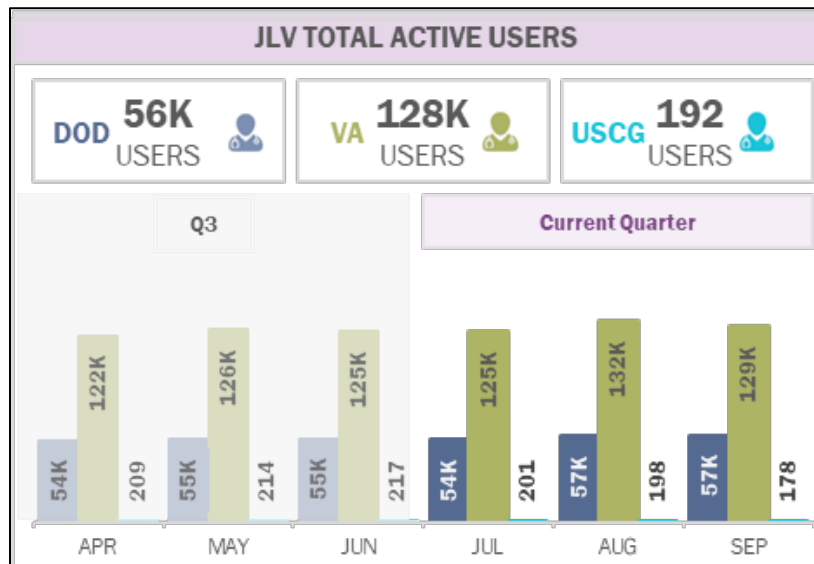
security requirements to access patient records and health information securely, regardless of whether the facility is a civilian provider, military hospital, outpatient clinic or VA Medical Center.

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, outpatient medications, problem lists and encounters. The new MHS GENESIS 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 8.5 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 September 30, 2023.

Department Integration

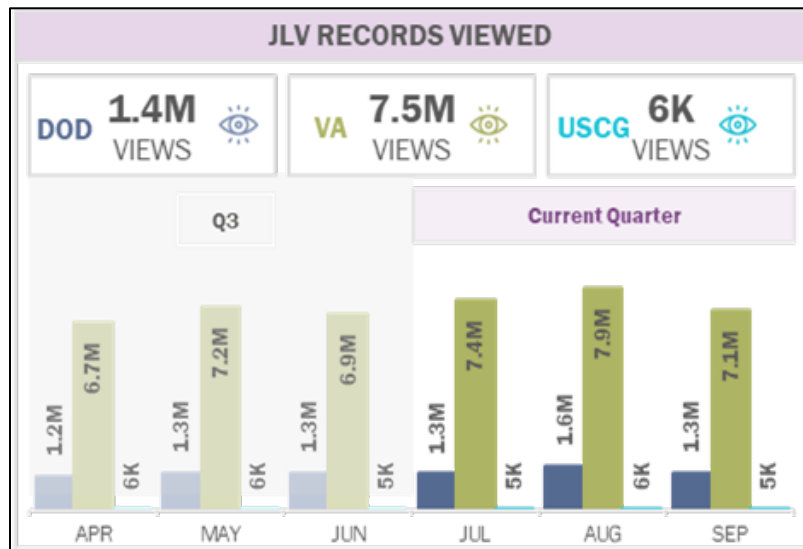
Value Statement: The FEHRM tracks utilization of legacy and modern EHRs, which enables Departmental leadership and Congress to assess the reliability of legacy systems and evaluate the Departments' progress in transitioning from legacy systems to the single, common federal EHR.



JLV Total Active Users

Definition

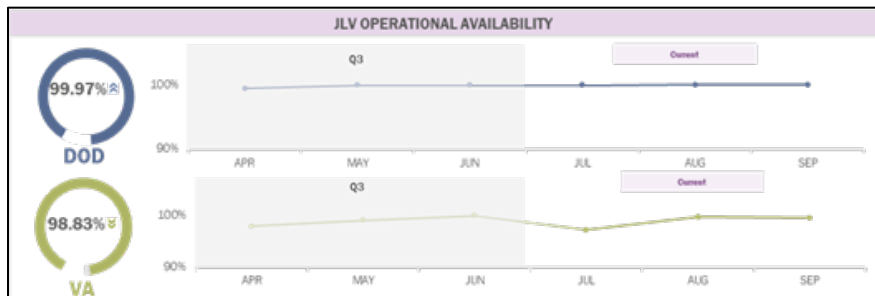
Active User: a unique user who has logged into JLV in a given month.



