FEDERAL ELECTRONIC HEALTH RECORD MODERNIZATION

FEHRM

Interoperability Progress Quarterly Report

THIRD QUARTER, FISCAL YEAR 2024

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Introduction

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 third quarter of fiscal year 2024 (Q3 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 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

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 Q3 FY2024, the JSaAB approved 345 content and configuration changes. In addition, the JSaAB reviewed and concurred with 460 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 four times during Q3 FY2024. During the reporting period, the JSaAB continued to optimize semi-annual updates to the JSaAB Catalog, which represents the full scope of the types of changes within the JSaAB's authority. Updating approval authority levels and clarifying change types with the catalog allows for efficient and effective issue resolution at the lowest level with DOD and VA. There were 79 changes made to the JSaAB catalog in Q3 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 factor or 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 Item Master Working Group in Q3 of FY2024 to jointly review and standardize medical logistics with a critical view of such common capabilities as the ordering and maintaining of durable medical equipment across the DOD and VA. Also, the FEHRM has continued to refine and streamline the existing 12 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. 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, the JSaAB, and the Federal Configuration Control Board.

Joint Functional Requirements

The FEHRM continued to support functional and technical requirements development for the DOD, VA, and other federal onboarded partners during Q3 FY2024.

During the reporting period, the FEHRM maintained its collaboration with the DOD, VA, and USCG to operationalize the new Separation Health Assessment (SHA) form within the modernized federal EHR and associated record systems, to include optimizing user interfaces, data flows, and improvements that support data-driven outcomes. The SHA is an initiative of the VA/DOD Joint Executive Committee (JEC), with interagency and interdisciplinary coordination conducted through the JEC VA/DOD SHA Working Group. This includes the future state development of the end-to-end process flow for the future state of electronic form completion, sharing, and analysis.

The revenue cycle functional expansion project, a joint effort between DOD and VA, will activate new revenue cycle capabilities on the federal EHR. The FEHRM was instrumental in coordinating with the Departments to align requirements development, while facilitating ongoing discussions for prioritizing an implementation and deployment timeline.

As the Outpatient Pharmacy Billing and Lifetime Pharmacy Encounter project completes the testing phase in preparation for the end-user acceptance testing, the FEHRM continues to assist with test case development and the monitoring of timelines to determine a joint deployment date.

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 Q3 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 Test Patient in Production Working Group provided guidance and resolution of test patient issues and promoted 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 finalized, signed, and distributed the Data Sharing Memorandum of Understanding (MOU) between federal agencies. The strategic goal "enhancing interoperability between DOD and VA" is bolstered by the revised MOU, as it directly influences programs and policies that enable increased data sharing between the Departments.

Analytics Governance

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

The number of report requests has increased by 2.5% while the number of published reports increased by 1.7%. The <1% delta has remained consistent since Q1 FY2024. Joint governance under the AGB reviewed and approved a total of 1,423 reports created by 574 query, data, and content authors for 68,577 report consumers.

Identity, Credential, and Access Management

In Q3 FY2024, the FEHRM Technology Office Chief Engineering Team re-established the Electronic Data Interchange Personal Identifier (EDIPI) Integrated Planning Team (IPT) for discussion and planning surrounding the Defense Manpower Data Center (DMDC) proposal to support non-DOD EDIPI as the federal EHR unique identifier for federal partners.

The EDIPI IPT is tasked with jointly establishing a path forward to provide a new solution for EDIPI support of a currently unknown number of external user populations.

The EDIPI IPT will explore utilization of new solutions, such as Microsoft Entra External ID with business-to-business (B2B) collaboration, in the shared identity solution as well as how to support future needs, such as Zero Trust. The Rough Order of Magnitude estimate, prerequisites. and requirements, and policy impacts previously delivered by DMDC will be reviewed and updated for continued, long-term addition of new federal entities to the DMDC EDIPI issuance processes.

Microsoft Entra External ID Business-to-Business Collaboration

The FEHRM Technology Office chief engineer leads the effort to expand the full suite of collaborative capabilities of Microsoft 365 (M365) to the hybrid DHA/VA-staffed FEHRM offices. In Q3 FY2024, the FEHRM provided requirements to support hybrid identity operations across two or more M365 entities. The requirements are currently under review by DOD J6 and DHA; upon approval, they will support the FEHRM's application through the Defense Information Systems Agency for improved identity controls. Once this new process is successfully completed, the new identity solution will enable collaborative capabilities, such as cross-agency participation in Teams channels, sharing of OneDrive files, co-authoring of documents in real time, and improvements in Microsoft Outlook email and calendar operations in accordance with M365 capabilities.

Unified Architecture Dashboard

During the May 2023 DOD/VA CIO offsite, the FEHRM was assigned an action item, tracked by the Information Technology Executive Committee (ITEC), to explore a Unified Architecture Dashboard solution as a tool to capture and visualize end-to-end interfaces, architecture, and solutions.

In Q3 FY2024, the FEHRM Technology Office Chief Engineer and Architectural Team presented a concept of operations document to the VA EHRM-IO Architecture Team and Program Executive Office, Defense Healthcare Management Systems (PEO DHMS) that conveys the role and responsibilities of the FEHRM in this initiative.

Federal Electronic Health Record Retrieve Summit

During Q2 FY2024, VA EHRM-IO leadership requested support from the FEHRM Technology Office in planning a face-to-face summit to discuss ongoing issues with Federal EHR Retrieve connecting with sources for patient information.

In Q3 FY2024, the FEHRM Technology Office led discussions on the scope, goals, and participants for a possible summit. Biweekly planning sessions were scheduled with the goals of identifying the current state and desired future state, articulating capabilities and user needs, developing detailed problem statements and capability deficiencies, and cataloging both technical and policy issues. During these joint sessions, the FEHRM, DOD, VA, DMDC, and federal EHR vendors agreed upon three initiatives for ongoing collaboration and problem mitigation prior to the summit. These initiatives are in varying stages of execution and collaboration among SMEs from DOD, VA, and federal EHR vendors, while planning for the face-to-face summit is targeted for 30 days after implementation. Implementation is projected for after Capability Block 12, which is scheduled for February 2025, tentatively placing the summit date in March 2025.

Implementation Support to Joint Sharing Sites

Throughout Q3 FY2024, the FEHRM Joint Sharing Sites-Federal Health Care Center (JSS-FHCC) Workstream established biweekly meetings with the DOD/VA Resource Sharing Office that manages the DOD/VA sharing agreements currently implemented at 171 JSS. These engagements are essential in assessing the risks and planning the mitigation steps to support transition from JSS interim state to end state and the successful implementation of the federal EHR.

Additionally, during this period, the team facilitated ongoing discussions with both EHRM program management office (PMO) access and provisioning teams to address various access challenges experienced by dual/joint users at multiple JSS. These engagements helped the FEHRM recognize and successfully address a gap in the current departmental

processes and provide needed access to specialized groups of dual/joint users that were not assigned to a medical facility.

FEHRM Support of Joint Sharing Sites in Interim State

In Q3 FY2024, the FEHRM continued to work with Department PMOs and their supporting vendors to develop, test, and implement a new capability to enhance interoperability and restore the ability to access laboratory results between William Beaumont Army Medical Center (WBAMC) and El Paso VA Medical Center (VAMC). Prior to the federal EHR's implementation at WBAMC, a VA-managed laboratory interface linked the legacy EHRs of WBAMC and El Paso VAMC facilities' legacy EHRs and supported electronic submission of requests for laboratory tests and retrieval of the results. This connection was lost following the WBAMC EHR deployment, causing order-routing errors and changed internal procedures and retrieval processes. To address this issue, the FEHRM and the Departments initiated a project to restore operational connectivity of lab processes between the two facilities. These capabilities were jointly tested and implemented on May 21, 2024. The FEHRM led multiple pulse-check calls with WBAMC and El Paso VAMC lab teams and confirmed the new capability met operational needs.

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

During Q3 FY2024, the FEHRM supported several ongoing and post-go-live activities at the Captain James A. Lovell Federal Health Care Center (Lovell FHCC). These activities included tracking and reporting on leadership focus areas, closing out items of interest for site leadership and leading meetings and discussions with Lovell FHCC, Department stakeholders, and vendors. The FEHRM reconvened the RevCycle and Business Sub-Workgroup to address registration and Lifetime Pharmacy Encounter issues identified following the DOD Change Healthcare Rx Connect migration. One of the key focus areas during this quarter was to address the Government Accountability Office finding that the FEHRM, DOD, and VA need to take additional steps to prioritize and address remaining barriers for convergence to meet the integration goal set forth for Lovell FHCC. The FEHRM continues to lead an effort referred to as Enterprise Requirements Convergence Opportunities (ERCO), which will provide avenues for follow-on departmental assessments to identify potential optimization and further integration.

