FEDERAL ELECTRONIC
HEALTH RECORD
MODERNIZATION

FEHRM

Interoperability Progress Quarterly Report

FOURTH 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 fourth quarter of fiscal year 2024 (Q4 FY2024), the FEHRM continued to prioritize 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 is successfully unifying efforts across the Federal EHR ecosystem to deliver 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 Homeland Security's U.S. Coast Guard

(USCG), and the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) functional oversight of all configuration decisions impacting the production baseline.

In Q4 FY2024, the JSaAB approved 373 content and configuration changes. In addition, the JSaAB reviewed and concurred with 458 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 seven times during Q4 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.

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 direction and oversight of this executive body, data and analytics are governed by the Data Governance Board (DGB) and Analytics Governance Board (AGB), respectively.

Under the EDMB, data is governed by the DGB with stakeholder representation from constituent bodies. In Q4 FY2024, the Data Acquisition and Syndication Committee (DASC), stood up two new working groups—the Clinical Health Data Repository (CHDR) 2.0 Integrated Program Team (IPT) and the Joint Data Syndication Rule Modification Workgroup. The CHDR 2.0 IPT was stood up at the request of the DASC in 2024.

Prior to DHA fully modernizing to the Federal EHR, computable outpatient pharmacy and drug allergy information for shared patients was exchanged between DOD and VA via CHDR. The CHDR IPT focuses on functional and technical requirements that will lead to a solution that resumes flow of pharmacy and drug allergy information between DOD and VA.

The Joint Data Syndication Rule Modification Workgroup was established by the DGB-DASC to address a data gap between DOD and VA encounters that resulted from the 2019 location-based filtering rule. The updated rule proposed by the IPT currently in review ensures complete patient data sharing aligned with agency beneficiaries.

Under the EDMB, analytics are governed by the AGB with stakeholder representation from constituent bodies. The AGB extends to all uses of data for the purpose of decision making

to include analytics, reporting, and registries. Reporting is the presentation of existing information or data to make decisions more easily. In FY2024, the number of reports in the current pipeline is 2,170 for the year to date. Of those reports, joint governance under the AGB reviewed and approved 1,495 reports to be published. The convergence rate on published reports is 65%.

Identity, Credential, and Access Management

In Q4 FY2024, the FEHRM Technology Office Chief Engineering Team re-established the Electronic Data Interchange Personal Identifier (EDIPI) 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 with DMDC to provide a new solution for EDIPI support of a currently unknown number of external user populations. The solutions have financial, contractual, policy, technical, and cyber security ramifications; research, findings, and recommended courses of action (COAs) will be presented at the next Information Technology Executive Committee (ITEC),

The EDIPI IPT Team will explore utilization of new solutions, such as Microsoft Entra Business-to-Business (B2B) External ID, in the shared identity solution—also known as FedTrust Identity Access—as well as how to support future needs, such as Zero Trust and agency Security Assertion Markup Language (SAML) 2.0 solutions. 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 B2B

The FEHRM Technology Office's chief engineer is leading the effort to expand the full suite of collaborative capabilities of Microsoft 365 to the hybrid DOD- and VA-staffed FEHRM office. In Q4 FY2024, the FEHRM provided requirements to support hybrid identity operations across two or more Microsoft 365 entities. The requirements were reviewed and approved by DHA J6 to support the FEHRM's application through DISA for improved identity controls for the B2B pilot (expansion of the Captain James A. Lovell Health Care Center, or Lovell FHCC). The FEHRM Chief Engineering Team is focused on identifying the larger roadmap and process for an enterprise adoption for future tenants in collaboration with DHA J6 and VA Office of Information Technology. Once this new process is identified and successfully implemented, the new identity solution will enable collaborative capabilities, such as cross-agency participation in Microsoft Teams channels, SharePoint channels, cooperative authoring and editing of documents in real time, and improvements in Outlook email and calendar operations in accordance with Microsoft 365 capabilities. These capabilities will be guided by approved data loss prevention policies and procedures (including Microsoft Purview Information Protection) to ensure compliance.

Unified Architecture Dashboard

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

In quarter three of FY2024 (Q3 FY2024), the FEHRM initiated the multi-agency Unified Architectural Dashboard (UAD) meetings between principals representing the DOD Program Executive Office, Defense Healthcare Management Systems (PEO DHMS); VA EHRM-IO Architecture Team; and the FEHRM Technology Office (chief engineer). The FEHRM facilitates the UAD meetings with the purpose of ensuring the compatibility of the existing VA Cameo instance with future connectivity to the DOD Cameo instance, currently being developed. In the fourth quarter of FY2024, the FEHRM Technology Office successfully facilitated Phase I tasks, such as an Assured Compliance Assessment Solution scan, boundary diagrams, user onboarding, and cost estimation. The FEHRM will continue to monitor progress of the categorization memo provided to J6 for authorization and the authorization package for the .mil environment, which continues to progress as expected. Next steps in this effort include the opportunity to connect the DHA and VA Cameo instances through a process for the purpose of a joint-unified dashboard. The FEHRM will work with VA and DOD to determine an implementation roadmap and timeline that aligns with DOD and VA priorities.

