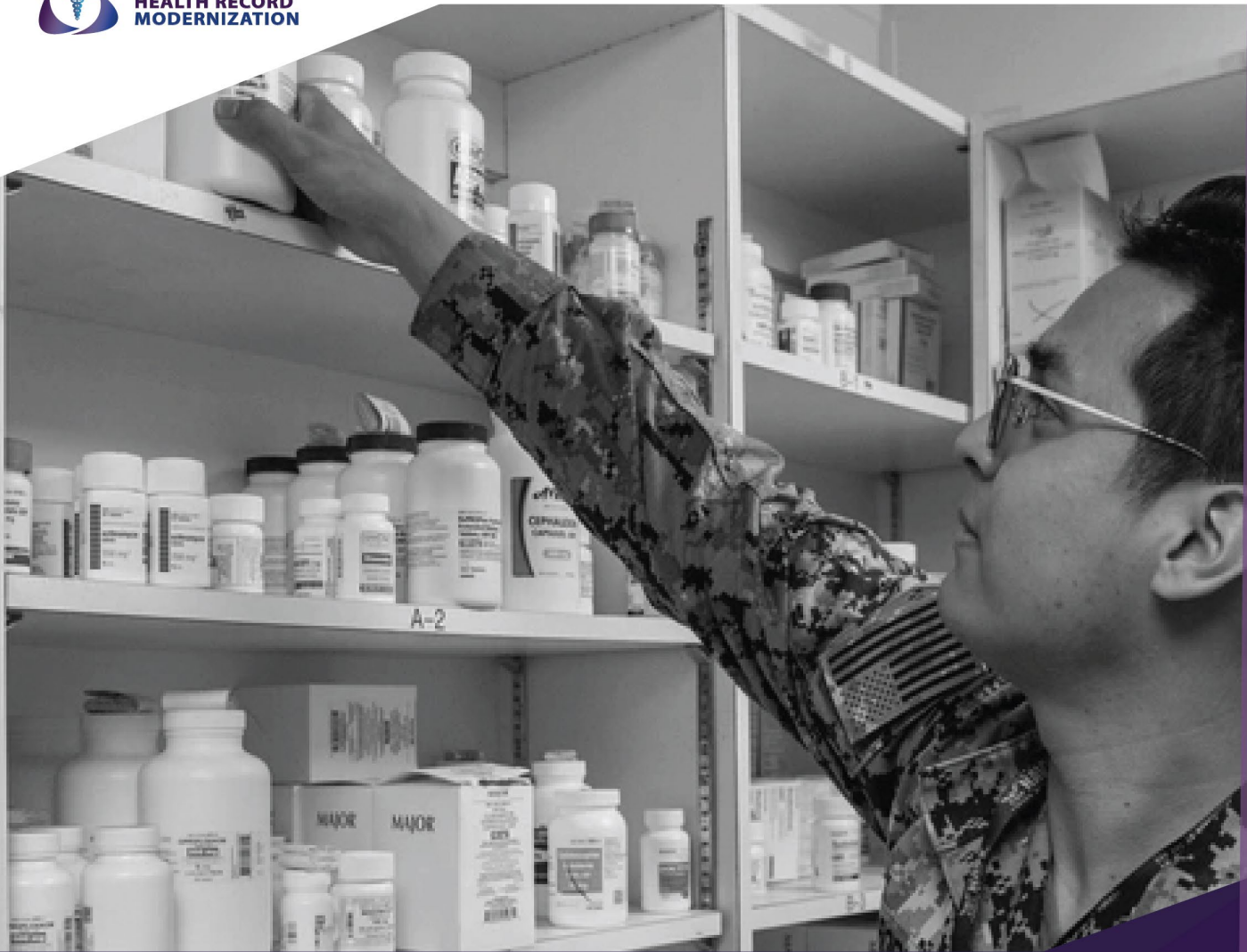




FEDERAL ELECTRONIC  
HEALTH RECORD  
MODERNIZATION



# FEHRM

## Interoperability Progress Quarterly Report

SECOND QUARTER, FISCAL YEAR 2024

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# Introduction

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## Purpose of this Report

The Federal Electronic Health Record Modernization (FEHRM) Interoperability Progress Quarterly Report responds to House Report 118–121, page 270, accompanying H.R. 4365 – Department of Defense Appropriations Bill, 2024.

## FEHRM Office Overview

During the second quarter of fiscal year 2024 (Q2 FY2024), the FEHRM prioritized a strategy of operationalization and convergence in its mission to implement a single, common federal electronic health record (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 (RIO) 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), which are locations where resources are shared between the Department of Defense (DOD) and Department of Veterans Affairs (VA).

## Federal Electronic Health Record Strategy

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### Captain James A. Lovell Federal Health Care Center Federal EHR Deployment

On March 9, 2024, the VA, DOD, and the FEHRM launched the federal EHR at the Captain James A. Lovell Federal Health Care Center (Lovell FHCC) in North Chicago, Illinois. This is the first joint deployment of the federal EHR at a joint VA and DOD facility.

As the only fully integrated, jointly run VA and DOD health care system in the country, Lovell FHCC provides health care to approximately 75,000 patients each year, including Veterans, Service members, and their families, and Navy recruits. The joint deployment ensures that all patients who visit the facility will receive care that is coordinated through a single fully integrated EHR system. The federal EHR also improves the ability for VA and DOD to coordinate care and share data with each other and the rest of the U.S. health care system.

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

The FEHRM engaged with site executive leadership ahead of on-site visits during Q2 FY2024 to provide enhanced support in areas that leadership identified to be integral to the success of the go-live. The FEHRM met with site leadership and discussed key areas of focus with the following departments: Emergency Medicine, Medical Surgical Unit, Referral Management, Pharmacy, and Employee Health. During deliberations with site leadership, the FEHRM stressed the following areas: the importance of end user EHR training attendance, super users as federal EHR functional support and change management agents, and downtime preparation for the transition hours between legacy EHR use stoppage and initiation of federal EHR usage on day one of implementation. In addition, the FEHRM emphasized understanding and incorporating EHR workflows to clinical and business teams as well as the importance of embracing a forward-thinking approach.

**Lovell FHCC Deployment Activity Support:** The FEHRM developed leadership briefings documenting training, configuration, and change management recommendations. Specifically, the FEHRM led discussions recommending the benefit of using peer support to augment end-user adoption at go-live and leveraging the DOD Pay-It-Forward Team to assist during go-live across both DOD and VA Patient Care Locations. Additional recommendations led to direct collaboration and configuration changes in conjunction with DOD and VA functional leadership, including those for pharmacy formulary indicators and prior authorization enhancements. The FEHRM also encouraged frequent engagement with Vendors, Lovell FHCC site staff, and the program offices through the functional sub-working groups to identify and resolve issues early.

**On-Site Clinical Lead Support of Required Deployment Activities:** The FEHRM was present on site for support 14 days prior to the federal EHR implementation day (March 9) and for the following 14 days of go-live. The FEHRM Chief Health Informatics Office (CHIO) Pharmacy Solution Lead, Chief Medical Informatics Office, Revenue Cycle Solution Lead, and Nursing Informatics Lead provided robust on-site support to Lovell FHCC during the go-live period. Specifically, while on site, the FEHRM stationed their clinical and business functional team to provide over-the-shoulder support to end users, escalate issues utilizing the implementation management team's processes, and initiate conversation with Department Functional Champions as needed for configuration modifications. Additionally, The FEHRM reinforced hot topics gathered during executive touchpoints, ensuring that end users received timely information with complete transparency.

The FEHRM continues to actively engage the multi-agency team to provide post go-live support to operationalize the federal EHR at Lovell FHCC. The FEHRM is supporting the standing up of the FHCC Informatics Steering Committee and continues to seek expansion of FHCC configuration convergence to drive broader convergence across the enterprise. Finally, the FEHRM will prioritize and collaborate with its Department partners to address the remaining barriers to convergence on the 38 remaining ERA topics to further the integration goal set forth for Lovell FHCC.

Additionally, multi-agency sustainment discussions continue through the Sustainment Sub-Workgroup, with a draft Sustainment and Optimization Plan for Lovell FHCC being finalized in Q2 FY2024.

## **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 health care 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 health care providers to duplicate patient searches from one application to other participating clinical applications.

Key MSSO-CM accomplishments include the completion of the Imprivata OneSign 23.2 HF2 and the Imprivata 2023-2-1 Quarterly Oracle Health Patch lessons learned and projection closeout for the installation and testing in the Development, Integration, and Production environments. In addition, the team completed the installation and testing of the December 2023, January, and February 2024 Context Management Information Assurance Vulnerability Alert patches in the Development, Integration, and Production environments. Finally, the team completed the MEDCIN V22 Codes Update 23.0 installation and testing in the Development environment.

### *Enterprise Service Bus/Orders Portability*

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

The DOD Orders Portability Sustainment Team completed testing several functional enhancements and sustainment fixes to improve the end-user experience and patient safety in collaboration with VA, aimed at improving the end-user experience and patient safety. These enhancements were scheduled for deployment into production on February 29. However, due to the leadership decision of the Lovell FHCC leadership, implementing these enhancements was put on hold in preparation for the Lovell FHCC planned go-live with the federal EHR on March 9.

In preparation for the new EHR to go live at Lovell FHCC, the ESB/ORP legacy operation team coordinated the shutdown of ESB transmitters/receivers on March 8.

Lastly, the Lovell FHCC EHR Legacy Operations Team has been actively engaged in the planning and preparation for the decommissioning of the legacy capabilities of MSSO-CM and ESB-ORP.