ERCO is a follow-on event from the original Lovell FHCC Enterprise Requirements Adjudication (ERA) activity that concluded in 2022. ERA was established to adjudicate differences between DOD and VA policies, procedures, nomenclature, and workflow. A series of workshops and events ensured assessment findings were reviewed, discussed, and adjudicated for inclusion in the enterprise baseline. The ERA process identified 69 topics for

adjudication, DOD and VA stakeholders recommended a convergence course of action (COA) for 31 ERA topics, and the remaining 38 ERA topics resulted in divergence.

To meet the integration goal set forth for Lovell FHCC and in alignment with the FEHRM Charter, the FEHRM is continuing engagement with DOD and VA to identify and address convergence opportunities. During Q3, the FEHRM worked to develop processes to manage and direct the activities required to initiate, assess, and execute on the identified opportunities. The team held several sessions with FEHRM stakeholders to review, categorize, and prioritize opportunities and obtained leadership approval. The FEHRM reconvened the Training Workgroup to address ERCO topics related to training reciprocity and reservists training requirements.

As the Lovell FHCC federal EHR moves into sustainment, the team continued its focus and finalized the Lovell FHCC Facility Sustainment Guide and the One Helpdesk information paper. Following the deployment, the team continued coordination with the FEHRM and Department communications teams to facilitate collaborative sustainment messaging through various briefing and training sessions held by both Departments. Additionally, multi-agency sustainment discussions continue through the Sustainment Sub-Workgroup, with a Sustainment and Optimization Plan for Lovell FHCC anticipated to be finalized in Q4 FY2024.

Lovell FHCC Federal Electronic Health Record Legacy Operations

Medical Single Sign-On Context Management and Enterprise Service Bus/Orders Portability

The FEHRM Lovell FHCC Legacy Operations Team completed decommissioning of Medical Single Sign-On with Context Management (MSSO-CM) as well as DOD Enterprise Service Bus (ESB) Orders Portability (ORP) servers on April 19, 2024. In close coordination with DOD stakeholders, VA stakeholders, and vendor partners, the FEHRM ensured all decommissioning activities were executed and timelines were met. In addition, the FEHRM coordinated with DHA Information Technology and DoD Healthcare Management System Modernization (DHMSM) Cyber Security teams on the closeout of all cyber-related approvals and documentation for MSSO-CM and DOD ESB. The FEHRM continues to track decommissioning activities of Lovell FHCC remaining DOD and VA legacy systems.

Lovell FHCC Technical Partner Integration

During Q3 FY2024, the Federal Interfaces Team (FIT) continued to focus efforts on post-deployment interface activities at Lovell FHCC. The team has tracked potential technical interface-related issues at Lovell FHCC to aid in successful mitigation of those issues and to gather technical lessons learned to ensure successful implementation of the interfaces at future joint sites. The FIT continues to track post-go-live deployment of new interface

capabilities at Lovell FHCC, including the Joint Radiology Picture Archiving and Communication System (PACS) interface, which will streamline the workflow for Radiology at Lovell FHCC.

The FIT remains focused on four major Interface capabilities areas, including Radiology, Pharmacy, Lab, and Referral Management to document and understand issues, priorities, and future plans for the Interface capability areas. The team is working with EHRM-IO and DHMSM PMO to establish a joint repository for interface-related artifacts to assist the team in understanding the overall Interface landscape of the federal EHR.

Onsite Device Liaison

During Q3 FY2024, the Onsite Devices Liaison (ODL) Team shifted focus after Lovell FHCC go-live to strategically supporting the FEHRM Technology Office's mission and objectives. The ODL Team provided post-go-live support to Lovell FHCC through periodic synchronization with functional and technical points of contact at the site to ensure smooth operations with the new system. This was critical to post-go-live success, especially during the Lovell FHCC DOD Patient Care Location Summer Surge when 16,000 new recruits were processed during the summer period.

By leveraging knowledge of Oracle Health infrastructure, the ODL Team was able to foster a common understanding in documenting problems at the El Paso VAMC lab, where VA legacy systems (Computerized Patient Record System and Veterans Health Information Systems and Technology Architecture, or VistA) are still in use, yet the VAMC maintains sharing agreements with WBAMC, where MHS GENESIS has been implemented. Identifying how lab orders from VAMC are communicated and the interaction of end users on both sides was critical in issue resolution.

The ODL Team applied Lovell FHCC lessons learned and historical knowledge to past problems and potential future scenarios related to JSS. ODL initiatives included collaborative assessment of Oracle Health's Lights On Network data to determine how clinical hardware and end-user devices are being translated through nodes to identify how well the vendor (Oracle Health) is meeting service-level agreements and how Lovell FHCC is performing in relation to other modernized VA sites and DOD sites with similar size and capabilities.

In addition, the ODL Team is developing an Onsite Device Liaison Workbook to centralize information surrounding ongoing issues and progress notes and collocate documents. In the future, this workbook will be used to track artifacts and issues from all JSS interacting with the FEHRM Technology Office's Partner Integration Team.

Operations and Sustainment

In Q3 FY2024, the FEHRM Technology Office's Operations and Support (O&S) Team evolved its roles and responsibilities, further focusing on key activities that assisted federal EHR stakeholders. In addition, the team successfully developed and finalized a Partner Integration Value Streams Map and its mission package, providing greater understanding of defined responsibilities of the team and stakeholders. The team assisted in facilitating biweekly Technical Sub-Workgroup meetings to organize efforts in support of the federal EHR at Lovell FHCC. During Q3 FY2024, the O&S Team provided information on processes and procedures utilized in operations support for incorporation into the new Partner Integration Technical Project Handbook. The O&S Team also provided knowledge and expertise to generate the technical section of the Federal Partner Onboarding Questionnaire, which is sent to participating federal agencies using the federal EHR.

The O&S Team also undertook several initiatives to identify process improvement measures to enhance the user experience. To improve wait times at Lovell FHCC, the O&S Team requested warm-transfer help-desk data to determine if a common, integrated help-desk approach would benefit both DOD and VA. This information was raised to DOD/VA Help Desk leadership for Lovell FHCC, and process changes were implemented. For tracking and monitoring performance, the O&S Team utilized Oracle Health's Lights On Network to research and present eight metric groups to FEHRM Technology Office leadership and FEHRM Pharmacy lead. In Q4 FY2024, the O&S Team plans to offer Oracle Health Lights On Network training for FEHRM Technology Office leadership.

To analyze user experience, the O&S Team developed a Microsoft Power BI app to track DOD and VA incidents/tickets exported from ServiceNow. This Power BI Help Desk app was presented to the FEHRM Technology Office's Partner Integration Team and leadership, the Technical Sub-workgroup, and participating agencies in the federal EHR. The app was successfully launched for a limited number of FEHRM Technology Office staff and stakeholders to view user experience/performance at Lovell FHCC.

Finally, the O&S Team had an opportunity to review the Federal Interagency Working Group (FIOWG) Federal Problem Management Standard Operating Procedures (SOP) and proposed inclusion of a process map detailing additional information on the submitter, agency interaction for issue resolution on a specific ticket (e.g., DMDC, DOD, VA), and when a ticket is resolved or closed. A Federal Incident Response and Outage Federal EHR Plan will be created to assist in tracking Sev1 and Sev2 tickets, including necessary actions. In Q4 FY2024, the O&S Team plans to coordinate efforts with FIOWG on Power BI Lovell FHCC Help Desk, Sev1/Sev2 reporting, and outage reporting.

FEHRM Lessons Learned Repository Management

The deployment of the federal EHR at Lovell FHCC in March 2024 provided lessons learned for future deployments, especially at other JSS. Department-level teams continuously

collaborate to identify and implement lessons from the Lovell FHCC's EHR deployment. As of August 5, the FEHRM Lessons Learned (LL) Repository holds 392 enterprise-wide lessons associated with the FEHRM Risk-Issue-Opportunity Repository; FEHRM JSS-FHCC Workstream; Enterprise Operations Center (EOC); and DOD, VA, USCG, and NOAA. Nearly half of the repository's enterprise-wide lessons are related to the successes and lessons learned identified during the federal EHR deployment at Lovell FHCC. While the FEHRM continues to receive and evaluate these lessons learned, top themes include the following:

- Ensure senior stakeholder and site engagement collaboration for success from planning to deployment. At Lovell FHCC, site leadership actively participated in collaboration with the FEHRM and the Departments.
- Use the ERA decision-making process to enable a strategy to manage and adjudicate process and procedural differences between Department policies, procedures, nomenclature, and workflows, and ensure all assessment findings are considered for inclusion in the federal EHR enterprise baseline.
- Encourage training and adoption event participation and completion—focusing on such areas as workflows, differentiated modes of training, and an agile training-content-maintenance approach system design. Pay-It-Forward/peer-coaching methodology is also imperative to improve end-user adoption, ensuring proficiency and minimal disruption to workflow.
- Implement a more efficient and integrated workspace via Microsoft Teams, Connect.gov, and/or SharePoint that enables multi-agency access and real-time collaboration.
- Accommodate dual-hat users—end users who render care on behalf of the Department that is not their employing Department—by working closely with Department identity and access management personnel and enhanced existing authentication pathways to allow end users to access the federal EHR using either Department's credentials.