Federal EHR Retrieve Summit

In Q4 FY2024, the FEHRM Technology Office continued to lead biweekly planning sessions with DOD, VA, DMDC, and Federal EHR vendors to collaborate and plan for three initiatives identified for work prior to a face-to-face summit. Two of the initiatives with updates to DOD and VA Rhapsody systems are planned for inclusion in Capability Block (CB) 12 (scheduled for February 2025). The third initiative, targeting address validation tools utilized by the Rhapsody retrieves, will require extensive review and discussion to reach consensus for common configuration. Discussions between subject matter experts (SMEs) from DOD, VA, and Federal EHR vendors are planned for biweekly IPT sessions and are targeted for completion as part of the face-to-face summit, tentatively planned for after CB12.

Implementation Support to JSS

During Q4 FY2024, the FEHRM JSS-FHCC Workstream prepared a series of documents that can be leveraged to support transitioning JSS currently in interim state to end state once VA completes its reset. Though there is a large volume of artifacts being standardized to support federal partners for deployment, some notable examples of these documents include:

- FEHRM Questionnaire, which assesses optimization opportunities for sites transitioning from interim to end state.

- Site Readiness Dashboard, which indicates readiness status toward deployment for key areas of pre-deployment readiness.
- Critical Path Checklist, which facilitates tracking of completion of key activities necessary to perform leading up to deployment.
- JSS Informational Planning Guide, which provides a high-level walkthrough of a JSS Federal EHR deployment, including background, key stakeholders, standardized processes covering the deployment life cycle, and types of services provided at JSS based on facility size.

Additionally, the FEHRM JSS-FHCC Workstream updated its JSS Risk Analysis Framework process and developed a supporting standard operating procedure (SOP) document that outlines key activities a site can perform throughout the deployment life cycle to ensure a smooth transition to end state. This framework and document incorporate the processes and best practices documented during the Lovell FHCC deployment and throughout the DOD deployment. This framework and SOP have been shared with DOD and VA partners via collaboration within the Joint Workflow Assessment Working Group and with Electronic Health Record Modernization (EHRM) Program Management Offices (PMOs).

Lastly, the FEHRM JSS-FHCC Workstream has been working to develop multiple artifacts that can be used to support the management of pre-deployment and post- deployment activities. Some notable examples of these artifacts include Site Readiness Dashboards and Critical Path Checklists, which can be used to ensure standardized activities are completed leading up to deployment and will keep various stakeholder groups abreast of deployment status in the joint space at impacted JSS.

FEHRM Support of JSS in Interim State

In Q4 FY2024, the FEHRM JSS-FHCC Workstream performed a 60-day pulse check with the William Beaumont Army Medical Center (BAMC) and El Paso VA Medical Center (VAMC) sharing partners' lab teams to assess the effectiveness of the newly implemented virtual printing solution (completed in Q3 FY2024), which permitted the El Paso VAMC Lab Team to receive automated triggers indicating readiness of results for lab tests sent to Beaumont for processing.

The El Paso VAMC Lab Team reported up to a two-day improvement in turnaround time in laboratory results available to ordering providers to review as well as up to a 30-hour staff labor reduction per month. These metrics were shared with the Departments, and interest has increased to consider the delivery of this capability to five other JSS that were previously using the VA-managed Laboratory Electronic Data Interchange and Laboratory Data Sharing and Interoperability interface to submit lab tests and retrieve lab results (like BAMC/El Paso VAMC) in an automated, streamlined fashion.

Captain James A. Lovell Federal Health Care Center Federal Electronic Health Record Implementation

During Q4 FY2024, the FEHRM Lovell FHCC Federal EHR Implementation Team focused support on several post go-live activities at Lovell FHCC. Primarily, the FEHRM took the lead on activities after the Enterprise Requirements Adjudication (ERA) effort, rebranded to Enterprise Requirements Convergence Opportunities (ERCO), which is intended to provide avenues for follow-on Departmental assessments and support for further convergence and potential optimization opportunities. The initial focus of the ERCO effort during this quarter was to develop the process and prioritize the list of topics to address remaining barriers for convergence to meet the integration goal set forth for Lovell FHCC.

In phase 1 of the Lovell FHCC EHR Implementation project, the ERA process was conducted from January 2022 to March 2023 to adjudicate differences between DOD and VA policies, procedures, nomenclature, and workflows. A series of workshops and events ensured assessment findings were reviewed, discussed, and adjudicated for inclusion in the Federal EHR enterprise baseline. The ERA process identified 69 topics for adjudication; DOD and VA stakeholders recommended a convergence COA for 31 ERA topics, and the remaining 38 ERA topics resulted in divergence, with an understanding that DOD and VA would address these as future areas of convergence as the system is continually updated and optimized.