## **Lovell FHCC Technical Partner Integration**

### *Federal Interfaces Team*

During Q2 FY2024, the Federal Interfaces Team (FIT) prioritized efforts on the Critical Net New Interfaces, which were required for deployment of the federal EHR at Lovell FHCC. The team tracked the status of all Critical Net New Interfaces, identifying areas where leadership should place additional attention and providing details on potential risks for Critical Interface delays. With the successful deployment of all Critical Net New Interfaces to Lovell FHCC, the FIT team has shifted priorities to understand the overall Interface landscape.

The FIT will be focused on four major Interface capability areas to include Radiology, Pharmacy, Lab, and Referral Management to document and understand issues, priorities, and future plans for the Interface capability areas.



### *Testing and Evaluation*

During Q2 FY2024, the FEHRM Chief Technology Office (CTO) Test & Evaluation (T&E) Team, under the direction of the JSS-FHCC Workstream, continued its collaborative efforts with EHRM-IO, DHMSM PMO, and vendors in preparing for Lovell FHCC Go-Live. The team focused on advancing joint testing initiatives for Lovell FHCC, supported by the continuation of a Bi-Weekly T&E Sub-Workgroup to foster ongoing collaboration. The FEHRM T&E Team conducted weekly iterations of reviewing, recording, and documenting various testing events. Several of those testing events included Interface Localization Validation, Interface Solution, Integration Validation, and FHCC Joint Regression.

The CTO T&E Team collaborated with the Joint Testing Team to document; attend testing sessions; and track test cases, risks, and findings. This allowed the team to identify and address potential challenges prior to go-live. The team provided oversight and monitored test cases and scenarios for on-site validation at Lovell FHCC to ensure the quality and functionality of workflows within Lovell FHCC. With the successful completion of pre-go-live testing activities, the team demonstrated readiness for Lovell FHCC Go-Live and will now focus on transitioning to post-go-live sustainment.

### *Lovell FHCC Cybersecurity*

During Q2 FY2024, the Lovell FHCC Cybersecurity Team prioritized cyber efforts on the Critical Net New Interfaces, which were required for deployment of the federal EHR at Lovell FHCC. The team tracked the cybersecurity status of all Critical Net New Interfaces to include associated Authority to Operate (ATO); associated system owners; interagency security agreements (ISAs); Ports, Protocols, and Services; and Joint Requirement Forms (JRF). The FHCC Cybersecurity Team coordinated multiagency stakeholder interactions to facilitate an ISA and interagency JRF. The team also tracked a major cyber incident affecting Lovell FHCC critical interfaces. The team engaged in a daily Lovell FHCC Technical Go-Live sync on status and attended weekly Lovell FHCC post-go-live meetings to track developments and system upgrades.

Additionally, the Lovell FHCC Cybersecurity Team collaborated with the FIT to provide cybersecurity nuances and parent system statuses on all interfaces.

### *On-Site Device Liaison*

During Q2 FY2024, the Onsite Device Liaison (ODL) Team focused on the final stages of deployment of the federal EHR at Lovell FHCC. The ODL Team was on site from January until March, providing expertise and serving as a bridge between the FEHRM CTO and the Lovell FHCC site. The ODL Team was at the forefront of the cross-functional team of experts who carried out the Joint Functional Testing event, identifying technical gaps that arose from interagency workflows, dual-hat user (persona) authentication, and use cases.

The ODL Team was embedded with Oracle Health's integrated technology owners (ITOs) and end-point integration (EPI) teams to identify, test, validate, document, and report on all EPI devices (e.g., networked printers, grease boards, document scanners, barcode scanners, workstations) across the entire hospital while conducting the End User Device Readiness Review. The team ensured that all devices were online and identified faulty devices before they became issues. They collaborated with the site's access/account creation team and User Role Account Coordinators to identify risks and gaps in end-user access, roles, and identity. As part of the Business to Business (B2B) initialization, the ODL Team coordinated with the site's IT department to identify dual-hat users, configure their workstations, and provided over-the-shoulder support on the use of B2B applications.

During the 12 days of go-live and thereafter, the ODL Team collaborated with the FEHRM CHIO informatics team to provide meaningful technical descriptions to emergent functional problems.

### *Operations and Sustainment*

In Q2 FY2024, the FEHRM CTO Operations and Support (O&S) Team helped facilitate bi-weekly technical sub-workgroup meetings to organize efforts in support of the federal EHR at Lovell FHCC prior to go-live deployment and continued to discuss remaining topics after go-live. For the establishment of the connection between the Compass Router (VA West Campus) and the Enterprise Clinical Imaging Archive (DOD East Campus) for the Picture Archiving and Communication System (PACS) at Lovell FHCC, the O&S Team provided support facilitating the signing of the JRF by the stakeholders. In addition, the joint diagrams with a focus on PACS and Revenue Cycle for Lovell FHCC were published to Unified Architecture Dashboard.

During Q2 FY2024, the O&S Team contributed to key stakeholder meetings by addressing emerging technical issues at Lovell FHCC that included URL access management, installment of DOD ePads on VA workstations that required a knowledge document, validation of dual-hat user solutions for functionality in both DOD and VA environments, and login issues with MilSuite. The team contributed to Joint Help Desk discussions with Lovell FHCC and EHRM-IO personnel.



For the purpose of accessing various tools that monitor federal-level EHR incidents or tickets, the O&S Team raised incidents that required additional attention and engaged in Lovell FHCC Go-Live Daily Technical Scrum. The O&S Team discussed known technical issues, established priorities of tracked issues, and identified issue owners for resolutions. The team reviewed and provided recommended language for the EHR Facility Sustainment Guide. For the purpose of maintaining open communication between Lovell FHCC and the FEHRM, the O&S Team ensured the site was able to accomplish required go-live tasks and activities. Prior to the go-live deployment, they effectively collaborated with the FEHRM T&E Team to maintain interagency awareness of testing and outcomes for interfaces and workflows.

Finally, the development of a journey map for the O&S Team was finalized. The journey map outlines the key stages and activities involved in the FEHRM O&S Team's collaboration with DOD and VA on post-go-live deployment for EHR implementations. It emphasizes the importance of ongoing support, communication, and collaboration to ensure a positive user experience and successful implementation of EHR systems for future JSS.

## 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, the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA), and the Department of Homeland Security's U.S. Coast Guard (USCG) functional oversight of all configuration decisions impacting the production baseline.

In Q2 FY2024, the JSaAB approved 382 content and configuration changes, 25 of which were made during the Lovell FHCC deployment go-live event. In addition, the JSaAB reviewed and concurred with 319 content and configuration changes approved at a lower level by DOD and VA Solution Teams.

The FEHRM coordinates an e-JSaAB process for urgent and emergent issue resolution during off-hours and successfully used it 16 times during Q2 FY2024.

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 functional issues that pertain to joint user workflows and reviews any user factors that impede efficient and safe patient care.

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 practical implication of using functional SME councils in the configuration of the common tool was efficiencies gained in joint-user SME input aligned with VA and DOD clinical informatics leaders to rapidly configure the tool normalizing the user experience where possible.

The FEHRM also chartered the Federal Ambulatory Workgroup in Q2 FY2024 to jointly review, endorse, and standardize the ambulatory care user experience across DOD and VA. In the latest quarter, the FEHRM has further expanded coordination, bringing together DOD and VA experts across both Departments with the establishment of an additional federal working group—the Federal Documentation Working Group. Also, the FEHRM continued to refine and streamline the existing 10 federal working groups to emphasize sustainable business rules, working policies, and standards in considering all domain-specific issues that are tracked by each federal working group. Furthermore, the Federal Working Group landing page in the primary ticket management tool – Jazz – has been upgraded to contain a knowledge management repository of all federalworkinggrouprelated content that is accessible to both DOD and VA SMEs and informatics leadership in both Departments. All FEHRM-hosted federal working groups support the alignment of informatics professionals – DOD Informatics Solution Owners and VA Informatics Solution Experts – with clinical and business SMEs into a joint federal team that has direct access to the final steps in joint configuration production, JSaAB and the Federal Configuration Control Board review and approval.

Convergence on configuration items continue to be a primary focus of the FEHRM for Q2 FY2024, with projects underway to not only identify past divergence decisions and requirements to converge but also create processes to eliminate future divergence decisions. The FEHRM persisted in monitoring Enterprise Requirements Adjudication (ERA) topics that the Departments could not converge on in time for Lovell FHCC Go-Live due to various reasons, including bandwidth, policy, and legislation. This effort aimed to pursue enterprise requirement convergence opportunities. The FEHRM plans to initiate discussions in FY2024 with relevant stakeholders to address ERA topics and progress towards a unified federal EHR.

## Joint Functional Requirements

Throughout Q2 FY2024 , the FEHRM continued to engage DOD and VA in collaborative projects occurring in the federal New Requirements workspace for the federal EHR.

During the reporting period,the FEHRM continues to collaborate with DOD, VA, and USCG with the pre-implementation of a fully electronic Separation Health Assessment (SHA), a single separation examination that supports both the VA's disability compensation process and the DOD's separation and retirement process. The SHA Joint Data Quality Working Session weekly meetings facilitate DOD and VA working in partnership to address issues regarding the standardization of data ingestion and aggregation, including concerns

regarding DOD/VA SHA data sharing. These issues are tracked so that the FEHRM is prepared to provide support when needed.