Work at Lovell FHCC, the FEHRM, and beyond continues to increase interoperability. Immediate focus areas to achieve greater integration include enhancing pharmacy, integrating help-desk processes, enabling training reciprocity, and defining roles and responsibilities for operational support during sustainment. Further analysis of successes and lessons learned from the Lovell FHCC go-live will be documented and shared in quarterly reports.

Federal Electronic Health Record Operations

Enterprise Operations Center

The 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 Q3 FY2024, in addition to monitoring planned activities that could impact FEHRM partners, the EOC monitored and reported 70 federal major incidents, impacting the federal EHR or partners. 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's Lights On 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 Department of Homeland Security (DHS) Monthly EHR Health Report. While this report provided a comprehensive analysis of service availability and performance trends of the federal EHR Core, federal Health Analytics - Cost Accounting Standards infrastructure (i.e., the Defense Enrollment Eligibility Reporting System, or DEERS) and other solutions, the FEHRM is reforming reporting to focus on high-priority incidents and outages affecting the Federal Enclave. The FEHRM continues to work with the DHMSM, VA, and Oracle Health Incident Management teams to refine reporting of Sev1 and Sev2 major incidents and provide systems engineering subject matter expertise.

The FEHRM conducted regular enterprise technical activities, including sessions on Zero Trust Architecture, Joint Operational Medicine Information Systems: Operational Medicine Data Service, and 724 Downtime Viewer, resolving issues from 2020. For Q3 FY2024, the schedule includes a Cyber Threat Brief Table-Top Exercise Lessons Learned on July 23, a Security Assertion Markup Language 201 Brief August 26–30, an FHCC Lessons Learned Outbrief on June 26, and an FHCC Pharmacy Environment Management Operations Center After the FHCC Go-Live (date to be determined). Coordination efforts are ongoing to ensure DOD and VA insights are combined effectively, with confirmations and preparations underway for the upcoming sessions.

Federal Release and Domain Management

In Q3 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 SOP and FRWG charter, both representing the agreed-upon processes of the FRWG. FEHRM consistently delivers meeting documentation records for every FRWG meeting to more than 200 stakeholders across the enterprise.

During Q3 FY2024, the FEHRM sustained its support for domain management by attending weekly Joint Domain Status meetings and reviewing domain availability schedules to deconflict refreshes with training and go-live events. Additionally, the FEHRM made

significant progress with the FRWG Charter, meeting minutes, agenda updates, and the first draft of the FRWG SOP, alongside preparations for upcoming meetings and ensuring effective communication with all stakeholders.

Federal Electronic Health Record Cybersecurity

In Q3 FY2024, Cybersecurity transitioned into a standalone directorate within the FEHRM Technology Office, marking a pivotal step forward in organizational structure. The newly established Cybersecurity Directorate's first impactful initiative was the revitalization of the Joint Cybersecurity Team Meeting. This initiative promotes and encourages open collaborative efforts among key stakeholders from multiple federal agencies and private sector stakeholders including DHA, DHA Cyber Operations Center, PEO DHMS, DHMSM, EHRM-IO, Veterans Affairs Cyber Security Operations Center, USCG, and vendor partners. Together, the federal EHR stakeholders are actively supporting cybersecurity requirements, strengthening interagency cooperation, and enhancing cybersecurity defenses across various capabilities within the entire Federal Enclave.

The FEHRM Technology Office Cybersecurity Directorate has played a crucial role in several strategic initiatives. This includes providing cybersecurity impact analysis in support of such projects as the DHMSM Tech OPS Playbook, Federal Partner Onboarding Questionnaire, eHealth Exchange OPP #17, and Chief Health Informatics Officer Data Exchange Risk Assessment. These efforts underscore the commitment to enhancing cybersecurity posture across FEHRM initiatives.

The FEHRM Technology Office Cybersecurity Directorate successfully completed the Privacy Impact Analysis in support of PEO DHMS Authority to Use for Government Sites, including FEHRM.gov, HIVE.gov, and EHR.gov. Collaboration with major stakeholders. such as General Services Administration, DHMS, and FEHRM was instrumental in addressing the mission emphasis on protecting federal information systems by ensuring that privacy impacts are thoroughly analyzed and mitigated. Additionally, the Cybersecurity Directorate worked closely with DOD and VA to advance the Enterprise Clinical Imaging Archive and the Lovell FHCC Picture Archive and Communication System Interconnection Security Agreement (ISA) through the formal signature and approval process.

The team assessed the Lovell FHCC Shared PACS COAs to anticipate potential cybersecurity and privacy impacts and remain actively engaged in ongoing configuration discussions, while awaiting the finalized approved COA. This proactive assessment ensures compliance with the objective to continuously evaluate and enhance the cybersecurity posture of the federal EHR.

FEHRM Cybersecurity Information Assurance (IA) continues to facilitate biweekly Technical Sub-Workgroup meetings in support of the federal EHR at Lovell FHCC. The IA Team also participates in weekly VA FHCC EHRM post-go-live huddles to discuss and monitor

cybersecurity statuses and sustainment activities post go-live. This ongoing engagement is in line with mission requirements for continuous monitoring and improvement of cybersecurity measures. Furthermore, IA has taken proactive measures in facilitating the creation and maintenance of dual-use Citrix accounts to securely connect DHA/DOD account holders with VA networks thus enhancing secure access protocols.

These achievements highlight dedication to advancing cybersecurity capabilities within the FEHRM and promoting collaborative efforts among multiple federal agencies. FEHRM Technology Office Cybersecurity remains committed to safeguarding the security and integrity of federal EHRs while ensuring seamless interoperability throughout the health care ecosystem.

Cybersecurity – Interagency Cybersecurity Assessment

In Q3 FY2024 the Interagency Cybersecurity Assessment Working Group suspended efforts on drafting a memorandum for stakeholder review that clarifies joint requirements for participant clearances, exercise design, and report distribution.

Staffing requirements related to personnel clearances, specifically Tier 2 (Secret equivalent) background investigations, were viewed as potentially negative strategic considerations. The fiscal costs and personnel actions needed for compliance would extend the implementation window and lead to pronounced delays to executing the assessment.

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. The FEHRM continued to facilitate the development of a joint cyber incident response framework that included identification, escalation, roles and responsibilities, management, and reporting across the Federal Enclave. During Q3 FY2024, the FEHRM continued 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 facilitated working sessions with all stakeholders to review, update, and consolidate existing joint Memoranda of Agreements (MOA) related to Federal Enclave operations. For Q3 FY2024, the FEHRM engaged with SMEs from DOD and VA to ensure MOU/MOA 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. The DHA presented a proposed strategy to the Information Technology Executive Committee (ITEC) Secretariat outlining procedures to formally staff and review the Overarching DOD/VA Medical Community of Interest (Med-COI)

MOA and associated ISAs. Once the approach is approved at the ITEC, DHA will establish formal working groups to review and identify changes that need to be made and coordinated.

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 also shared information and coordinated responses to incidents.

For Q3 FY2024 and beyond, the FEHRM will 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 development of a JSOC will establish robust communication between VA Cybersecurity Operations Center and the 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.

JSOC staffing requirements related to personnel clearances, specifically Tier 2 (Secret equivalent) background investigations, were viewed as strategic barriers to implementation. DOD and VA agreed upon set of alternatives that would introduce the level of rigor to meet the objectives sought. Those alternatives include:

- Joint MOU/ISA reviews.
- Continued process improvement in Authority to Operate (ATO)/Approval to Connect Package Reviews and VA Cybersecurity Operations Center logging/monitoring.
- VA and DOD teams continue to define requirements for engineering solution for network tap to the Data Center Security Stack to capture and forward information related to VA sites, systems, and interfaces.

Cybersecurity Risk Mitigation

In Q3 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.

Interoperability Modernization

Joint Health Information Exchange

The FEHRM Technology Office Data Exchange Team continues to sustain the joint HIE in order to maintain access to multiple private sector networks and frameworks. During Q3 FY2024, the joint HIE has successfully exchanged more than 556,174,997 documents with private-sector partners.

The Trusted Exchange Framework and Common Agreement (TEFCA) is a new legal framework established by the 21st Century Cures Act that outlines a common set of principles, terms, and conditions that would help enable nationwide exchange of electronic health information across disparate health information networks. Qualified Health Information Networks (QHINs) are the central connection points within the network based on the Common Agreement, responsible for routing queries, responses, and messages among participating entities and individuals to participate in TEFCA, legal review and technical upgrades. The FEHRM Technology Office Data Exchange Team is focused on evaluating TEFCA and its related agreements as well as evaluating all QHINs and technical requirements to participate.