To meet the integration goal set forth for Lovell FHCC and in alignment with the FEHRM Charter, the FEHRM is continuing engagement to assess the 38 ERA topics in addition to new topics that were identified post deployment. The prioritized ERCO list is comprised of 40 topics. The FEHRM began mapping out the review, assessment, and adjudication efforts for top priorities following the proven ERA process whereby the FEHRM converged on the 31 items leading up to Lovell FHCC deployment. The Lovell FHCC EHR Implementation Team led several discussions with FEHRM workstreams, EHRM PMOs, and Lovell FHCC to identify the top priorities that are high-impact topics for the FEHRM, DOD, and VA to optimize the Federal EHR and further integrate Lovell FHCC. The top five topics agreed to by leadership are 1) Federal EHR Integrated Helpdesk and Incident Management, 2) Lovell FHCC Subsystems Consolidations, 3) Federal EHR Training, 4) Enterprise Baseline Positions/Roles, and 5) Single Patient Care Location (PCL) Standard.

During the reporting period, the FEHRM worked to develop a process to collaborate with DHA, DoD Healthcare Management System Modernization (DHMSM), VHA, and EHRM-IO to centralize, prioritize, and report on these topics and provide designated support. The process will allow for prioritization of ERCO-related activities to support assessments of the top priorities and delivery of documented action plans. Topics have been well documented to assist in identifying and designating key representatives and SMEs with the appropriate knowledge, adequate time, and decision-making authority to actively participate in associated workgroups. The FEHRM will assist the Departments and help facilitate when

appropriate contractual and task-order support for ERCO-related activities is needed from the Departments. The FEHRM will also identify when additional ongoing support for remaining ERCO topics is needed to progress toward convergence, when feasible.

Lovell FHCC Technical Partner Integration

Federal Interfaces Team

During Q4 FY2024, the Federal Interfaces Team (FIT) continued to support post-deployment interface-related activities at Lovell FHCC, including the Joint Radiology Picture Archiving and Communication System (PACS) interface and Pharmacy 3b enhancements.

With the assistance of the FEHRM JSS-FHCC Workstream, the FIT stood up the Lovell FHCC Radiology PACS Integration Workgroup, a multi-agency effort that convened key stakeholders to discuss the FHCC Radiology PACS Systems Integration background, confirm COAs, and derive a notional timeline for delivery of an integrated PACS capability by a multi-agency team. Through the workgroup, the FIT assisted in the completion of the EHRM-IO Office of the Functional Champion intake form to formalize the project and developed a Memorandum for Record supporting the requirements and COA selection.

For the Pharmacy 3b enhancements project, the FIT continued to track the progress statuses, risks, and impediments by attending weekly IPT sessions. The FIT also attended the Pharmacy 3b three-day summit and two-part demos. Supportive efforts are centered around effective software testing and PMO capability block release schedule success.

Onsite Device Team

In Q4 FY 2024, the Onsite Device Team shifted its focus from implementation to integration and optimization. This shift occurred after ensuring that Lovell FHCC's DOD PCLs received all the support they needed during the site's summer surge of new recruits. To support this summer surge, the team ensured PCLs had workstations that met Federal EHR system requirements, and Local Area Network and Wide Area Network connections were operational. Furthermore, the team also provided support that helped drive common device workflow understandings.

For optimization, the Onsite Devices Team focused on Lovell FHCC device performance, logon failures, and crashes. The team identified general thresholds and used this to provide IT leadership at Lovell FHCC suggestions on managing system performance.

Operations Support

The Operations Support Team continued to enhance a Power BI app launched in Q3 FY2024 to track DOD and VA incident tickets exported from ServiceNow.

These enhancements include combined DOD and VA ticket searches by severity, latency keyword search capability, as well as various visualization improvements—such as the inclusion of ticket submission and assignment group Points of Contact for each ticket.

Collectively, these enhanced application features enable users at Lovell FHCC to view DOD and VA ServiceNow incident tickets without using multiple logins or having to traverse network boundaries.

The Operations Support Team also used Power BI to develop an FHCC System Performance Scorecard using Oracle Health Lights On data. The Operations Support Scorecard compiles monthly system performance metrics specific to Lovell FHCC (i.e., latency, transaction and login times, interruptions, and crashes) and displays them in simple, easy-to-interpret formats and visualizations.

FEHRM Lessons Learned Repository Management

The deployment of the Federal EHR at Lovell FHCC in March 2024 provides 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. The FEHRM Lessons Learned Repository holds 392 enterprise-wide lessons learned. 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 events 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 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 Q4 FY2024, in addition to monitoring planned activities that could impact FEHRM partners, the EOC monitored and reported 74 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 Lights On Network availability, DHMSM Weekly Problem Investigation, DHMSM Downtime reporting, and Oracle Health Key Performance Indicator metrics throughout Q4 FY2024. The Enterprise DOD, VA, and Department of Homeland Security (DHS) Monthly EHR Health Report is currently on pause in its previous version as the FEHRM explores the potential for extracting trend analysis data from the Oracle Health Status Dashboard after Severity 1/Severity 2 (SEV 1/SEV 2) SITREP reporting, which will be released next quarter. The FEHRM Enclave and Ecosystem Management Team remains focused on high-priority incidents and outages affecting the Federal Enclave, escalating major Federal incidents and outages to FEHRM Technology Office Leadership. The FEHRM is committed to working with the DHMSM, VA, and Oracle Health Incident Management teams to refine reporting of SEV1 and SEV2 major incidents and to continue to provide systems engineering subject matter expertise.