The FEHRM facilitated monthly FDG meetings for DOD’s Emerging Capabilities and VA’s New Service Requests (NSRs). With a primary focus on Lovell FHCC, priorities were placed on tracking and reporting change requests that resolved issues involving the 14 Lovell FHCC Patient Safety NSRs. The FEHRM continues to monitor and inform leadership on all the pertinent activities—whether it includes workflow, configuration, or new functionality additions—that support the improved performance of the federal EHR.

## Joint Enclave Data Management

During Q2 FY2024 , several ongoing projects addressed different focus areas, including data and analytics governance. Collectively, the FEHRM executed data governance and analytic governance strategies resulted in 25 clinical domains of data syndicated to DHA and VHA daily.

## Executive Data Management Board

The Executive Data Management Board (EDMB) establishes a formal data management and governance function for FEHRM data and analytics assets and authorizes and prioritizes joint data management activities impacting the Federal Enclave. Under this executive body, data and analytics are governed by the Data Governance Board (DGB) and Analytics Governance Board (AGB), respectively.

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 data management solution.

## Data Governance

Under the EDMB, data is governed by the DGB with stakeholder representation from constituent bodies.

In Q2 FY2024, the FEHRM Data Quality Committee (DQC) provided guidance and drove resolution for issues raised by the DGB and recommended actions to promote data quality improvement. The working group provides guidance and resolution of test patient issues and promotes policies that control the creation and management of test patients and related issues. It is assigned for action by the DQC and adjudicated by the DGB.

The DGB prepared, reviewed, and approved key components of the Data Sharing Memorandum (MOU) between DOD and VA. The strategic goal, “enhancing interoperability between DOD and VA,” is bolstered by the revised MOU, as it directly influences programs and policies which enable increased data sharing between the Departments.

Concurrently, the FEHRM Data Management Team implemented a process to identify and retrieve data-quality-related ServiceNow Helpdesk tickets to streamline the IBM Jazz tool's intake process. Through ongoing analysis of inbound tickets, each issue is categorized for suitable governance board assignment and entered into the Data Management workflow leveraging the newly revised governance process. This process expeditiously identifies potential data-quality-related issues that may have not reached proper destination as efficiently for resolution.

## **Analytics Governance**

Under the EDMB, analytics are governed by the AGB with stakeholder representation from constituent bodies.

In Q2 FY2024, oversight of data and analytics governance boards with participation among all federal EHR partners (DHA, VHA, USCG, and NOAA) resulted in 62% convergence of analytics published by 512 developers and content contributors to 66,754 whitelist consumers.

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

In Q2 FY2024, 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.

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

In Q2 FY2024, the FEHRM hosted four working sessions with DOD, VA, Department of Homeland Security (DHS), and vendor partners. The Defense Manpower Data Center presented the cost to scale the Electronic Data Interchange Personal Identifier (EDIPI) at the October Information Technology Executive Committee (ITEC) meeting. As a result of that session, the FEHRM was tasked with providing guidance on funding the effort along with advising on any policy ramifications that may arise with using EDIPI as the long-term solution; feedback on funding efforts and policy review was presented in the Q2 FY2024 ITEC meeting. The Identity, Credentials, and Access Management Team also advised on the Lovell FHCC dual-credentialed users' requirement for authenticating to both the VA and DOD storefront applications.

## **Implementation Support to Joint Sharing Sites**

In Q2 FY2024 the Joint Workflow Assessment Workgroup (JWA), comprised of the FEHRM, DHA Health Informatics and VHA Office of Health Informatics provided recommendations that would support shared services between Naval Hospital Guam and VA Guam Community-Based Outpatient Clinic during interim state. The recommendations for interim state EHR deployment (Naval Hospital Guam live with the federal EHR as of January 13 while VA on legacy EHR), included following DOD's revenue cycle shared services workflows per their

Resource Sharing Agreement. The Departments continue to share services after Naval Hospital Guam's federal EHR deployment.

The FEHRM had discussions with the 88<sup>th</sup> Medical Group at Wright-Patterson Air Force Base and the VA Patient Aligned Care Team Clinic, and the FEHRM continued engagement with the Department following the identification of concerns following the EHR deployment. During deliberations, the FEHRM confirmed that the Departments continued to provide care to beneficiaries, had no issues with in-clinic medication administration or supply ordering, and were able to create walk-in appointments as needed. However, an area of opportunity recognized during the call was that patients needed to have their primary care manager (PCM) identified in the federal EHR for ease of scheduling. The 88<sup>th</sup> Medical Group office leadership announced that efforts were already underway to complete identification of patients' PCM, with an expected completion date of a few weeks. The FEHRM followed up with 88<sup>th</sup> Medical Group and the patients' PCM identification had been entirely completed by the second week of February. The FEHRM's engagement with the sites allowed for clear communication and expedient issue resolution.

## **FEHRM Lessons Learned Repository Management**

The FEHRM created a lessons learned repository in spring 2021 to document, manage, and implement enterprise-wide lessons that could impact the single, common federal EHR. Department-level teams continuously collaborate to identify and implement lessons from the EHR deployment at Lovell FHCC.

As of March 15, more than 50 lessons learned collected regarding the EHR deployment at Lovell FHCC reflect mostly positive feedback from all FEHRM workstreams and sub-workgroups. Many partners reported the benefit of having a holistic entity to host multi-agency working groups and make collaborative decisions. Coordinating SMEs and support teams on a working-level provided open venues to brainstorm and plan pre-deployment activities.

Overall, stakeholders reported that earlier engagement and FEHRM involvement proved to be extremely valuable throughout pre- and post-deployment activities. Collaborative teams created a range of joint processes, templates, and materials that met the unique needs of beneficiaries and end users at Lovell FHCC. Coordinated plans, processes, materials, and activities had a tremendously positive impact and outcome in reducing duplicative efforts and confusion for the site. The remaining sub-workgroups will continue to meet and report out on action items for at least 90 days after go-live.

Throughout Lovell FHCC Go-Live planning and execution, the structure of sub-workgroups reflected a true multi-agency partnership between Lovell FHCC, Veteran Integrated Service Network 12, FEHRM, DOD, VA, and vendors. As Lovell FHCC continues in the post-deployment phase, maintaining open communication channels to troubleshoot, share

updates, and exchange tips across Departments will be critical. Leveraging lessons learned will be imperative for other JSS and beyond.

## Federal Electronic Health Record Operations

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### Enterprise Operations Center

The Enterprise Operations Center (EOC) is critical to operationalizing the FEHRM. It 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 Q2 FY2024, in addition to monitoring planned activities that could impact FEHRM partners, the EOC monitored and reported 66 unplanned incidents, including 29 major federal issues, impacting the federal EHR or partners and supported executive updates for the deployment of Waves GUAM and FHCC. 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 continued to analyze Oracle Health LightsOn Network availability, DHMSM Weekly Problem Investigation, DHMSM Downtime reporting, and Oracle Health Key Performance Indicator metrics to produce and deliver the Enterprise DOD, VA, and DHS Monthly EHR Health Report. This report continues to provide a comprehensive analysis of service availability and performance trends of the federal EHR Core, federal High Availability Commercial Application Systems (HA-CAS), infrastructure (i.e., the Defense Enrollment Eligibility Reporting System, or DEERS) and other solutions. During Q2 FY2024, the FEHRM Enclave and Ecosystem Management Team updated the EHR Health Report to shift from reporting percentage changes month-over-month to a quantitative approach. This change makes the report easier to translate as it eliminated calculations required to determine the true deltas from one month to the next.

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 Q2 FY2024, the FEHRM continued to support the federalization of the joint release management process and the Federal Release Working Group (FRWG). The FEHRM maintains the standard operating procedure and FRWG charter, both of which represent the 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 Q2 FY2024, the FEHRM continued to support domain management by attending weekly Joint Domain Status meetings, reviewing domain availability schedules to deconflict refreshes with training and go-live events.

## **Federal Electronic Health Record Cybersecurity**

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### **Cybersecurity – Interagency Cybersecurity Assessment**

In Q2 FY2024, the Interagency Cybersecurity Assessment Working Group drafted a memorandum for stakeholder review that clarifies joint requirements for participant clearances, exercise design, and report distribution.

### **Cybersecurity – Joint Security Operations Center**

The FEHRM has been a proponent of the creation of a Joint Security Operations Center (JSOC) that shares responsibility for monitoring, detecting, and responding to cybersecurity incidents; JSOC participants also share information and coordinate responses to incidents. For Q2 FY2024, the FEHRM monitored work with stakeholders to design a JSOC to 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 FEHRM has been monitoring progress made by DOD and VA through attendance at a bi-weekly direct principle-to-principle JSOC meeting.

The continued development of the 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 resiliency 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**

In Q2 FY2024, the FEHRM continued to produce a monthly ATO Status Report for all systems in the federal EHR that tracks individual ATO lifecycles. The FEHRM worked with stakeholders to ensure ATOs are current.

## Business Impact Analyses

In Q2 FY2024, the FEHRM CTO initiated review of key technical and methodological resources relevant to the EHR and its partners. The outcome was development of analyses on several program initiatives. Key analysis of the Office of Management and Budget's Artificial Intelligence (AI) Initiative included determination of the role of the CTO and chief engineer in ensuring compliance with federal AI standards. This included assessing and defining the specific responsibilities of the CTO and/or chief engineer in guiding the DOD and VA to update and align cybersecurity measures with the upcoming federal AI standards.