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 (IIS) and import immunization records into the federal EHR database. The DOD is preparing to implement additional connections to Texas, Maryland, Virginia, and Washington DC in Q4 FY2024 while VA is coordinating implementation for Illinois and Wisconsin. The FEHRM Data Exchange Team is committed to increasing access to this capability across the enterprise and is actively planning future site implementations.

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 Walla Walla VA was successful and VA plans to expand the pilot to additional sites within Walla Walla, and then deploy enterprise wide to all VA live sites. The FEHRM Technology Office Data Exchange Team continues to track and focus on the success of VA's Seamless Exchange pilot to promote deploying this capability to all federal EHR sites.

Health Data Intelligence

In Q3 FY2024, the FEHRM Technology Office Data Exchange Team successfully deployed nine Health Registries measures to the Registries group as part of Wave 5 enablement thereby making them provider-facing bringing the total number of registries to 27 with 302 measures. The FEHRM Technology Office Data Exchange Team has continued to support efforts related to ingesting legacy lab, diagnosis, and procedures data into Health Data Intelligence (formerly HealtheIntent). The increased use of the Health Data Intelligence platform necessitated infrastructure improvements to enhance performance. The FEHRM Technology Office Data Exchange Team has been engaged with Leidos Partnership for Defense Health (LPDH) to plan implementation of these upgrades in July 2024.

Longitudinal Natural Language Processing

Longitudinal Natural Language Processing (LNLP) 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 improve LNLP capability by successfully deploying LNLP 1.0.4.0 into production on June 12. This latest LNLP release expanded the data sources within the Joint Longitudinal Viewer's (JLV) United States Military Entrance Processing Command (USMEPCOM) widget to include VA data from VistA sites. The LNLP processing of USMEPCOM disqualifying conditions against note types now includes private sector (joint HIE), Armed Forces Health Longitudinal Technology Application, or AHLTA (legacy), Essentris (legacy inpatient), MHS GENESIS, and VA data. The FEHRM also expanded LNLP processing capacity by adding eight worker nodes to the LNLP hosting environment on June 24.

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. At present, military-service-related exposure terms lack standardization, hindering information exchange between information technology (IT) systems and impeding clinical decision support and research efforts that require aggregating individuals with similar exposures.

National Standards for Exposure Exchange: To facilitate the exchange of exposure-related substances, events, and locations, the FEHRM Exposure Interoperability (EI) Team leads 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. The EI Team's primary focus is to analyze the Systematized Nomenclature of Medicine Clinical Terms (SNOMED-CT) to understand how it may be expanded to encode additional concepts related to exposures. The team identified exposure

concepts (i.e., substances, events, and locations) frequently tracked in ILER but unavailable in SNOMED-CT. The team then submitted those missing concepts to SNOMED-CT for potential inclusion by researching their medical use and identifying academic citations to justify the inclusion in SNOMED-CT. The FEHRM is also taking special consideration for inclusion of per- and polyfluoroalkyl substances, chemicals related to open burn pits, dioxins, and jet fuels, as these are of special interest to the Departments. For example, the FEHRM prioritized submission of concepts related to the Red Hill Bulk Fuel Storage Facility water contamination exposure event in December 2021 in Oahu, Hawaii. A specific "location" concept is now available to help track exposures in this geographic area. The FEHRM continues to collaborate with experts from the Assistant Secretary for Technology Policy/Office of the National Coordinator for Health Information Technology (ASTP), 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. The FEHRM has successfully submitted 20 new concepts since the commencement of this initiative in September 2023 through the current quarter, and these newly approved terms are now available for clinicians to use in their documentation.

Building on the successful submissions to date, 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. During the reporting period, seven new concepts related to jet fuels were submitted to SNOMED-CT for consideration in the September 2024 release. The FEHRM is also working to ensure equivalent terms are added to the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM). This involves reviewing previously submitted SNOMED-CT terms and submitting formal requests to the National Center for Health Statistics if ICD-10-CM codes are absent. Claims adjudicators will have ready access to these terms as they evaluate Service member and Veteran claims for benefits.

Participation in the Toxic Exposure Research Working Group: This Working Group is charged with identifying collaborative research activities and resources available and developing 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 contributed to the strategic plan, titled: Sergeant First Class Health Robinson Honoring our Promise to Address Comprehensive Toxics (PACT) Act Five-Year Interagency Strategic Plan, a report for the Joint Subcommittee on Environment, Innovation, and Public Health Toxic Exposure Research Working Group of the National Science and Technology Council. It will be delivered to Congress in August 2024. The strategic plan represents an important opportunity to lead change in an "all of government" approach to conducting and coordinating research aimed at advancing knowledge and treatments for toxic-related exposures.

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

Interoperability regulations, policies, standards, and technologies are vital to the exchanging and interpreting health data. A collaborative endeavor is essential to achieve the highest level of interoperability for the federal EHR. The FEHRM's efforts involve coordination among federal agencies, health care providers, and IT vendors. The collective goal is to implement interoperability standards and best practices to ensure 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, The Digital Health Standards Group has developed a strategy to achieve operational excellence, influence HDI standards development, and promote the awareness and adoption of those standards.

To influence the development of interoperability standards, the FEHRM engages with Standards Developing Organizations (SDOs), aligning joint standards subject areas, or domains, with the National Defense Authorization Act (NDAA) FY2020 mandates and stakeholder priorities. The FEHRM Digital Health Standards Group works diligently with selected work groups (WG) to contribute expertise in standards development. These work group endeavors involve 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 influences the standards development process by keeping joint interoperability and federal EHR requirements at the forefront of discussions.

In addition to SDO WG engagement, the FEHRM works with other federal agencies, such as ASTP, to influence interoperability regulation and policy development. The FEHRM organizes and leads reviews of new and updated standards across the Departments and federal agency stakeholder organizations to apply subject matter expertise in the analysis and submission of 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 advancements in interoperability initiatives, standards, policies, and trends with stakeholders and provided guidance, as needed. Specifically, the FEHRM hosts VA Interoperability Leadership (VAIL) Standards Work Group (SWG) meetings, FEHRM Standards Stakeholder meetings, and the Health Level Seven International (HL7) 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.

National and International Standards Development

The FEHRM's Digital Health Standards Group holds a sustained engagement posture in its partnerships with national and international standards organizations, including HL7, the International Organization for Standardization (ISO), the Institute of Electrical and Electronics Engineers (IEEE), ASTP, Centers for Medicare and Medicaid Services (CMS), CDC, and the Workgroup for Electronic Data Interchange (WEDI). These partnerships foster collaborative development efforts based on current and emerging priorities to advance HDI standards and strategies, monitor progress, and report on trends to the greater stakeholder community. This ensures continued alignment with NDAA FY2020 mandates and the Program Office's subsequent mission, goals, and objectives.

During Q3 FY2024, the FEHRM Standards Group engaged in standards development and advancement efforts with HL7, ASTP, and the American Dental Association (ADA) to influence interoperability and health data exchange in various subject areas, or domains. Focus areas were identified based on their alignment with White House and congressional policy drivers in addition to established stakeholder priorities.

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, 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 Q3 FY2024, the FEHRM engaged with HL7 through numerous mechanisms and forums, including:

- HL7 Balloting

  HL7 Ballot Cycles and the associated WG meetings provide valuable opportunities for 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 the DOD and VA by focusing on joint interoperability improvements between the Departments and with external health care organizations.

- ### May 2024 Ballot Cycle

  HL7 released 38 proposed ballots for review during the May 2024 ballot cycle. Consensus group signup began in March 2024 and the FEHRM SMEs, along with DOD and VA experts, prioritized six ballots for review and analysis based on an assessment of impact on federal EHR stakeholders, including:
  - HL7 Clinical Document Architecture R2.0 Specification Online Navigation, Edition 1: A new web publishing project to provide easier access to specifications to improve usefulness.
  - HL7 Fast Healthcare Interoperability Resources (FHIR) Implementation Guide: Hypertension Management: A data exchange standard for hypertension management through a meaningful exchange of data between self-measured blood pressure devices, patient platforms, EHRs, and personal health records.
  - HL7 FHIR Implementation Guide: Minimal Common Oncology Data Elements: A guide to facilitate overall cancer data quality for patient care and research.
  - HL7 FHIR Companion Guide: Social Services and Social Determinants (postponed during balloting): A guide to enable an organization to send data to an outside organization that can provide social services.
  - HL7 FHIR Implementation Guide: Prescription Drug Monitoring Program; A guide to implement interoperable communication between state systems tracking the dispensing of controlled substances.
  - HL7 IHE Specification: Service-Oriented Device Point-of-Care Interoperability Technical Framework; A project to provide device-to-device plug-and-trust interoperability for acute care (operating rooms and intensive care units).