Enterprise Technical Activities

The FEHRM Technology Office's Chief Engineering Team conducted a series of regular enterprise technical activities throughout Q4 FY2024. The schedule for the quarter included a Cyber Threat Brief Table-Top Lessons Learned session focused on lessons learned from the recent MHS GENESIS cyber table-top exercise highlighting cybersecurity readiness. In

addition, a SAML 201 Brief was presented as a result of the ongoing discussions regarding secure authentication processes across the enterprise.

The team is preparing an Environment Management Operations Center session, led by Oracle Health, with highlights from the Oracle Cloud World and Oracle Health Conferences and special emphasis and prioritization on topic areas most related to the Oracle Cloud Infrastructure (OCI) migration. These activities reflect the continued efforts of the FEHRM Technology Office to align cybersecurity, cloud infrastructure, and technical briefings across the DOD and VA, thereby ensuring effective collaboration.

Federal Release and Domain Management

In Q4 FY2024, the FEHRM Technology Office Chief Engineering Team continued its involvement in the federalization of the joint release management process, contributing to the Federal Release Work Group (FRWG). A significant focus was placed on advancing the FRWG Charter, gathering feedback from release management stakeholders, and collaborating with the Office of General Counsel to finalize the document, anticipating final signature in the first quarter of FY2025 (Q1 FY2025). Additionally, the FEHRM Technology Office transitioned to preparing detailed Release and Domain Management updates for the monthly Electronic Health Record Modernization–Coordination meetings.

The team actively participated in weekly Domain Status and Block/Cube release meetings, working to deconflict refreshes with go-live and training events. This ongoing involvement ensured smooth coordination between various domains and operational schedules, with particular attention given to critical upgrades and environment refreshes scheduled throughout the quarter. A monthly summarized view of releases was created for the chief engineer, providing a comprehensive overview of upcoming and completed releases. Plans are in place to mature this summary to associate relevant problem records with releases intended to resolve them, thereby enhancing the ability to manage and monitor operational impacts and provide critical information to the FRWG.

Federal Electronic Health Record Cybersecurity

In Q4 FY2024, FEHRM Technology Office Cybersecurity Directorate maintained its leadership role in driving cybersecurity initiatives, actively collaborating with key federal and private sector stakeholders, such as DHA, DHA Cyber Operations Center, PEO DHMS, DHMSM PMO, EHRM-IO, VA Cyber Security Operations Center, and vendor partners.

One noteworthy achievement was the facilitation of the Joint Cybersecurity Team Meeting, which saw robust participation from agency leaders. This forum was instrumental in enhancing cybersecurity requirements, fostering interagency cooperation, and strengthening defenses within the Federal Enclave, directly aligning with the FEHRM's objective of ensuring a resilient cybersecurity posture and supporting National Defense Authorization Act (NDAA)

goals related to information sharing and joint defense capabilities. Additionally, the directorate played a pivotal role in supporting the VA Office of Information Security's Zero Trust Architecture (ZTA) pilot, bringing together critical stakeholders, including DHA J6, PEO DHMS, JCOIC, FEHRM, and DHMSM PMO. This collaborative effort aligns with the FEHRM's commitment to promote secure and seamless data exchange and supports the acceleration of adoption of modern security architecture like ZTA.

Oracle Cloud Infrastructure

In Q4 FY2024, the FEHRM Technology Office Cybersecurity Team began supporting DHMSM OCI Preliminary Design Review to better understand cyber impacts and requirements. The team engaged in the DHMSM OCI reviews to closely assess and ensure a consistent, secure approach to implementation that mitigates risks and aligns systems with compliance to privacy and security requirements. This work aligns with the FEHRM's goals of ensuring compliance and supports mandates for secure cloud integration across federal systems.

Authority to Use for PEO DHMS Government Sites

During the Q4 FY2024, the FEHRM Technology Office Cybersecurity Directorate successfully completed the Categorization Memorandum and secured the Authority to Use (ATU) for PEO DHMS government sites, including FEHRM.gov, HIVE.gov, and EHR.gov.

Collaboration between major stakeholders, such as General Services Administration, PEO DHMS, and the FEHRM Technology Office Cybersecurity Team was paramount in obtaining ATU approval, reinforcing the FEHRM's objective to address privacy impacts and safeguard federal information systems.

Lovell FHCC Shared PACS

The team continued to work diligently alongside DOD and VA to advance the Enterprise Clinical Imaging Archive and the Lovell FHCC PACS Interconnection Security Agreement (ISA) throughout the formal signature and approval process. An expected benefit of this interconnection is the consolidation of the workflow into a single radiology picture archiving system, allowing radiologists to work from a single workstation with a single voice-recognition system and access prior studies from VA and DOD vendor-neutral archives. A single system lowers network vulnerabilities and overhead costs for both agencies.

In addition to the ISA efforts, the team remained actively engaged in the Lovell FHCC Shared PACS COAs and ongoing configuration discussions to foresee potential cybersecurity and privacy impacts, while awaiting the finalized approved COA. This proactive risk assessment ensures compliance with the objective to continuously evaluate and enhance the cybersecurity posture of the Federal EHR.