The FEHRM CTO delivered an analysis of the Cybersecurity Maturity Model Certification (CMMC) program, particularly its 2.0 iteration, which brings forth significant impacts for businesses, especially those operating within the Defense Industrial Base and looking to secure DOD contracts. Key analysis included mandatory compliance for access to controlled unclassified information, self-assessment and third-party certification requirements, increased regulatory and False Claims Act risks, and broad applicability and potential for competitive disadvantage.

The latest FedRAMP revision 5 guidance—which introduced several significant changes and impacts on businesses, particularly those providing cloud services to federal agencies or working as defense contractors—was also assessed. Key analysis included expanded security controls and standards, higher standards for password security and continuous monitoring, increased compliance costs and efforts, and implications for defense contractors and CMMC integration.

In addition, the FEHRM CTO delivered an analysis of the Cyber Incident Reporting for Critical Infrastructure Act of 2022, which brings significant impacts to businesses, particularly those operating within critical infrastructure sectors. Key analysis included mandatory incident and ransom payment reporting to the Cybersecurity and Infrastructure Security Agency, expanded scope of obligated entities, integration of legal and compliance in cybersecurity functions, and the necessity for enhanced cybersecurity and incident response planning.

## Interoperability Modernization

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### Joint Health Information Exchange

The FEHRM continues to maintain and enhance the joint HIE to create efficiencies while maintaining access to multiple private-sector networks and frameworks. The joint HIE maintains access to eHealth Exchange, CommonWell Health Alliance, and Carequality, allowing access for at least 90% of hospitals in the United States. During Q2 FY2024, the joint HIE successfully retrieved an average of 24,708,269 documents from private-sector partners and sent an average of 160,683,397 documents to private-sector partners.

## Immunization Exchange with State Immunization Information Systems

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 and jurisdictional immunization information systems and import immunization records into the federal EHR database. DOD is preparing to implement additional connections to Texas, Maryland, Virginia, and Washington, D.C., in summer 2024, while VA is coordinating implementation for Illinois and Wisconsin.

## Seamless Exchange

Seamless Exchange is an advanced interoperability tool that aggregates, deduplicates, and normalizes data from various sources into a comprehensive view of patient information within the clinician's workflow. The VA pilot of Seamless Exchange at the La Grande Clinic within the Walla Walla VA was successful and has paved the way for the expansion of Seamless Exchange in additional clinics at Walla Walla. The FEHRM is focused on ensuring success at the future sites and spearheading an enterprise deployment for all sites using the federal EHR.

## HealthIntent

In Q2 FY2024, the FEHRM CTO Data Exchange Team successfully deployed 23 HealthRegistries measures to the Registries group as part of Wave 4 enablement, thereby making them provider-facing. The FEHRM continued to support efforts related to ingesting legacy data into HealthIntent. Currently, the team is focused on ingesting lab results for the last 5 years, followed by diagnosis and procedures. Additional registry requests, such as the readiness registry, are being planned for project initiation Q3 FY2024. The Data Exchange Team continues to monitor LPDH technical implementations to enhance performance and is planning additional upgrades to meet increasing demand.

## Longitudinal Natural Language Processing

Longitudinal natural language processing (NLNP) is a capability that applies natural language processing 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. The FEHRM continued to expand upon the initial NLNP capability by successfully deploying NLNP 1.0.3.0 into production in Q2 FY2024. This latest release provides MEPCOM users with a dedicated widget within the Joint Longitudinal Viewer (JLV) and applies NLNP processing of disqualifying conditions against note types from three additional data sources: AHLTA (legacy), Essentris (legacy inpatient), and the federal 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 its Individual Longitudinal Exposure Record (ILER) Interface. Recent legislation has renewed focus on military service related exposures and their subsequent health consequences. At present, exposure concepts are not standardized and, thus, they are difficult to exchange between information technology (IT) systems impacting clinical care, surveillance, and research. DOD is not tracking exposure through ILER. To facilitate the exchange of exposure-related substances, events, and locations, the Exposure Interoperability Team is leading a coordinated effort to prioritize and submit concepts according to Congressional directives, receiving input from DOD and VA SMEs and key focus areas identified by the Toxic Exposure Research Working Group.

**National Standards for Exposure Exchange:** At present, military service related exposure names lack standardization, hindering information exchange between IT systems and impeding clinical decision support and research efforts that require aggregating individuals with similar exposures. The FEHRM leads efforts to analyze the Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) to understand how it may be expanded to encode concepts related to exposures. The FEHRM worked to identify exposure concepts (i.e., substances, events, and locations) frequently tracked in ILER but unavailable in SNOMED CT. The FEHRM continues to research missing concepts and identifies academic citations to justify inclusion in SNOMED CT. Building on the successful submission of its first batch of exposure terms in September 2023, the FEHRM had a second batch of terms accepted for inclusion in the March 2024 release. The FEHRM will continue to develop SNOMED CT 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, chemicals related to toxic burn pits, dioxins, and jet fuels. The FEHRM continues to collaborate with experts from 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.

During the reporting period, 10 new concepts were accepted into SNOMED CT. One unique aspect of this submission was the inclusion of a proposed “location” concept related to the Red Hill Bulk Fuel Storage Facility water contamination exposure event in December 2021 in Oahu, Hawaii. Military members, their families, DOD civilians, and contractors in the Joint Base Pearl Harbor-Hickam family housing areas were impacted by the contaminated water, and this event is a high priority for tracking by DHA. SNOMED CT has not included concepts related to a specific exposure event in the past, and if this submission is successful, it could pave the way toward coding other specific military-related toxic exposure events.

**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 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

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Interoperability regulations, policies, standards, and technologies are vital to the exchanging and interpreting of health data. A collaborative endeavor is essential to achieve the highest level of interoperability for the federal EHR. The collaboration effort involves coordination among federal agencies, health care providers, and IT vendors. Their collective goal is to implement interoperability standards and best practices. Doing so ensures that Service Members, Veterans, and their families receive the best possible care.

The FEHRM recognized the need to establish standards guidance to advance interoperability between the federal EHR and legacy and community partner systems, so the FEHRM's Digital Health Standards Team developed a strategy that achieves operational excellence to influence the development and promote the awareness and adoption of standards.

To influence the development of interoperability standards, the FEHRM engaged with standards developing organizations (SDOs), aligning the FEHRM standards subject areas or domains with the National Defense Authorization Act (NDAA) FY2020 and stakeholder priorities. The FEHRM Standards Group works diligently with selected workgroups to contribute expertise in the standards development. The workgroup endeavors involved daily analysis and collaboration with leaders across federal agencies, health care providers, software developers, and other interoperability experts to improve the quality of the data that the EHR captures. The FEHRM influenced the standards development process by keeping joint interoperability and federal EHR requirements at the forefront of the discussion.

In addition to SDO workgroup participation, the FEHRM engaged with other federal agencies, such as the Department of Health and Human Services (HHS) ONC to influence

interoperability regulation and policy development. The FEHRM not only reviewed and provided subject matter expertise feedback but also coordinated reviews across multiple federal agencies and consolidated feedback representing one voice to accelerate the policy development process.

To promote the awareness and adoption of health interoperability, the FEHRM hosts and participates in multiple forums to share knowledge of interoperability standards, policies, and trends with stakeholders and provided guidance, as needed. Specifically, the FEHRM hosts VA Interoperability Leadership Standards Workgroup Meetings, FEHRM Standards Stakeholder Meetings, and Health Level Seven (HL7) International Government Birds of a Feather Meetings. These forums provide the platforms to collaborate and influence health care standards and interoperability at the Department level, across federal partner organizations, and internationally.

Following are current interoperability standards initiatives and activities that are anchored to the FEHRM's mission.

## **Standards and Strategy Development**

The FEHRM's Digital Health Standards Group refined and expanded its involvement with federal partners and SDOs during Q2 FY2024 to advance standards and strategy development, monitor progress and report on trends to the greater stakeholder community. These activities ensured continued alignment with FEHRM's NDAA FY2020 mandate and the Program Office's subsequent mission, goals, and objectives.

The 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 Standards Group selected the subject areas based on their alignment with NDAA FY2020 and national and stakeholder priorities. The FEHRM continued its collaboration with ONC and the American Dental Association (ADA) to promote enhancement and clarification of the existing dental data elements in the United States Core Data for Interoperability Plus (USCDI+). This is to promote federal and international dental standards and interoperability of dental electronic health data.

### *Health Level Seven International*

HL7 is an international 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 (ANSI), that develop and maintain standards to meet government and industry needs. The FEHRM's engagement with HL7 benefits the Departments by improving interoperability with external health care organizations. During Q2 FY2024, the FEHRM engaged with HL7 through numerous mechanisms and forums, including the following:



**HL7 Balloting:** HL7 Ballot Cycles and the associated workgroup meetings provide valuable opportunities for the FEHRM to influence the direction of interoperability initiatives and standards development. Balloting on emerging standards occurs each January, May, and September. FEHRM engagement with HL7 benefits DOD and VA by focusing on joint interoperability improvements between the Departments and with external health care organizations.

**January 2024 Ballot Cycle:** HL7 released 36 ballots for review during the January 2024 ballot cycle. The balloting cycle began during Q1 FY2024 and concluded after a one-month duration during Q2 FY2024. The FEHRM prioritized five ballots for in-depth analysis by SMEs that had a direct impact on interoperability between DOD and VA, including the following:

- HL7 Clinical Document Architecture (CDA) Release 2 Guide: Consolidated CDA Templates for Clinical Notes.
- HL7 Fast Healthcare Interoperability Resources (FHIR) Implementation Guide: Canonical Resource Management Infrastructure.
- HL7 FHIR Implementation Guide: U.S. Core, Release 7.0.0.
- HL7 FHIR Release 6.
- HL7 Guidance: AI/ML Data Lifecycle.