The voting period opened in mid-April and ended May 13. Resulting standards advancements and releases through these efforts will incorporate SME feedback to increase HDI, positively impacting health care for Service members, Veterans, and their families by improving patient outcomes.

HL7 Working Groups

The FEHRM participated in and contributed to several HL7 working groups during Q3 FY2024, which allow federal agencies, stakeholders, and the HL7 community to work on standards and network with global industry leaders. FEHRM engaged with, co-chaired, or led the following HL7 workstreams with the areas of focus noted:

- ### HL7 EHR Working Group – Toxic Exposures

  During Q3 FY2024, FEHRM presented at the May 2024 HL7 Working Group Meeting with a focus on FHIR fields to be included in the structure of the FHIR profile:

  - Demographics: First name, last name, gender, age, race, rank, and component.
  - Location: Geographic location expands to an international country list, locations with no physical address, or locations belonging to a country. Examples include desert, high altitude, and water.
  - Substance: A toxic substance is a particular matter that can cause harmful (adverse) health effects. Examples of toxic substances include burn pit, Agent Orange, etc.
  - Gender Identity: Environmental exposures can have gender-based biological differences in how they affect the body and are treated. The ICD-10-CM and SNOMED CT are coding systems that provide gender identity and gender identity disorder terminologies.

The FEHRM also identified existing health data standards that could be enhanced and incorporated to enable the standards-based exchange of exposure information, including:

- ISO 3166 – Country Codes: ISO 3166 defines internationally recognized codes of letters and/or numbers that can be used when referring to countries and their subdivisions. However, it does not define the names of countries—This information comes from United Nations sources (Terminology Bulletin, Country Names, and the Country and Region Codes for Statistical Use, maintained by the United Nations Statistics Divisions).
- ISO 6709:2022 – Standard Representation of Geographic Point Location by Coordinates: The 2022 update to ISO 6709 is the international standard for the representation of latitude, longitude, and altitude for geographic point locations.
- HL7 Affinity Group: The FEHRM leads this biweekly forum that provides a key platform for reviewing and guiding the design of Consolidated Clinical Document Architecture (C-CDA) and FHIR. Nationwide, more than 350 million C-CDA documents are exchanged monthly. By uniting federal partners from DOD, VA, and ASTP, the HL7 Affinity Group fosters vital collaboration on health care technology and policy that influence the evolution of C-CDA to support these document exchanges. Additionally, it acts as a technical hub for experts to exchange ideas, driving innovation and providing guidance for implementing ASTP's United States Core Data for Interoperability (USCDI). The outcomes of these meetings significantly influence HL7 standards and national interoperability efforts. C-CDA release 3.0.0 was balloted in January to support ASTP's USCDI v4. Since then, 36 additional comments were received, bringing the total to 140 comments. In Q3 FY2024, the FEHRM led Affinity Group sessions to share expertise and promote awareness of new designs in the C-CDA that were triaged and adjudicated by the C-CDA Working Group, which were balloted and approved through the May 2024 ballot cycle and culminated with C-CDA R3.0.0's online publication to support USCDI v4.
- HL7 Payer and Provider Information Exchange/Dental Summary Exchange Project: The Dental Summary Exchange Project (DSEP) is a consortium of dental

professionals from government agencies and industry partners focused on the development and promotion of dental standards, data exchange, and EHR interoperability. Experts and practitioners consider dental data standards and interoperable data exchange a game-changer for enabling care coordination and continuity of care to improve medical and dental outcomes. According to Care Quest Institute, the benefits of integrating oral and overall health care are well documented. The Institute cited that 85% of dental providers report that other health care organizations do not receive patient records when sent by secure email or fax to different providers.[1] The FEHRM co-led monthly DSEP meetings and a biweekly Tech Workgroup (a subset of software developers that are testing data exchange), coordinating and facilitating meetings with participation from ADA, Indian Health Service (IHS), and DOD. A primary focus of these working sessions was to prepare for the promotion of dental interoperability and data exchange during the July 2024 CMS Connectathon. Building on this momentum, FEHRM and its dental partners can leverage these sessions and their outcomes to further increase vendor interest and participation in testing for dental data exchange during HL7's September 2024 Connectathon event.

- HL7 EHR Working Group – Artificial Intelligence Data Lifecycle: The HL7 EHR Working Group initiated a project to advance the development of standards for use in Artificial Intelligence (AI)/ML. AI, including ML, depends on data quality. This project considers how to capture, render, and share the attributes of provenance, accountability (e.g., audit trails), trustworthiness, context, structure, patterns, annotation, and annotation history at each step in the life cycle of the data. The goals are to provide implementation guidance for AI/ML projects to:
  - Leverage discoverable patterns and annotations provided by standards-based interoperable datasets.
  - Provide a roadmap for AI/ML experts to take advantage of interoperability standards to combine data from multiple, disparate data sources.
  - Articulate the return on investment of using interoperable, HL7-conformant data sets to create AI/ML solutions that are trusted by clinicians.

The working group submitted a white paper to HL7 for balloting in Q2 FY2024 and worked to resolve comments during Q3 FY2024. FEHRM provided expertise during the ballot process to resolve comments by leveraging inputs from SMEs in Health Information Management and AI/ML. This resulted in successful completion of comment adjudication and advancement towards standards publication.

[1] https://www.carequest.org/system/files/CareQuest_Institute_Medical-Dental-Intergration_8.15.23.pdf

National Policy and Standards Development

U.S. Core Data for Interoperability Plus

ASTP launched the U.S. Core Data for Interoperability Plus (USCDI+) initiative in fall 2021 as a supplement to the USCDI to help the government develop additional interoperability capabilities that support specific program needs.

During Q3 FY2024, the FEHRM continued to support ASTP's advancement of USCDI+ through the advancement of a behavioral health dataset. The advancement of this behavioral health dataset supports an ASTP and Substance Abuse and Mental Health Services Administration (SAMHSA) initiative to advance health IT in behavioral health care and practice settings.

Specifically, the FEHRM facilitated the development and submission of a collaborative joint comment response to aid in identifying behavioral health data elements for the USCDI+ as part of SAMHSA and ASTP's Behavioral Health Information Technology initiative. The FEHRM leveraged inputs from internal SMEs and experts within DOD and VA to focus the joint submission on areas including restraint and seclusion, Tardive Dyskinesia, self-soothing techniques, effective medication utilization, de-escalation techniques, and psychiatric advanced directives.

The FEHRM also continued to collaborate with ASTP and ADA by performing SME analysis and providing expert advice through the development of two white papers on Dental Data Exchange and Interoperability as contribution to their possible creation of a USCDI+ dental domain. This collaboration aids in promoting enhancements and clarifications to the existing dental data elements in USCDI+. It also drives the advancement of federal and international dental standards to support the increased interoperability of dental electronic health data with patient medical data.

Centers for Medicare & Medicaid Services

During Q3 FY2024, the FEHRM engaged in and contributed to the CMS Interoperability and Standards Collaborative forums. The FEHRM also aided in promoting awareness and adoption of the CMS Electronic Clinical Quality Improvement Resource Center through Standards Stakeholder Meeting engagements with the federal partner community. This included emphasis on the importance of key standards for the electronic transmission of health information used to support electronic Clinical Quality Measures (eCQM).

Promoting Standards for Awareness 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, Department of Health & Human Services (HHS), DHS, and 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 the standards community, electronic health care vendors, and health care providers.

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

- Interoperability Success Stories and Outcomes from the Joint Site Deployment of the Federal EHR at Lovell FHCC and VA's Seamless Exchange Pilot at the La Grande Clinic within the Walla Walla VA System.
- ASTP's Trusted Exchange Framework and Common Agreement TEFCA, the Benefits of Connecting Health Information Networks through TEFCA, and the Added Privacy and Security Protections It Provides.
- The Importance of Oral Health Data in Health Information Exchange.
- The ISO Standard 5477 – Interoperability of Public Health Emergency Preparedness and Response Information Systems, which the FEHRM co-led and co-authored the release of in partnership with the CDC.

More than 200 individuals representing more than 25 federal and industry organizations attended the May event, either in person or virtually.

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, IHS, CDC, CMS and ASTP.

The FEHRM continued to lead collaborative events with the broader standards stakeholder community during Q3 FY2024, targeting sessions that promoted awareness of advancements within priority initiatives and focus areas including TEFCA, ASTP's Standards Version Advancement Process, behavioral health, health equity, VA's Interoperability Roadmap, and eCQM.

VA Interoperability Leadership Standards Work Group

The FEHRM partnered with VA Interoperability Leadership in standing up, chartering and co-chairing the VAIL SWG to advance interoperability within the VA and with community partners. 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.