Information Assurance

In Q4 FY2024, the Information Assurance Team continued proactive measures in facilitating the creation and maintenance of dual-use Citrix accounts to securely connect DOD account holders with VA networks, thus enhancing secure access protocols. To establish a systematic approach for the provision of Citrix Access Gateway accounts, the team created a draft intake process in collaboration with FEHRM Technology Office Partner Integration.

Additionally, the team initiated the creation of a comprehensive list of known VA eMASS systems and interfaces, collaborating with systems owners/authority officials, to ensure effective cybersecurity coordination. These measures improve the security posture of shared federal health systems and align with the FEHRM's objective of continuous risk assessments and management in multi-agency environments.

Additional FEHRM Technology Office cybersecurity activities included but are not limited to:

- Proactively informing Cybersecurity Assessment prerequisites, engaging with stakeholders to review and update the overarching memorandum of understanding/ISA between VA and DHA, and actively participating in Interagency Operations Working Group.
- Joined the Federal Health IT Council to reinforce partnerships with federal partners and further bolster the Federal EHR security posture.
- Participated in the Federal Health Summit, which explored critical issues of cybersecurity in health systems and obtained valuable insights into cybersecurity efforts across the federal government, particularly at VA and the Department of Health and Human Services (HHS), with applicability on how to protect patient data and ensure operational resilience against a backdrop of increasing cyber threats.

On August 2, 2024, the FEHRM Technology Office Cybersecurity Team submitted an executive summary to leadership regarding Black Basta Zero Day Vulnerability. This report, developed after in-depth collaboration with technical teams, provided actionable insights that enabled swift mitigation measures. The strategic response directly supports the FEHRM's role in rapidly addressing emerging cybersecurity threats and proactive threat management.

Throughout Q4 FY2024, strategic initiatives remained a top priority for the cybersecurity team. The team provided valuable input for the FEHRM Charter Prioritization request from leadership. The team presented the strategic vision for the Cybersecurity Directorate, aligned with NDAA 2020 and the Assistant Secretary for Technology Policy/Office of the National Coordinator for Health Information Technology (ASTP) Federal Health IT Strategic Goals for 2020–2025. This vision fortifies the Federal EHR's security posture, supports the implementation of Zero Trust Architecture across agencies, and prepares for future interfaces, devices, JSS deployments, and artificial intelligence (AI) technologies.

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

Interoperability Modernization

Joint HIE

The FEHRM Technology Office Data Integration Solutions Team continues to sustain the joint HIE to maintain access to multiple private-sector networks and frameworks. During Q4 FY2024, the joint HIE has successfully exchanged more than 674,444,004 documents with private-sector partners.

The Joint HIE 2024.1 upgrade is planned for production deployment in Q1 FY2025. This upgrade allows for the critical commercial updates necessary for the joint HIE, but it does not contain any functional enhancements.

The FEHRM Technology Office Data Integration Solutions Team has remained engaged on Trusted Exchange Framework and Common Agreement (TEFCA) and its related agreements, as well as staying engaged on the analysis of all Qualified Health Information Networks 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 and import immunization records into the Federal EHR database. In Q4 FY2024, DOD successfully implemented connections with Texas, Maryland, Virginia, and Washington DC; planning for future state implementations is in process. The FEHRM Technology Office Data Integration Solutions 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 was successful, and VA plans to expand the pilot to additional sites within Walla Walla in FY2025. Then, VA will deploy enterprise wide to all VA live sites. The FEHRM

Technology Office Data Integration Solutions 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 Q4 FY2024, the FEHRM CTO Data Integration Solutions Team successfully deployed the COVID-19 Vaccination Health Registries measures to the Registries group (planning to be replaced by updated measures) while also modifying multiple other Health Registries measures, thereby bringing the total number of provider-facing registries to 27 with 300 measures. The FEHRM Technology Office Data Integration Solutions Team has continued to support efforts related to ingesting legacy lab, diagnosis, and procedures data into the Health Data Intelligence platform.

The increased use of the Health Data Intelligence platform necessitated Infrastructure improvements to enhance performance. The FEHRM Technology Office Data Integration Solutions Team engaged with Leidos Partnership for Defense Health and Oracle Health to implement upgrades, which included the expansion of Vertica and Tableau computing resources. As a result, end users have seen a higher success rate for data set processing and transformations, as well as decreased session terminations. Also, efforts are underway to implement additional alerts for system performance monitoring and performance monitoring dashboards for client use. The FEHRM Technology Office Data Integration Solutions Team has started to engage with PMOs on the OCI migration as Health Data Intelligence is planned for Tranche 0. Timelines are not available, but the team is working to understand the benefits and impacts of this migration.

Joint Longitudinal Viewer

The DOD Joint Longitudinal Viewer (JLV) is a read-only, web-based clinical application that allows authorized users access to health data sources for military personal, Veterans, and other federal partners. JLV brings numerous data sources together, providing a common, integrated, comprehensive display of health information from more than 300 data sources in real time, including DOD and VA legacy applications, the joint HIE/private sector, and the Federal EHR.

The FEHRM Technology Office Data Integration Solutions Team continued JLV sustainment activities with 54,316 active users, 1,176,072 logins, and 1,250,510 patient selects in August.