**May 2024 Ballot Cycle:** HL7 also released 38 proposed ballots for review during the May 2024 ballot cycle. Consensus group signup began in March 2024 and the FEHRM SME Team, along with DOD and VA experts, prioritized six ballots for review and analysis based on an assessment of impact on federal EHR stakeholders, including the following:

- HL7 CDA Release 2.0 Specification Online Navigation, Edition 1; requesting alternate ballot title "HL7 CDA Release 2.0 Online Navigation Edition 2024."
- HL7 FHIR Implementation Guide: CardX Hypertension Management, Edition 1.
- HL7 FHIR Implementation Guide: Minimal Common Oncology Data Elements (mCODE), Edition 3.0.0 – U.S. Realm.
- HL7 FHIR Companion Guide: Social Services/Determinants, Edition 1 – U.S. Realm.
- HL7 FHIR Implementation Guide: Prescription Drug Monitoring Program (PDMP), Edition 1 - US Realm.
- HL7/Integrating the Healthcare Enterprise Specification: Service-Oriented Device Point-of-Care Interoperability (SDPI) Technical Framework, Edition 1.

**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 Q2 FY2024, the FEHRM engaged with, co-chaired, or led the following HL7 workstreams with the areas of focus noted:

**HL7 EHR Working Group – Toxic Exposures:** The FEHRM continued to identify existing health data standards that could be enhanced to enable the standards-based exchange of exposure information. The FEHRM is advocating for the addition of "Toxic Exposures" as part

of the ONC's U.S. Core Data for Interoperability (USCDI) to support additional improvements in national HDI and will continue to collaborate with ONC and the Departments to advance these efforts for all federal partners involved in exposure-related clinical care and research.

**HL7 Affinity Group:** This forum hosts bi-weekly meetings that provide a key platform for reviewing and guiding the design of Consolidated Clinical Document Architecture (C-CDA) and FHIR. By uniting federal partners from DOD, VA, and ONC, it fosters vital collaboration on health care technology and policy. Additionally, it acts as a technical hub for experts to exchange ideas, driving innovation, and providing guidance for implementing ONC's USCDI. The outcomes of these meetings significantly influence HL7 standards and national interoperability efforts. In Q2 FY2024, the FEHRM facilitated this group meeting to review new designs in the C-CDA to support ONC's USCDI version 4. Nationwide, more than 350 million C-CDA documents are exchanged monthly.

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

The FEHRM collaborates with HHS agencies to advance health care interoperability. It supports ONC's Interoperability Standards Advisory maintenance, Dental Information Exchange, the Centers for Medicare and Medicaid Services (CMS), and the Workgroup for Electronic Data Interchange (WEDI).

**ONC:** ONC continues to encourage stakeholders to implement and use the standards and implementation specifications identified in the Interoperability Standards Advisory as applicable to the specific interoperability needs that must be addressed. Along with the release of standards approved by USCDI and the Standards Version Advancement Process, the Interoperability Standards Advisory Reference Edition annual update is a critical way to advance standards.

**USCDI:** The USCDI that is released and maintained by ONC is the national interoperability baseline for EHR capabilities, which requires IT vendors to pass the electronic certification test for interoperability. It impacts administrative and clinical operations as well as health insurance requirements. ONC published a draft USCDI version 5 for an open comment period to solicit community feedback. Focusing on promoting health equity, the FEHRM provided detailed feedback during Q2 FY2024 on Patient Demographics/Information, Laboratory, Provenance, and Observations.

**USCDI+:** During Q2 FY2024, the FEHRM continued to collaborate with ONC to contribute to their development of USCDI+ and the possibility of developing a USCDI+ dental domain. The FEHRM Digital Health Standards Group will continue to provide expert advice to assist in creation of this domain. This collaboration with ONC is to promote federal and international dental standards and interoperability of dental electronic health data.

**CMS:** CMS continues to release policies to advance nationwide HIE, reduce the administrative burden for providers, and incentivize effective use of health IT. CMS

incentivized the HIE under the Trusted Exchange Framework and Common Agreement (TEFCA). TEFCA is anticipated to be a strong catalyst for the maturation of FHIR and many other standards. During Q2 FY2024, the FEHRM engaged in and contributed to the CMS Interoperability & Standards Collaborative Forums.

**WEDI:** 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 joined discussions at numerous WEDI forums and monthly seminars, including the Dental Sub-Workgroup, to provide subject matter expertise in support of collaborative discussions with ADA to produce a consolidated list of all dental standards and SDOs that maintain them (e.g., the International Organization of Standardization, or ISO, ANSI). The FEHRM also aided in the review of the recent HHS/CMS removal of prohibition on adult routine dental care in Medicaid. This can initiate real improvement in adult routine dental treatment for those with Medicaid coverage and will allow states to elect to provide this starting in 2027.

## Standards Promotion and Adoption

The FEHRM regularly collaborates with numerous stakeholder organizations in its pursuit of the advancement and implementation of standards that will improve interoperability. This includes engagement with federal partners, national and international SDOs, and industry.

### *HL7 Government Birds of a Feather*

The FEHRM holds the HL7 Government Birds of a Feather Forum three times annually during the HL7 Working Group Meetings. This is the only open forum that brings together government and industry members to discuss standards, exchange ideas on interoperability, and enhance collaboration across government Departments and agencies. This event is considered the voice of the public sector at HL7, connecting interoperability experts and health IT consumers from DOD, VA, HHS, DHS, and the Department of Commerce to promote trends and cutting-edge Digital Interoperability Standardization for adoption. It provides the opportunity to promote and influence Interoperability policies and best practices among policymakers, the standards community, electronic health care vendors, and health care providers per NDAA mandates.

The FEHRM Standards Group planned and executed the virtual January 2024 Government Birds of a Feather Meeting through scheduling and logistics coordination with HL7, promotion of the event via communication to more than 150 invited stakeholders, and close collaboration with federal partners to identify speakers and develop presentation materials. Focus areas for the meeting included such topics as:

- The FDA's use of generative AI in health care and the increasing importance of health care terminology.

- VA's Immersive Program and how it is defining a new reality in health care delivery and experience using immersive technology (e.g., extended reality, virtual reality, augmented reality).
- The CDC's advancement of the nation's preparedness and response for public health emergencies through data and information interoperability.
- Progress towards USCDI acceptance of ADA recommended wording changes regarding ADA CDT codes, with continued analysis of the efficacy of an approach to developing a separate USCDI+ dental domain.

More than 400 individuals attended the January event, representing more than 25 federal and industry organizations. This quadrupled participation from previous forums and signifies a substantial increase in the FEHRM's public-facing engagement footprint in support of its partners.

### *FEHRM Monthly Stakeholder Collaboration*

The FEHRM hosts monthly Standards Stakeholder Group meetings that provide a forum to update stakeholders on SDOs (e.g., HL7, IEEE, ISO); federal EHR customer and partner initiatives; and other health interoperability standards accomplishments, releases, and trends. It provides a collaborative platform that brings together interoperability experts and health IT consumers across the standards stakeholder community to promote trends and cutting-edge digital interoperability standardization for adoption. Current stakeholder organizations include VA, DOD, USCG, NOAA, Indian Health Service, CDC, CMS, and ONC.

The FEHRM continued to enhance the scope and depth of these meetings during Q2 FY2024 through the addition of presentations from federal agencies on topics such as the FDA's SHIELD Program; ONC's Health Data, Technology, and Interoperability: Certification Program Updates, Algorithm Transparency, and Information Sharing; the Post-Acute Care Interoperability (PACIO) Project; USCDI and USCDI+; and CDC's Interagency Coordination on Policy and Standards.

### *VA Interoperability Leadership Standards Workgroup*

The FEHRM partnered with VA Interoperability Leadership (VAIL) in chartering, standing up, and co-chairing the VAIL Standards Workgroup (SWG) to advance interoperability within the VA and with community partners so Service Members, Veterans, and their beneficiaries are provided the best care possible. The VAIL SWG provides a venue for standards collaboration, coordination, and promotion across the many programs and projects in the VA. It promotes awareness, adoption, and the value of standards to a wider VAIL audience by providing updates about standards, best practices, and lessons learned. The SWG engages in formal collaboration on standards development, alignment, and organizational priorities to improve joint interoperability. It also influences SDOs, government, and industry partners on future standards development and adoption.

During Q2 FY2024, the FEHRM co-led the SWG and supported the VAIL Team in collaborating with VA leaders on developing the next iteration of the VA Interoperability Leadership Roadmap, which is the Department's strategy for advancing joint interoperability. As the SWG co-lead, the FEHRM developed SWG goals, roadmap approach, and metrics and managed SWG operations, communications, and reporting of updates to the VAIL Executive Team.