JLV Records Viewed

Definition

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



JLV Operational Availability

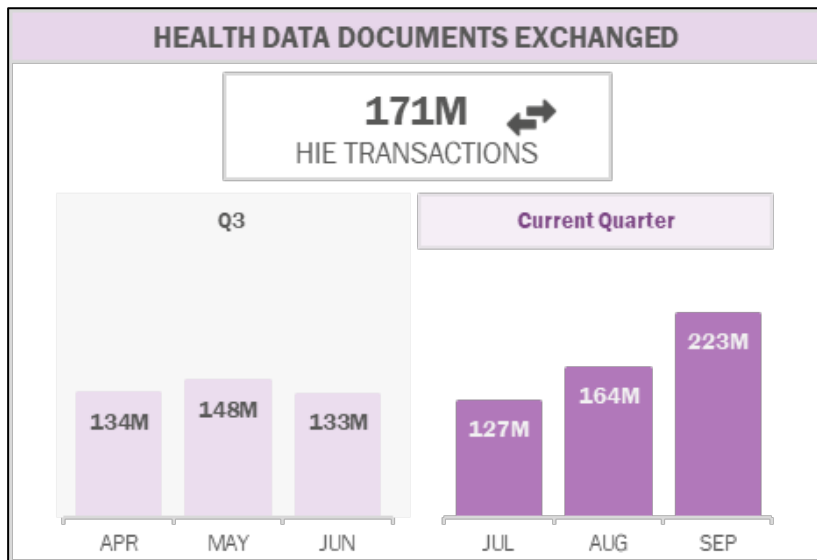
Definition

DOD – The percentage of time during the month that the JLV was available for log in 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 (i.e., available for users to conduct a patient search/lookup and retrieve DOD, VA and federal EHR data in production environments).

Community Partnerships

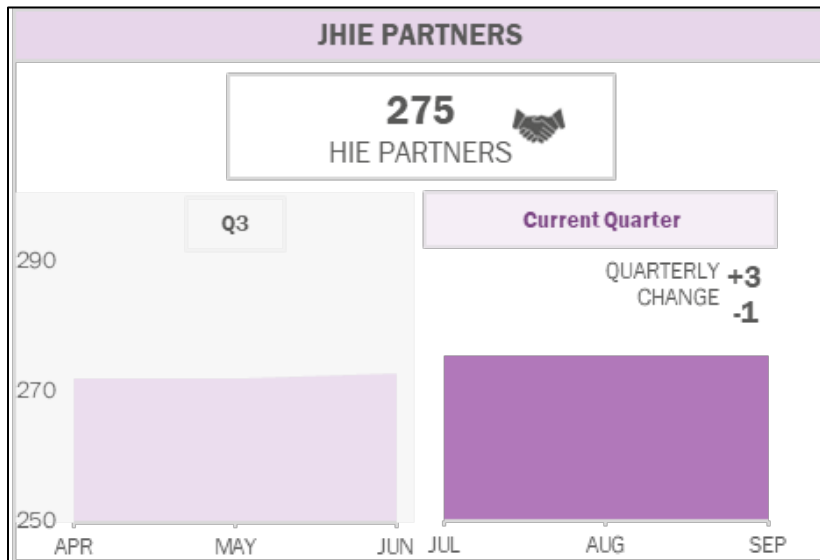
Value Statement: The FEHRM monitors the Departments' progress toward consistent, secure and reliable health data exchange by tracking joint HIE partner onboarding, as well as joint HIE transactions between the Departments and private care partners as best practices and improvements are implemented.



Joint Health Information Exchange (joint HIE) 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.



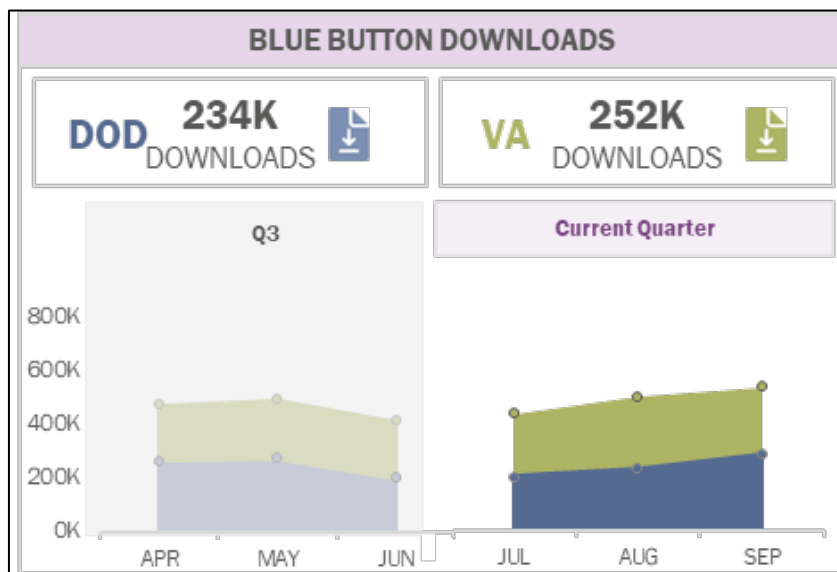
Joint HIE Partners Onboarded

Definition

Monthly and cumulative count of participating provider organizations who are partners in the joint HIE (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