The FEHRM co-led the SWG and supported the VAIL team in obtaining approval on the VA Interoperability Leadership Roadmap 2024–2028, which is the Department's strategy for advancing joint interoperability. During Q3 FY2024, the FEHRM managed SWG operations, communications, and reporting of updates to the VAIL Executive Team. In addition, the FEHRM managed the execution of the SWG operational plan to achieve the goal to facilitate the delivery of seamless services by participating in standards development and promoting widespread adoption.

The FEHRM contributed to promoting the awareness and adoption of health interoperability policy and standards through knowledge sharing, such as the release of the Interoperability Principles Resource Guide and presentations on topics including health equity, and eCQM. The Interoperability Principles Resource Guide brings awareness to the principles that are critical to achieving interoperability goals through routine program/project decision-making. This guide informs stakeholders on why the standards-based principle is important, what to expect, and how the principle should be applied. Providing resources, such as the Interoperability Principles Resource Guide and presentations on health interoperability policy and standards, arms VA stakeholders with the knowledge to operationalize standards in their everyday work to achieve their interoperability goals.

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 collaborated with both federal and industry organizations to learn and elevate new ideas in health care interoperability and IT modernization. During Q3 FY2024, the FEHRM:

- Moderated the quarterly Joint FEHRM-ASTP-CMS meeting to facilitate collaboration with federal partners related to data optimization and stakeholder engagement.
- Participated in the Federal Health IT Advisory Committee (HITAC) to recommend to ASTP policies and standards relating to implementation of a health IT infrastructure that advances electronic access, exchange, and use of health information.
- Participated in the ASTP 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 ASTP, which brings together 30 to 40 federal partners involved in health IT activities.
- Collaborated with ASTP stakeholders through participation in numerous ASTP 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, 2024. Leaders from the federal government, health provider organizations, and the patient advocacy community focused on opportunities across the healthcare enterprise to reduce administrative burden, strengthen access to quality care, and make it easier for clinicians to provide care.

User Engagement and Assessments

Federal Electronic Health Record Annual Summit

During Q3 FY2024, the FEHRM continued its planning and coordination for the 2024 Federal EHR Annual Summit. This event will occur October 22 to24. The resulting engagement offers insights into the ways that end users can 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.

Clinician and Patient User Satisfaction

During Q3 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 established collaborative JWGs to assess satisfaction across DOD and VA among both clinicians and patients, ensure agreement across the agencies, improve the surveys deployed, and save government resources. 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 item set is used to assess DOD and VA patient satisfaction.

Federal Electronic Health Record Partner Onboarding

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

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 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: Collaboration was held with FEHRM, DHMSM Interagency Operations, and AFRH. Focus group meetings are ongoing to identify special configurations required by AFRH. The FEHRM is facilitating a site visit to Ft. Belvoir for AFRH providers to observe the federal EHR in action and become change agents within their organization.

The Occupational Health Office in the National Security Agency (NSA) continues progress toward joining the federal EHR in 2024. NSA Go-Live is scheduled for February 2025. The official program kickoff took place during the week of August 19, and an Executive Briefing was conducted on August 28. Parallel efforts with Med-COI are progressing as planned.

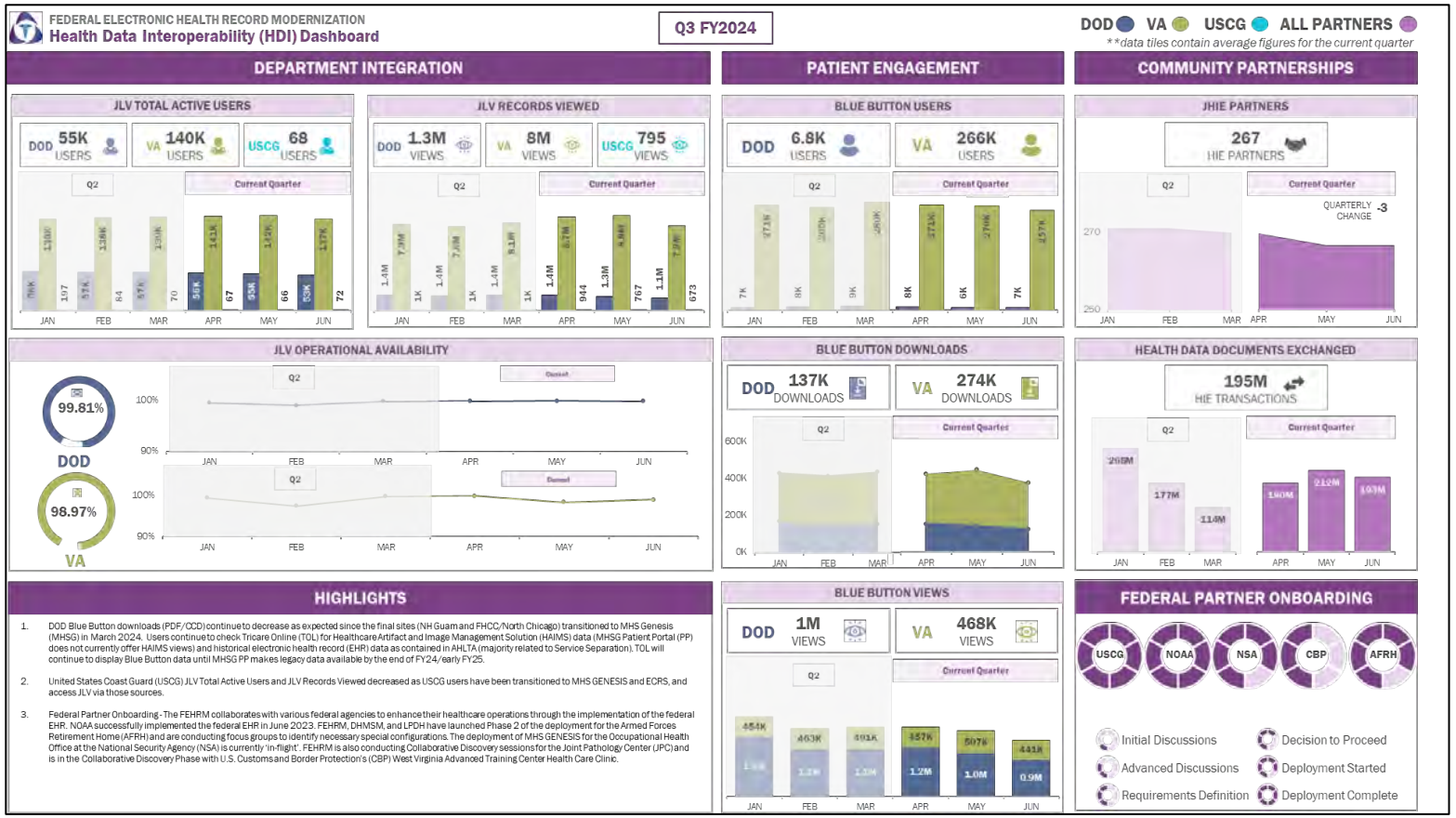
Conclusion

Throughout the reporting period the Departments remained committed to measuring, assessing, and enhancing interoperability with the single, common federal EHR as well as with their private sector partners who care for DOD, VA, USCG and NOAA beneficiaries. The FEHRM, in partnership with the Departments, continue to advance interoperability.

Appendix A: HDI Metrics Details

HDI Metrics Details: Throughout Q3 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 Q3 FY2024 HDI Metrics Dashboard.

Figure 1 – Q3 FY2024 HDI Metrics Dashboard



Q3 FY2024 Highlights: Metric highlights are captured in Table 1.