## 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 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 collaborated with both federal and industry organizations to learn and elevate new ideas in health care interoperability and IT modernization. During Q2 FY2024, the FEHRM:

- Participated in the Federal Health IT Advisory Committee (HITAC) 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.
- Participated in the ONC HITAC Annual Report Workgroup meeting to contribute to and review the HITAC Annual Report, which is submitted to the HHS Secretary and to Congress each fiscal year.
- Participated as a member of the Federal Health IT Coordinating Council, chaired by ONC, which brings together 30 to 40 federal partners involved in health IT activities.
- Collaborated with ONC stakeholders through participation in numerous ONC engagements, including the 2024–2030 Federal Health IT Strategic Plan to share and learn about advances in health technology to improve patient care, health equity, data exchange, and interoperability. The FEHRM also provided comments to support the advancement of the USCDI and the 2024 Interoperability Standards Advisory.
- Participated in the Virtual Education Session on the CMS Interoperability and Prior Authorization Final Rule (CMS-0057-F) hosted by the Office of Burden Reduction & Health Informatics on March 26. Leaders from the federal government, health provider organizations, and the patient advocacy community focused on opportunities across the health care enterprise to reduce administrative burden, strengthen access to quality care, and make it easier for clinicians to provide care.

## User Engagement and Assessments

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### Federal Electronic Health Record Annual Summit

Congress mandates that the FEHRM host a Federal EHR Annual Summit each year. The event connects end users on the platform with Subject Owners and Subject Experts around a set of specific topics. The resulting engagement offers insights into the ways that end users could successfully use the federal EHR, while also providing a venue for end users to provide feedback and opportunities for improvement on the platform. Attendees also learn about the most recent updates and advances to the platform, share best practices, and engage in valuable discussions that help enhance the federal EHR to better serve Service members, Veterans, and other beneficiaries.

During Q2 FY2024, the FEHRM closed out all possible remaining activities associated with the 2023 Federal EHR Annual Summit and began preparation for the 2024 iteration of the event. The close-out activities included:

- Follow-up surveys given to attendees and presenters.
- Continued analysis and follow-up to address all remaining action items recovered during the summit sessions.

Two follow-up surveys were deployed after the 2023 Federal EHR Annual Summit, one to assess the impact that the event had on attendees and the other to gain insight into the experiences of moderators, Subject Owners, and Subject Experts. The 68 attendees who elected to complete the seven-question survey offered overall positive impressions of the 2023 FEHRM Annual Summit. The question with the highest level of agreement was: “How likely are you to share what you learned during the 2023 FEHRM Annual Summit with colleagues and team members?”. The 73.53% of respondents who “agreed” or “strongly agreed” with that sentiment suggests the event presented information that was both valuable and relevant to their experience with the EHR. At least 57.35% of respondents selected “agree” or “strongly agree” with the other three questions:

- Did the 2023 Federal EHR Annual Summit meet your expectations? 57.35% “agree” or “strongly agree.”
- Did the presenters, experts, and facilitators responsible for the session(s) you attended meet your expectations? 70.59% “agree” or “strongly agree.”
- Was the content presented in the session(s) applicable to your role and engagement with the federal EHR? 61.77% “agree” or “strongly agree.”

Specifics shared by the survey respondents include an appreciation of the open format of the 2023 Federal EHR Annual Summit and the opportunity to engage users with first-hand knowledge of the system. Example responses include:



- “I enjoyed when we were given opportunities to ask questions and provide suggestions for improvement. I did love learning about the future plans for “role changing” within the FEHRM.”
- “First-hand descriptions of using the system, and remedies for deficiencies.”
- “Good communication regarding what is being done at the enterprise level regarding configuration changes and governance processes.”

The 2023 Federal EHR Annual Summit resulted in 127 action items, defined as questions or topics that were raised by end users but not fully addressed by experts within the sessions. Through the course of Q1 and Q2 of FY2024, the FEHRM has addressed all but 15 action items.

## Clinician and Patient User Satisfaction

During Q2 of FY2024, the FEHRM continued to collaborate with DOD and VA clinician and patient satisfaction SMEs and Joint Working Groups (JWGs), 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 each quarter of FY2024 for the Patient Satisfaction Survey from DOD and VA peers.

The FEHRM established collaborative JWGs to equally assess satisfaction across DOD and VA, among both clinicians and patients, to meet NDAA FY2020 requirements, ensure agreement across the agencies, and save government resources. FEHRM efforts have ensured that DOD and VA both apply the same question sets to clinicians and patients, respectively. The clinician- and patient-based data collection efforts both rely on nationally recognized assessments: The KLAS Arch Collaborative for Clinician Satisfaction is applied to the DOD and VA clinician surveys, while the Consumer Assessment of Healthcare Providers and Systems Health Information Technology (CAHPS-HIT) is used to assess DOD and VA patient satisfaction.

In Q2 FY2024, the FEHRM also supported the Patient Satisfaction JWG to improve the survey itself, as the working group members had noted that the CAHPS-HIT questions no longer adequately serve their needs for satisfaction assessment. While this improvement remains a work in progress, representatives of VA noted that some of the questions already included in their patient satisfaction survey can serve as a proxy for satisfaction with the federal EHR. Recent working group meetings have been dedicated to gaining confluence between the DOD and VA patient satisfaction surveys so that both teams are asking complementary questions that assess satisfaction in a manner that all members of the working group agree is adequate.

## Federal Electronic Health Record Partner Onboarding

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

The Occupational Health Office in the National Security Agency (NSA) continues progress toward joining the federal EHR in 2024. In September 2023, a support agreement for the federal EHR was signed. The DHMSM Implementation Team is coordinating the implementation of the federal EHR to be synchronized with the implementation of the Medical Community of Interest at the NSA Main Clinic.

The Armed Forces Retirement Home (AFRH) has two physical locations in Washington, D.C. and Gulfport, Mississippi, collectively caring for more than 1,000 Veterans. These locations provide on-site ambulatory clinics, which offer services including primary care, dental, podiatry, optometry, case management, rehabilitation, and long-term nursing care. The AFRH Functional Requirements Document (FRD) and cover page Memo have been finalized, signed by the AFRH Chief Operating Officer and sent to the DHMSM Implementation Team. Kickoff of Phase 2 of deployment was held with FEHRM, DHMSM Interagency Operations, and AFRH. Focus group meetings are ongoing to identify special configurations required by AFRH.

## Conclusion

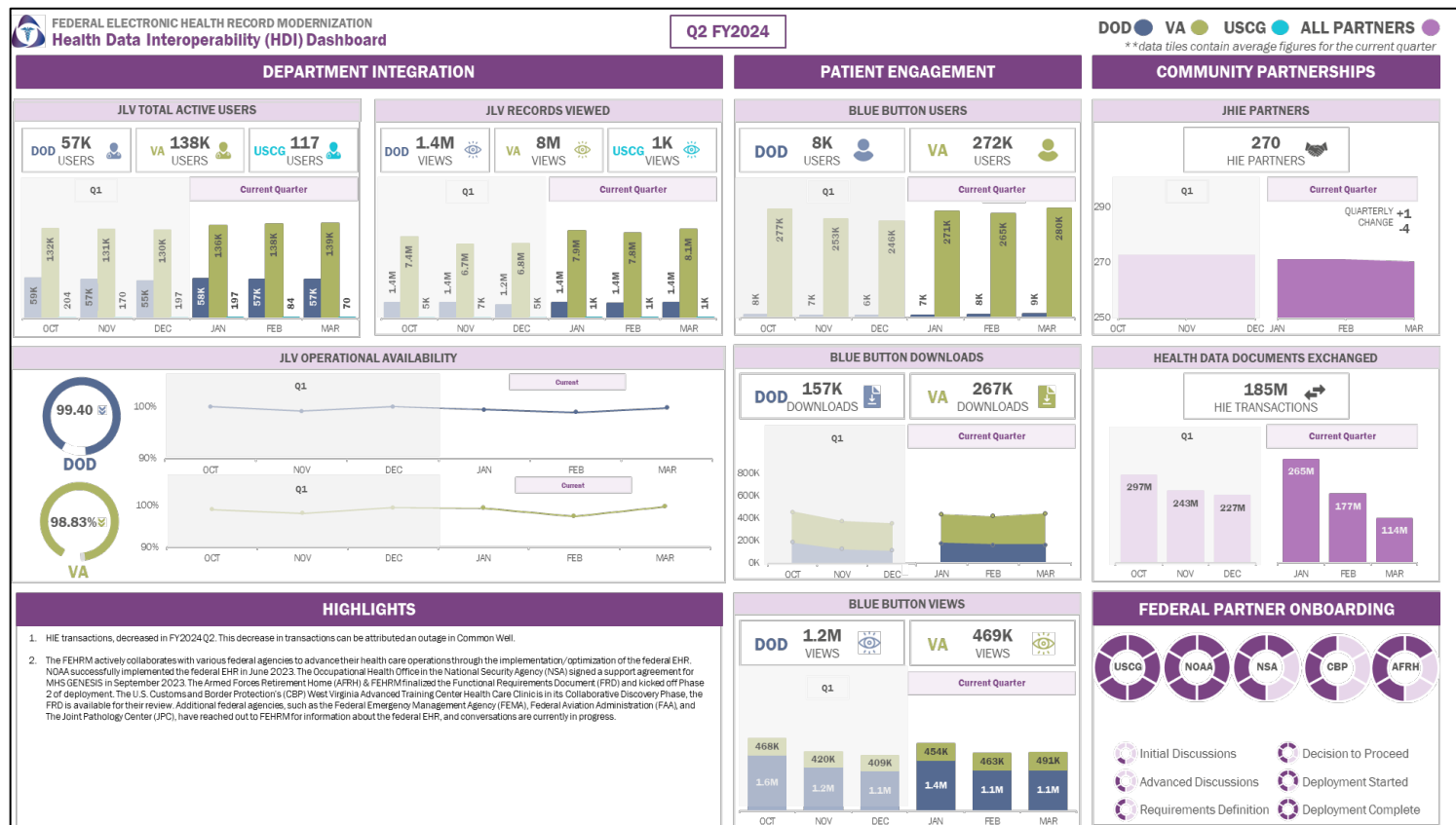
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Throughout Q2 FY2024 the Departments remained committed to measuring, assessing, and enhancing HDI with the single, common federal EHR as well as with their private sector partners who care for DOD, VA, USCG, and NOAA beneficiaries. Enabling HIE between 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 Q2 FY2024, 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 Q2 FY2024 HDI Metrics Dashboard.