Release 3.0.5.0, deployed in September, included display enhancements to the Immunizations, Consults, Medications, and Lab Results widgets. In addition, in alignment with the overall modernization program, JLV access modes that integrated with Armed Forces Health Longitudinal Technology Application (AHLTA) were decommissioned.

Longitudinal Natural Language Processing

Longitudinal Natural Language Processing (LNLP) is a capability that applies natural language processing (NLP) and machine learning (ML) to unstructured notes to make the unstructured data searchable and codified in a way to better understand medical concepts and context. The FEHRM Technology Office Data Integration Solutions Team continued to improve LNLP capability by successfully deploying LNLP 1.0.4.0 into production in Q3 FY2024. This latest LNLP release expanded the data sources within the JLV United States Military Entrance Processing Command (USMEPCOM) widget to include VA data from Veterans Health Information Systems and Technology Architecture sites. The LNLP processing of USMEPCOM disqualifying conditions against note types now includes private sector (joint HIE), AHLTA (legacy), Essentris (legacy inpatient), MHS GENESIS, and VA data. The FEHRM Technology Office Data Integration Solutions Team has also expanded the LNLP processing capacity by adding eight worker nodes to the LNLP hosting environment.

Military Service Exposures and the Electronic Health Record

Several provisions of the Honoring our Promise to Address Comprehensive Toxics Act of 2022 (PACT Act) impact the Federal EHR and its 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 Team led 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 Exposure Interoperability Team's objective was 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 focused on those exposure concepts (i.e., substances, events, and locations) cited in the PACT Act but unavailable in SNOMED-CT. The primary areas of focus were in per- and polyfluoroalkyl substances (PFAS), chemicals related to open burn pits, dioxins, and jet fuels.

To submit these missing concepts, the team researched their medical use and identified academic citations to justify the inclusion in SNOMED-CT, before submission to the National Library of Medicine for their consideration and approval. The FEHRM has successfully submitted 27 new concepts since the commencement of this initiative in September 2023

through the current quarter, and during this quarter, the FEHRM received confirmation that seven new concepts related to jet fuels would be added to SNOMED-CT. These newly approved terms are now available in the EHR for clinicians to use in their documentation. The FEHRM continued to collaborate with experts from 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.

Building on the successful submissions to date, the FEHRM continued 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 concepts drafted during this quarter include those related to PFAS, dioxins, and burn pits. The FEHRM also drafted a submission related to Marine Corps Base Camp Lejeune to better catalogue exposures experienced by Service members and their dependents at that base.

Finally, the FEHRM worked to ensure equivalent terms are added to the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM). This involved reviewing previously submitted SNOMED-CT terms and submitting formal requests to the National Center for Health Statistics if ICD-10-CM codes are absent. The FEHRM prepared a group of proposed ICD-10-CM codes to include high-priority substances submitted to and accepted by SNOMED-CT but currently without a corresponding ICD-10-CM code. The FEHRM aims to provide claims adjudicators with ready access to these terms as they evaluate Service member and Veteran claims for benefits.

Participation in the Toxic Exposure Research Working Group

The PACT Act directed the VA Secretary, in collaboration with specified, invited, and interested federal partners, to establish a working group with an overall charge of identifying collaborative research activities and resources and developing and guiding a collaborative five-year strategic plan on the health outcomes of toxic exposures during military service. The FEHRM is represented in the Toxic Exposure Research Working Group (TERWG) membership, which includes 38 representatives and SMEs from eight federal departments and several agencies. The TERWG is co-chaired by representatives and SMEs from the DOD, VA, CDC, and White House Office of Science and Technology Policy. The strategic plan was delivered to Congress in August 2024 and 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 exchanging and interpreting health data. A collaborative endeavor is essential to achieve the highest level of interoperability for the Federal EHR. This collaboration effort involves coordination among federal agencies, health care providers, and IT vendors. This effort's collective goal is to implement interoperability standards and best practices to drive 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 Group developed a strategy 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 NDAA FY2020 and stakeholder priorities. The FEHRM Digital Health Standards Group works with selected workgroups to contribute expertise in standards development. This workgroup's 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 Federal 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 Work Group participation, the FEHRM engaged with other federal agencies, such as the ASTP, 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 (VAIL) Standards Work Group meetings, FEHRM Standards Stakeholder meetings, and 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.

Below 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 FEHRM's subsequent mission, goals, and objectives.

During Q4 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.

HL7

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 Q4 FY2024, the FEHRM engaged with HL7 through numerous mechanisms and forums, including the following:

September 2024 HL7 Ballot Cycle

HL7 Ballot Cycles and the associated working group 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.

HL7 released 38 proposed ballots for review during the September 2024 ballot cycle. Consensus group signup began in July 2024, and the FEHRM SME Team, along with DOD and VA experts, prioritized seven ballots for review and analysis based on an assessment of impact on Federal EHR stakeholders, including the following:

- HL7 Clinical Document Architecture, Release 2, Implementation Guide: International Patient Summary, Release 1 (PI ID: 1087). This guide enables all health care professionals to use a core data set as an international patient summary "of a subject of care's health information and healthcare." The guide is EHR and specialty agnostic and can be used by various audiences, such as public, regulatory, clinical, and technical.