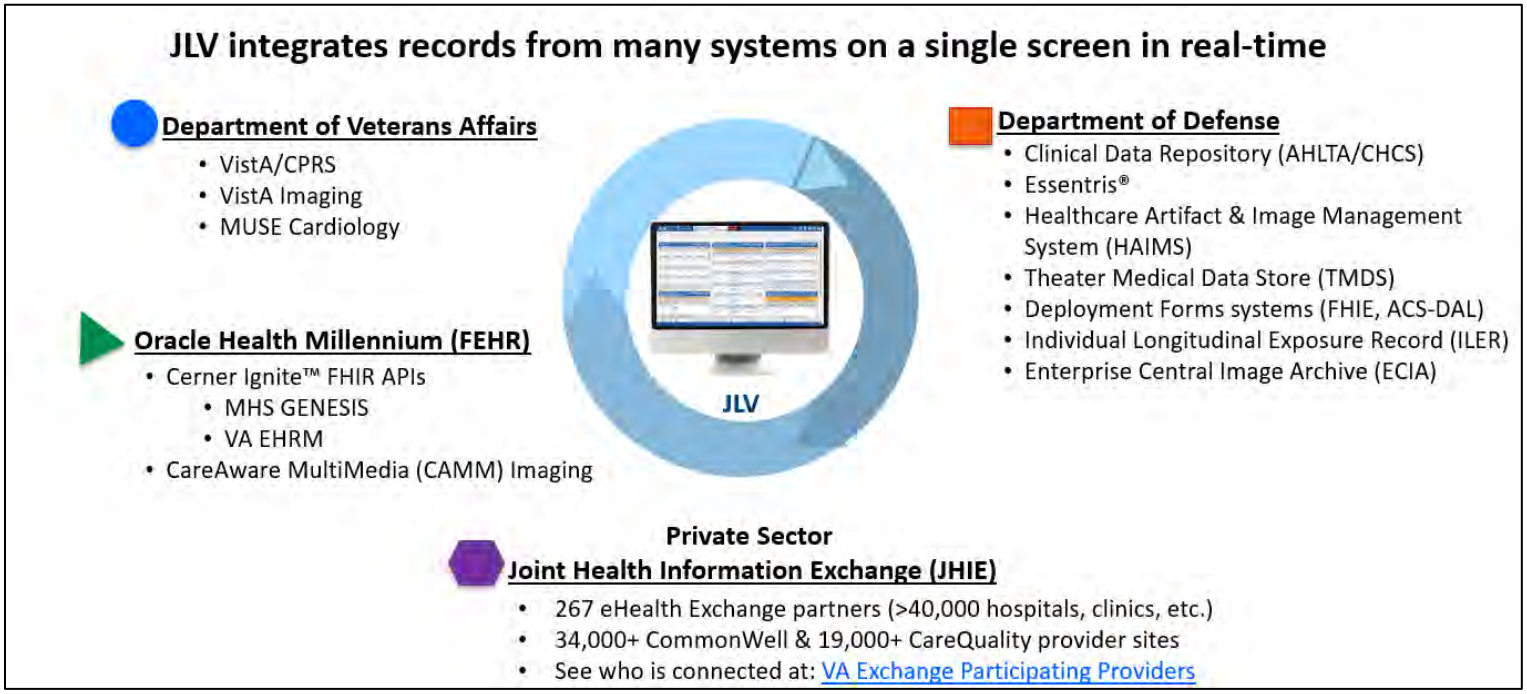
Table 1 – Quarter Highlights

Metrics	Highlights
DOD Blue Buttons	DOD Blue Button downloads (PDF/CCD) continue to decrease as expected since the final sites (Naval Hospital Guam and Lovell FHCC/North Chicago) transitioned to MHS GENESIS (MHSG) in March 2024. Users continue to check Tricare Online (TOL) for Healthcare Artifact and Image Management Solution (HAIMS) data (MHSG Patient Portal (PP) does not currently offer HAIMS views) and historical EHR data as contained in AHLTA (majority related to Service Separation). TOL will continue to display Blue Button data until MHSG PP makes legacy data available by the end of FY2024/early FY2025.
USCG JLV Total Active Users and JLV Records Viewed	USCG JLV Total Active Users and JLV Records Viewed decreased as USCG users have been transitioned to MHS GENESIS and ECRS, and access JLV via those sources.
Federal Partner Onboarding	Federal Partner Onboarding: The FEHRM collaborates with various federal agencies to enhance their health care operations through the implementation of the federal EHR. NOAA successfully implemented the federal EHR in June 2023. FEHRM, DHMSM, and LPDH have launched Phase 2 of the deployment for AFRH and are conducting focus groups to identify necessary special configurations. The deployment of MHS GENESIS for the Occupational Health Office at NSA is currently “in flight”. FEHRM is also conducting Collaborative Discovery sessions for the Joint Pathology Center and is in the Collaborative Discovery Phase with U.S. Customs and Border Protection’s West Virginia Advanced Training Center Health Care Clinic.

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 USMEPCOM, NOAA, and participating provider organizations who join the eHealth Exchange[2] and CommonWell.[3] 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 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, laboratory tests ('labs') and medications; and request prescription renewals online.

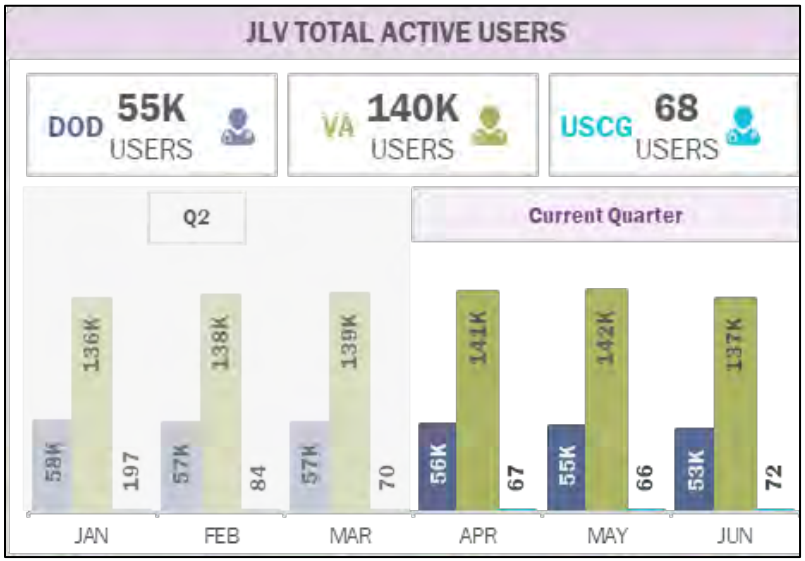
The FEHRM, DOD, and VA continue to expand HDI by improving upon the more than nine million patient records currently shared monthly between the two Departments, as defined by the total number of JLV records viewed by the Departments reported as of June 30.

[2] 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/

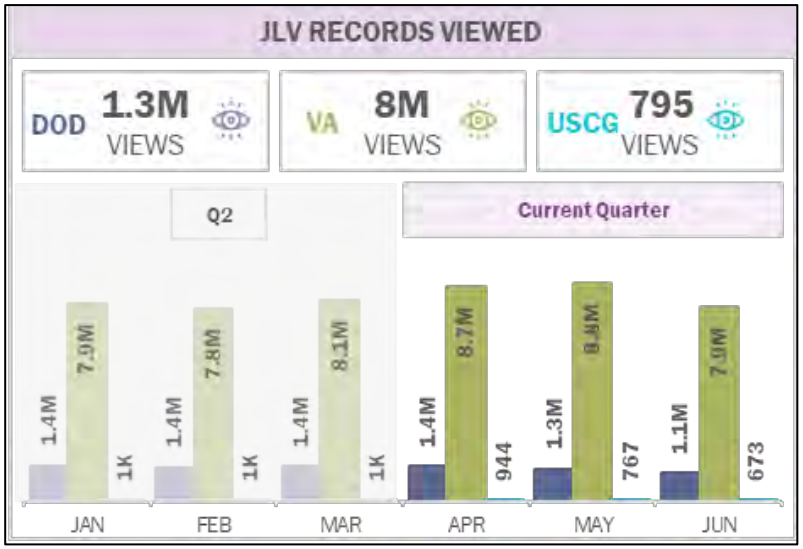
[3] CommonWell – A service that collectively allows individuals and caregivers to find and access records associated with a patient regardless of where the care was delivered. CommonWell Alliance Online, October 14, 2022, https://www.commonwellalliance.org/about/faq/

Department Integration

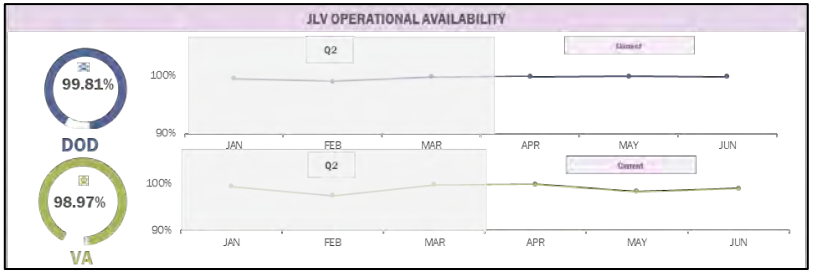
Value Statement: The FEHRM tracks utilization of legacy and modern EHRs, which enables departmental leadership and Congress to assess the reliability of legacy systems and evaluate the Departments' progress in transitioning from legacy systems to the single, common federal EHR.