**Figure 1 –Q2 FY2024 HDI Metrics Dashboard**



**Q2 FY2024 Highlights:** Metric highlights are captured in Table 1.

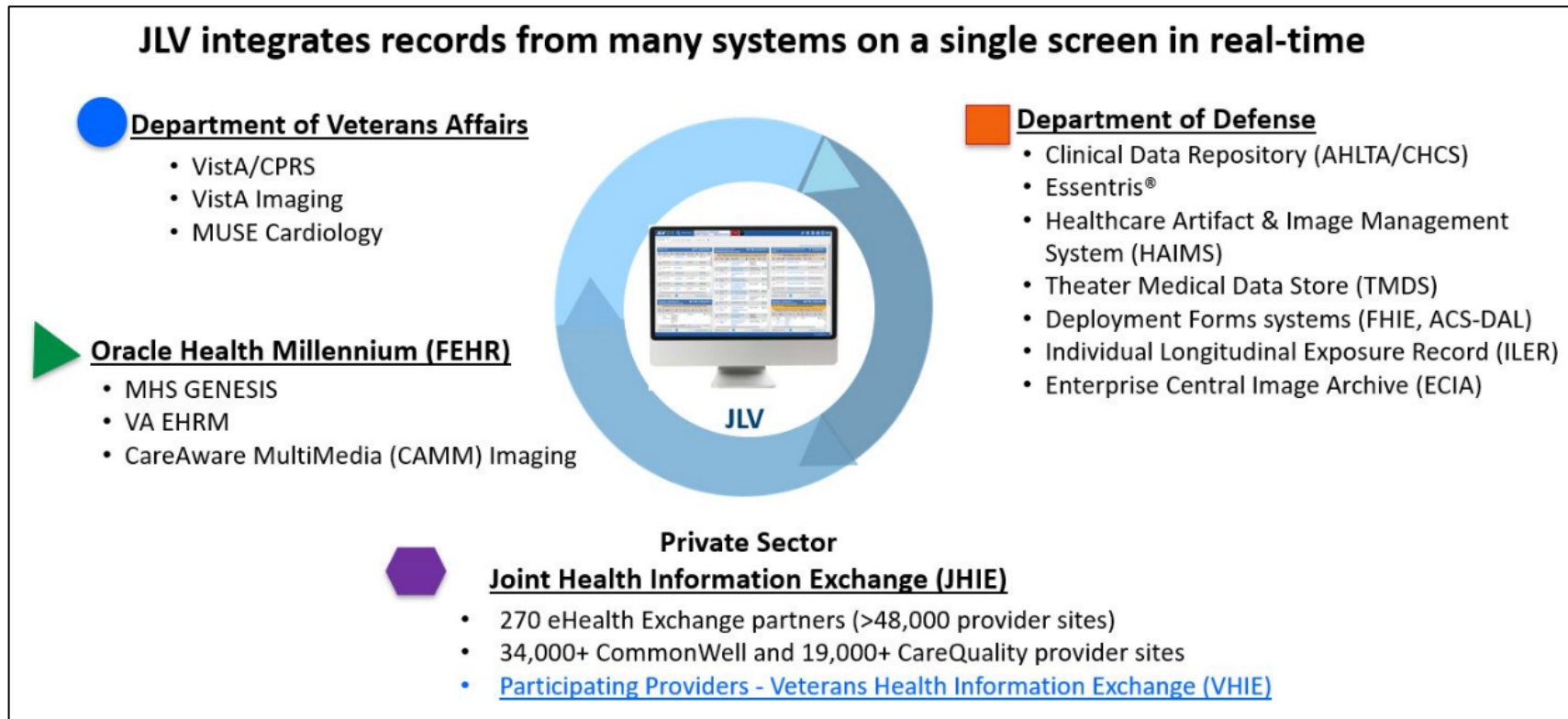
***Table 1 – Quarter Highlights***

Metrics	Highlights
Health Data Documents Exchanged	HIE transactions decreased in FY2024 Q2. This decrease in transactions can be attributed an outage in CommonWell.
Federal Partner Onboarding	FEHRM actively collaborates with various federal agencies to advance their health care operations through the implementation/optimization 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 the federal EHR in September 2023. AFRH & the FEHRM finalized the Functional Requirements Document and kicked off Phase 2 of deployment. The CBP West Virginia Advanced Training Center Health Care Clinic is in its Collaborative Discovery Phase, the Functional Requirements Document is available for their review. Additional federal agencies, such as the Federal Emergency Management Agency, Federal Aviation Administration, and The Joint Pathology Center, have reached out to FEHRM for information about the federal EHR, and conversations are currently in progress.

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

1. **Joint Longitudinal Viewer:** 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:** The joint HIE is a secure network that shares Veteran and Military Health System beneficiary health care information electronically with U.S. MEPCOM, NOAA, and 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 9.5 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 March 31.

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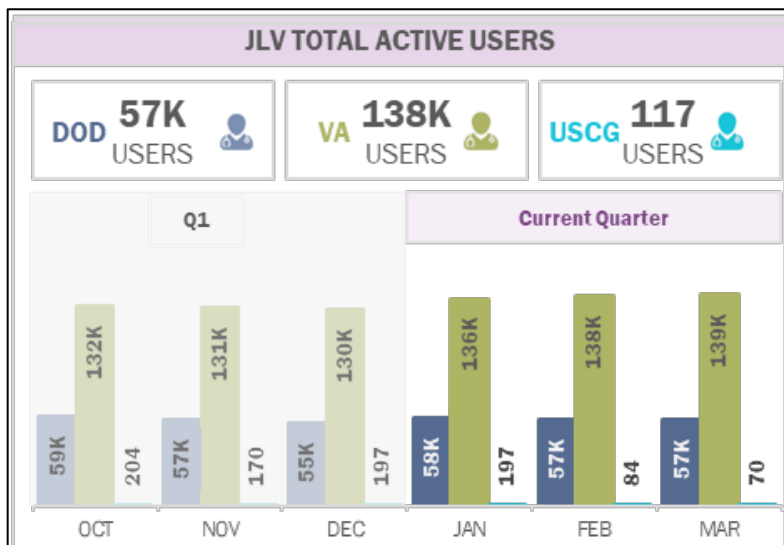
<sup>1</sup> eHealth Exchange - Network of Networks connecting federal agencies and non-federal healthcare organizations so medical data can be exchanged nationwide. eHealth Exchange online, October 14, 2022, <https://ehealthexchange.org/>

<sup>2</sup> 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/>



## Department Integration

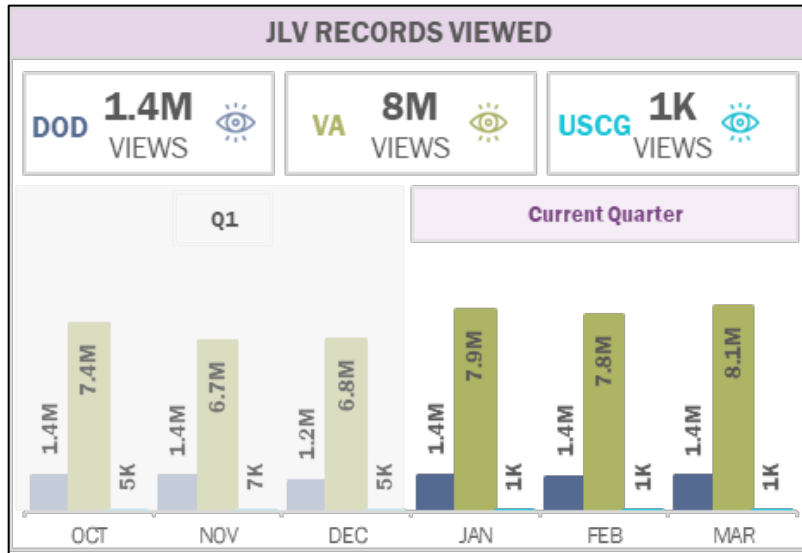
**Value Statement:** The FEHRM tracks utilization of legacy and modern EHRs, which enables Departmental leadership and Congress to assess the reliability of legacy systems and evaluate the Departments' progress in transitioning from legacy systems to the single, common federal EHR.



## JLV Total Active Users

### Definition

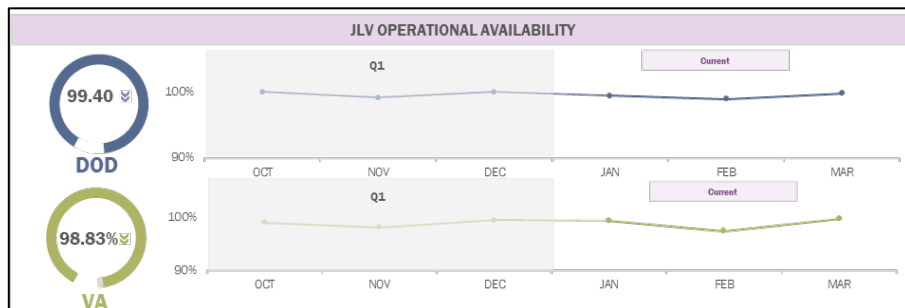
Active User: a unique user who has logged into JLV in a given month.