- HL7 Fast Healthcare Interoperability Resources (FHIR) Implementation Guide: Data Exchange for Quality Measures, Release 1 – U.S. Realm. This guide enables automatic data collection and submission to be used for quality measures and clinical quality improvement.

- HL7 FHIR Implementation Guide: SMART Health Cards and Links, Edition 1. This guide outlines standards for creating, sharing, and verifying digital health information, such as vaccination records, in a secure and portable format.

- HL7 FHIR Release 6. This is the second-draft ballot for FHIR Release 6.

- HL7 FHIR Implementation Guide: Standardized Medication Profile, Edition 1 – U.S. Realm. This implementation guide identifies and defines the components of an interoperable medication profile for clinicians, patients, and caregivers to use for the exchange of essential medication information during transitions of care to and from post-acute care settings.

- HL7 FHIR Implementation Guide: Core Extensions, Edition 1. This repository moves the extensions out of the FHIR core into an appendix, starting with FHIR Release 6.

- HL7 FHIR Implementation Guide: FHIR Clinical Document, Edition 1. This consolidation and application of clinical document concepts will standardize the various approaches currently being taken across a myriad of FHIR implementation guides and profiles.

The voting period opened in late July and ended September 16, 2024. 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 Q4 FY2024, which allow federal agencies, stakeholders, and the HL7 community to work on standards and network with global industry leaders. The FEHRM engaged with, co-chaired, or led the following HL7 workstreams with the areas of focus noted:

HL7 Affinity Group

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 and received more than 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 approved and published in May 2024. In Q4 FY2024, the affinity group work continues with design sessions to support the latest USCDI v5 in C-CDA and FHIR.

HL7 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 CareQuest Institute for Oral Health, 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.

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 and the September 2024 HL7 FHIR Connectathon event.

The FEHRM Standards Group successfully launched the First National Dental Exchange during this HL7 FHIR Connectathon, where experts and developers engage in hands-on, heads-down development and testing, working directly with other FHIR developers and senior members of the FHIR Standards Development Team. Many experts contributed and witnessed the outstanding success of the information exchange between dental and medical systems. The FEHRM standards lead worked with the dental and oral health experts to exchange data across four critical scenarios:

- Medical to dental referral.
- Dental to medical consult note.
- Dental general practitioner to dental specialist practitioner referral.
- Specialist to general dental referral.

The success of the scenarios above solves the problem of dental providers receiving 85% inconsistent patient records, as referenced in the CareQuest study. It also supports the provider's timely and quality medical or dental information access to improved care. Moving forward, the FEHRM will work with the DSEP on expanding the tested use cases to include

more conditions and procedures and continue to address challenges, such as data quality, security, and standardization.

HL7 EHR Working Group – AI Data Lifecycle

The HL7 EHR Working Group initiated a project to advance the development of standards for use in 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 data sets.
- 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 the second quarter of FY2024 and worked to resolve comments collected during Q3 FY2024. The 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 toward standards publication. The paper was approved and published during Q4 FY2024.

HL7 EHR Working Group – Behavioral Health Project

During the May 2024 HL7 Working Group Meetings, the HL7 EHR Working Group approved and initiated a project to develop standards to support the current needs of the Behavioral Health community in terms of functional and data requirements by updating the Behavioral Health Functional Profile, originated in 2008. This project will improve the EHR with an updated HL7 Behavioral Health Functional Profile and an accompanying HL7 FHIR Behavioral Health Implementation Guide.

During Q4 FY2024, the working group's project team focused on developing behavioral health use cases that could guide the development of associated workflows and identify the data elements essential for interoperability. In support of this effort, FEHRM developed a robust use case outlining an Intensive Outpatient Program, with diverse opportunities for workflows that extend beyond the typical inpatient admission.

National Policy and Standards Development

U.S. Core Data for Interoperability Plus

During Q4 FY2024, the FEHRM continued to support ASTP advancement of U.S. Core Data for Interoperability Plus (USCDI+) through the advancement of a maternal health data set

and a cancer data set. Specifically, the FEHRM facilitated the development and submission of collaborative joint comment response to aid in identifying data elements for USCDI+ leveraging inputs from internal SMEs and experts within DOD and VA.

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, 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 September 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. Some focus areas for the meeting included:

- A panel discussion on Dental Health Data Exchange Standards, following the dental Connectathon held in connection with the HL7 Working Group meetings on September 21–22, moderated by the chief dental officer for CMS.
- An overview of USCDI v5, USCDI+, and the Health Data, Technology, and Interoperability: Patient Engagement, Information Sharing, and Public Health Interoperability Proposed Rule.
- The HL7 EHR Working Group's AI Data Lifecycle Project.

More than 100 individuals attended the September 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 DOD, VA, USCG, NOAA, IHS, CDC, CMS, and ASTP.

The FEHRM continued to lead collaborative events with the broader standards stakeholder community during Q4 FY2024, targeting sessions that promoted awareness of advancements within priority initiatives and focus areas including dental data exchange, HL7 AI/ML Data Life Cycle guidance, digital quality control measures, behavioral health, and health equity data.