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

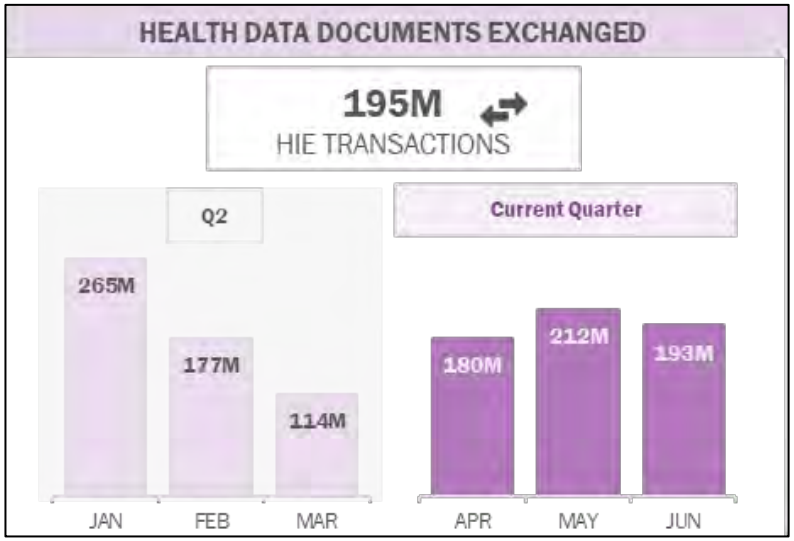
Definition

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 (users able to conduct patient search/lookup and retrieve DOD, VA, and federal EHR data in production environments).

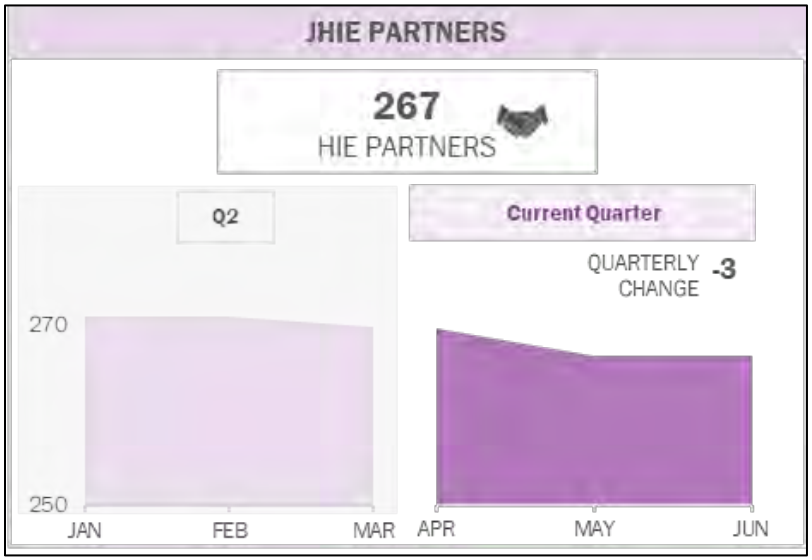
Community Partnerships

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 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.

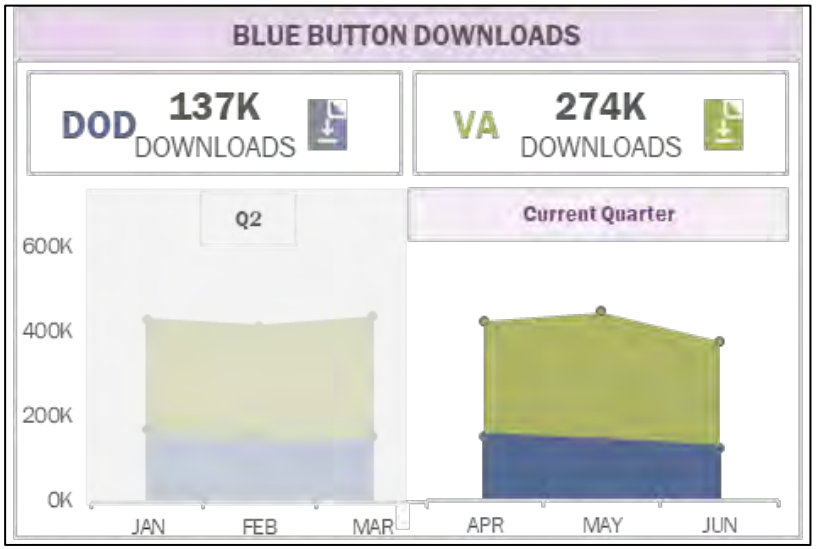


Joint HIE Partners Onboarded

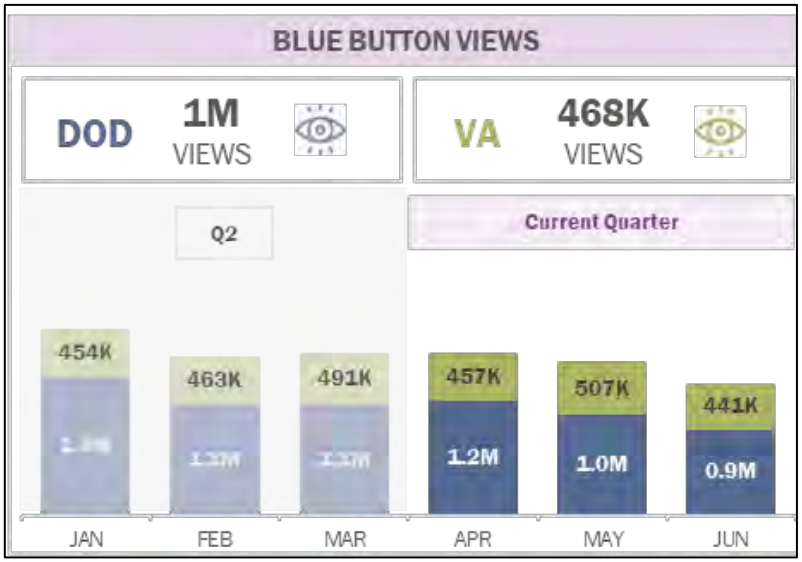
Definition
Monthly and cumulative count of participating provider organizations who are partners in the joint HIE (a provider organization is counted as one partner if the provider has one or more data-sharing agreement(s) with DOD or VA).

Patient Engagement

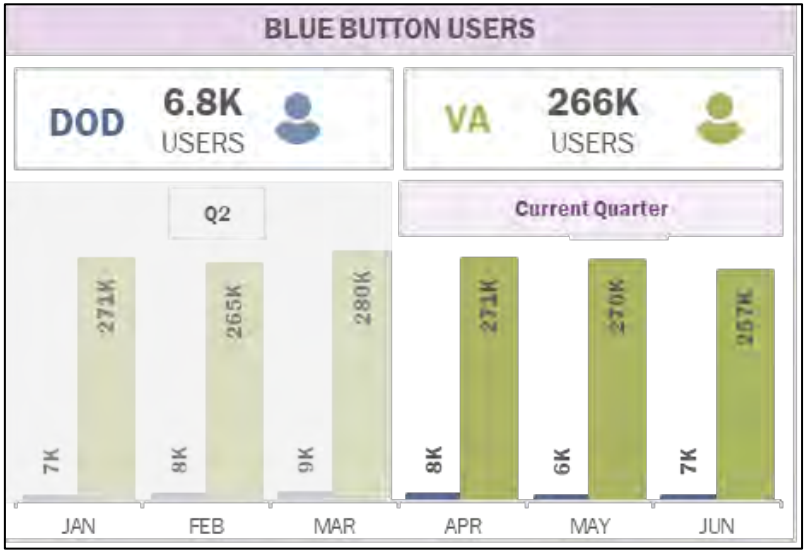
Value Statement: Blue Button serves as the foundation for broader patient engagement activities within the Departments, enabling patients to have easy access to their own health information in a usable format. The FEHRM monitors several metrics associated with Blue Button that show patient engagement 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.



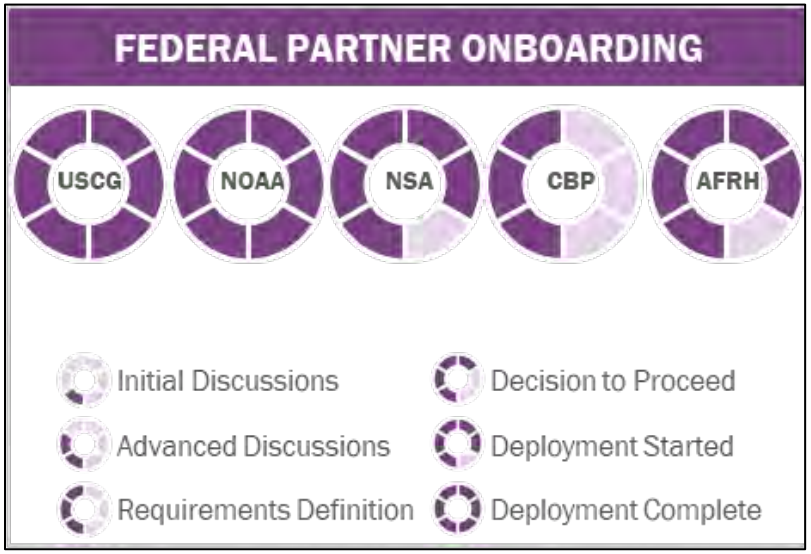
Blue Button Views
Definition
Average number of views generated by end users per month.



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.