## JLV Records Viewed

### Definition

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



## JLV Operational Availability

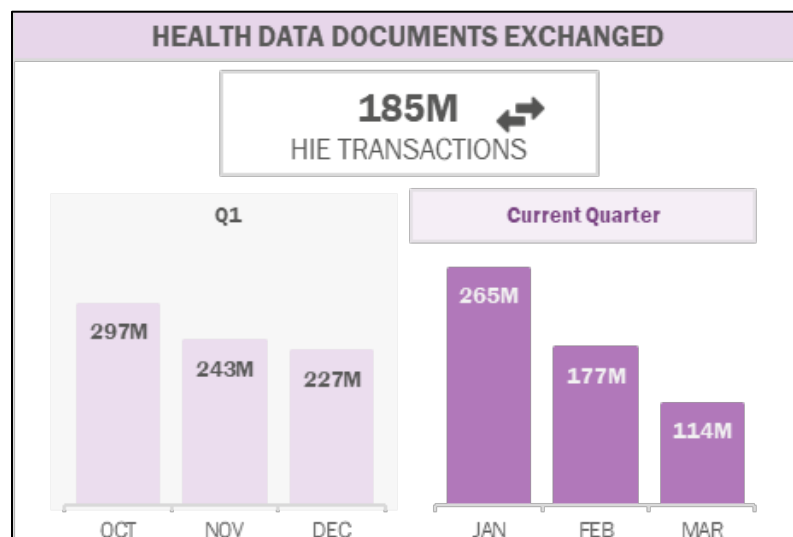
### Definition

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

## Community Partnerships

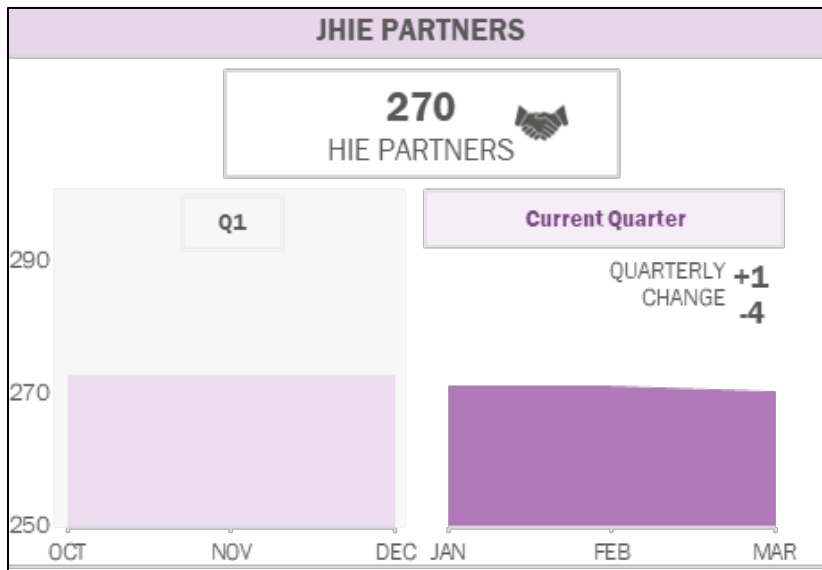
**Value Statement:** The FEHRM monitors the Departments' progress toward consistent, secure, and reliable health data exchange by tracking joint HIE partner onboarding, as well as joint HIE transactions between the Departments and private care partners as best practices and improvements are implemented.



## Joint HIE Transactions

### Definition

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



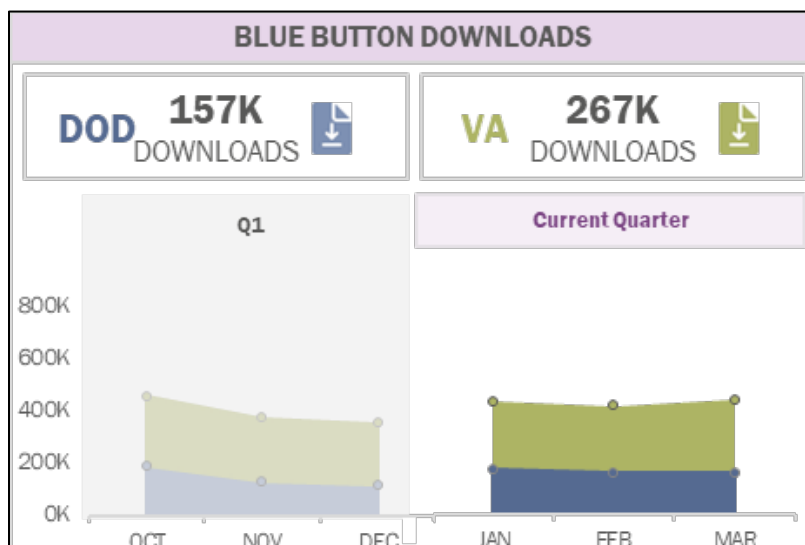
## Joint HIE Partners Onboarded

### 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.

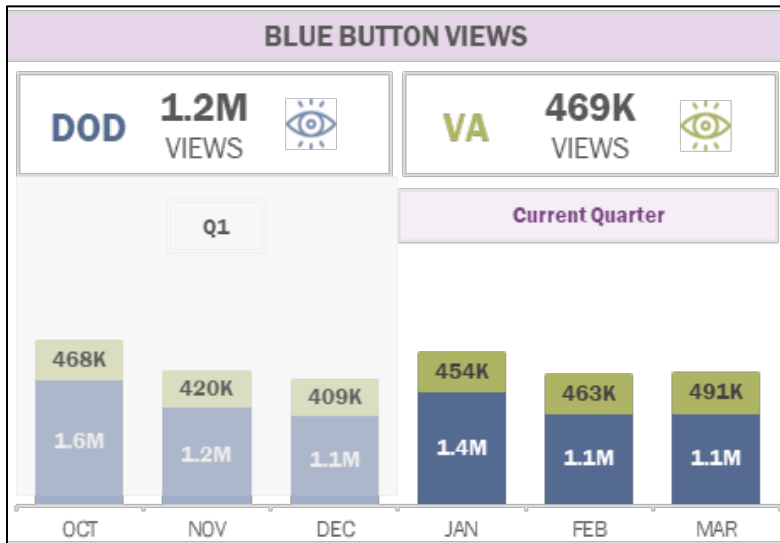


### Blue Button Downloads

#### Definition

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

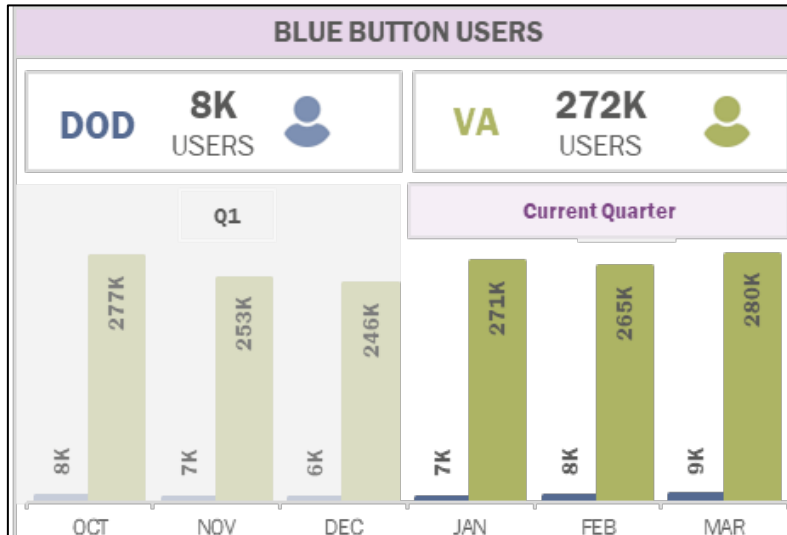




### Blue Button Views

#### Definition

Average number of views generated by end users per month.



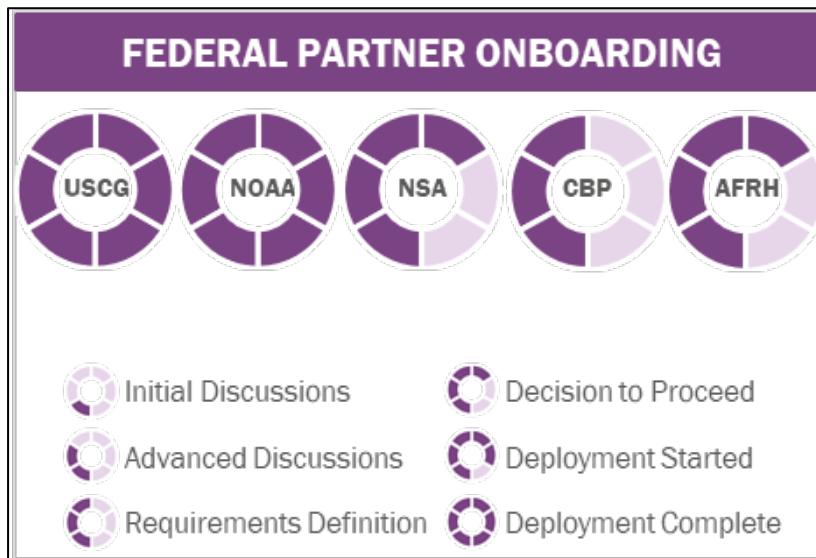
### Monthly Unique Blue Button Users

#### 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.