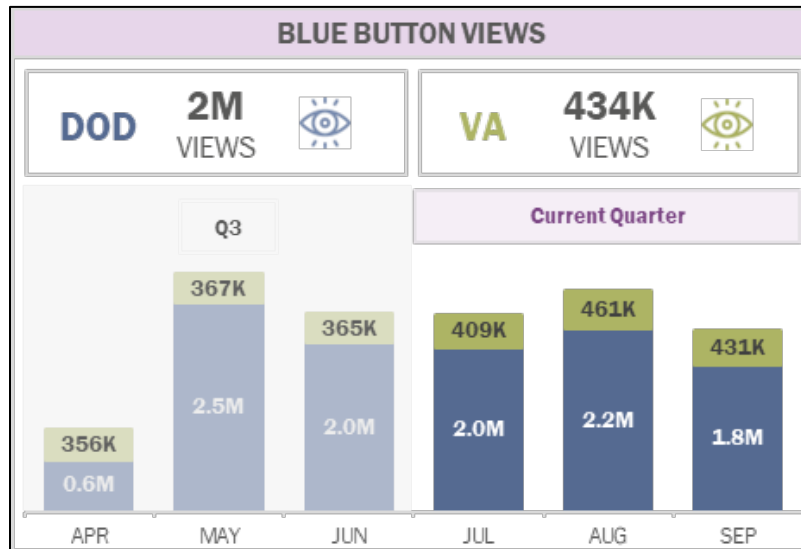
Value Statement: Blue Button serves as the foundation for broader patient engagement activities within the Departments, enabling patients to have easy access to their own health information in a usable format. The FEHRM monitors several metrics associated with Blue Button that show patient engagement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



Blue Button Downloads

Definition

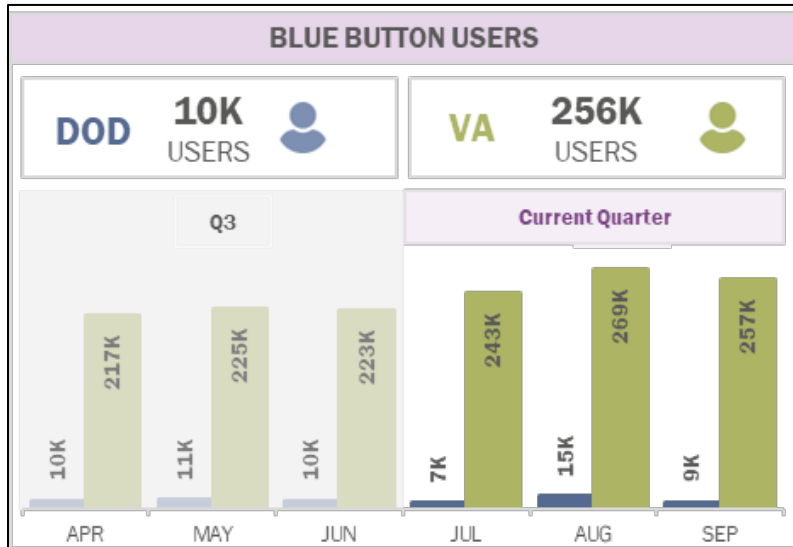
Total number of data downloads (e.g., PDF, text) generated by end users per month.



Blue Button Views

Definition

Average number of views generated by end users per month.



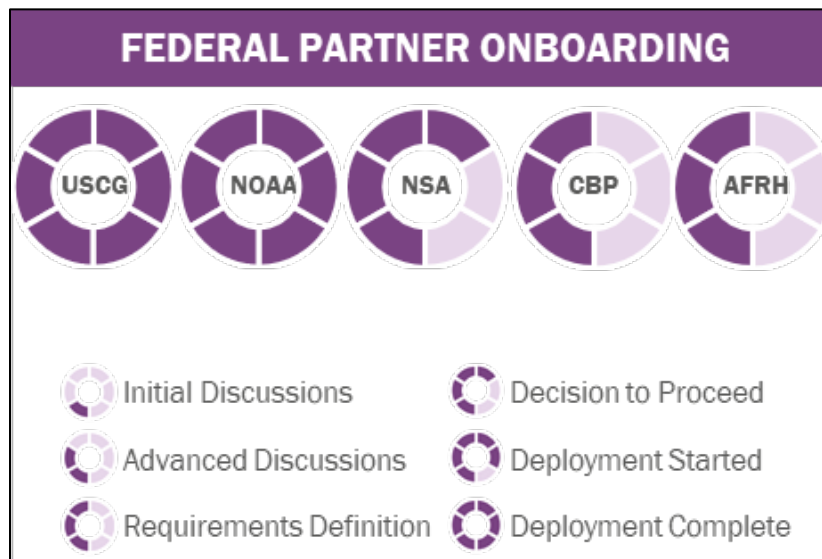
Monthly Unique Blue Button Users

Definition

Average number of Blue Button users in 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.