VAIL Standards Work Group

The FEHRM partnered with VAIL in chartering, standing up, and co-chairing the VAIL Standards Work Group (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 project 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 reported progress to meeting the goal set in the VAIL Roadmap 2024–2028, which is the Department's strategy for advancing joint interoperability. During Q4 FY2024, the FEHRM achieved the following:

- Managed SWG operations, communications, and reporting of updates to the VAIL Executive Team.
- 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.
- Contributed to promoting the awareness and adoption of health interoperability policy and standards through knowledge sharing, such as the maintenance and release of the Interoperability Principles Resource Guide and presentations on such topics as health equity and electronic clinical quality measures. The Interoperability Principles Resource Guide brings awareness to the principles that are critical to achieving interoperability goals through routine program/project decision making. It 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.
- Promoted awareness to the FEHRM's Chief Health Informatics Office's data management governance process to educate VA stakeholders of forums to discuss their standards challenges to obtain DHA and VHA decisions for joint clinical

information systems, such as the Federal EHR, to ensure their needs are met and ultimately advance interoperability.

- Encouraged and coordinated VA participation in joint reviews of multiple national health interoperability standards, such as the USCDI+ data set public comment period and the HHS-proposed amendment to their acquisition regulation to implement requirements to procure health IT that meets the standards and implementation specifications adopted by ASTP.
- Encouraged and coordinated VA participation in influencing the development of international health interoperability standards, such as the HL7 ballot voting cycle in September 2024.
- Encouraged and coordinated VA presentations to promote international health interoperability standards, such as the VHA Standards and Interoperability Team's presentation at the HL7 Government Birds of a Feather meeting in September 2024, to bring awareness to the HL7 informative document for AI/ML Data Lifecycle, edition 1, which is the first standard to promote the use of standards to improve the trust and quality of interoperable data used in AI models.

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 Q4 FY2024, the FEHRM:

- Participated in several TEFCA meetings to facilitate engagement of federal partners and discussed how Interoperability in TEFCA has benefitted three goals to 1) establish a universal governance, policy, and technical floor for nationwide interoperability; 2) simplify connectivity for organizations to securely exchange information to improve patient care, enhance the welfare of populations, and generate health care value; and 3) enable individuals to gather their health care information.
- Continuously collaborated with ASTP stakeholders through participation in numerous ASTP engagements, including the 2024–2030 Federal Health IT Strategic Plan, to share comments, move toward publication, 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.

User Engagement and Assessments

Clinician and Patient User Satisfaction

During Q4 FY2024, the FEHRM continued its collaboration with DOD and VA clinician and patient satisfaction SMEs by convening Joint Working Groups (JWGs). These JWGs have previously developed standardized instruments and methodologies to survey and assess clinician and patient usage of and satisfaction with the Federal EHR.

The FEHRM facilitated these collaborative JWGs to ensure alignment across agencies regarding the quantity and scope of questions required to effectively assess satisfaction among clinicians and patients within DOD and VA. These efforts aimed to enhance survey methodologies and optimize the use of government resources.

The data collection initiatives for clinicians and patients leverage nationally recognized assessment tools. The KLAS Arch Collaborative for Clinician Satisfaction is applied to DOD and VA clinician surveys, while the Consumer Assessment of Healthcare Providers and Systems Health Information Technology (CAHPS-HIT) item set is used to evaluate patient satisfaction within the two agencies.

Key advancements in Q4 FY2024 included refinements to the DOD and VA patient satisfaction surveys, slated for implementation in Q1 FY2025. These updates involved the removal of questions deemed no longer relevant by JWG members, along with the elevation of an existing question to better capture insights into patient satisfaction.

Federal EHR Partner Onboarding

The FEHRM assists federal agencies interested in implementing the Federal EHR by guiding them through the first phase of deployment. This phase encompasses the agency's initial understanding of the Federal EHR, the completion of the Functional Requirements Document, advocacy and ownership of key issues, sharing of lessons learned from past deployments, and optimization of workflows during and after deployment. Additionally, the Federal Partner Onboarding and Strategy Team created and implemented a strategy to actively identify, prioritize, and engage with new federal agencies whose clinical operations align well with the Federal EHR ecosystem, fostering mutually beneficial relationships. By streamlining the deployment process and enhancing collaboration, the FEHRM ultimately improves the quality of care provided to patients, supports data-driven decision making, and strengthens the overall efficiency of federal health care operations. Key highlights of the team's engagement with external partners include:

- **NOAA:** NOAA successfully implemented the Federal EHR in June 2023. The FEHRM is actively tracking optimization opportunities, such as the integration of the USMEPCOM medical intake form, which has led to significant time savings for providers.

- **Armed Forces Retirement Home (AFRH):** Successful site visits were organized for AFRH providers to observe the Federal EHR in action at deployed sites, including Lovell FHCC.
- **Federal Aviation Administration (FAA):** The FEHRM collaborated with the FAA to draft the initial Functional Requirements Document and is coordinating an Oracle Health demonstration to discuss key requirements, laying a strong foundation for deployment.
- **Joint Pathology Center (JPC):** The FEHRM is facilitating Collaborative Discovery sessions to discuss JPC's key requirements and assess Oracle Health's capabilities, ensuring that the system aligns with their specific needs.

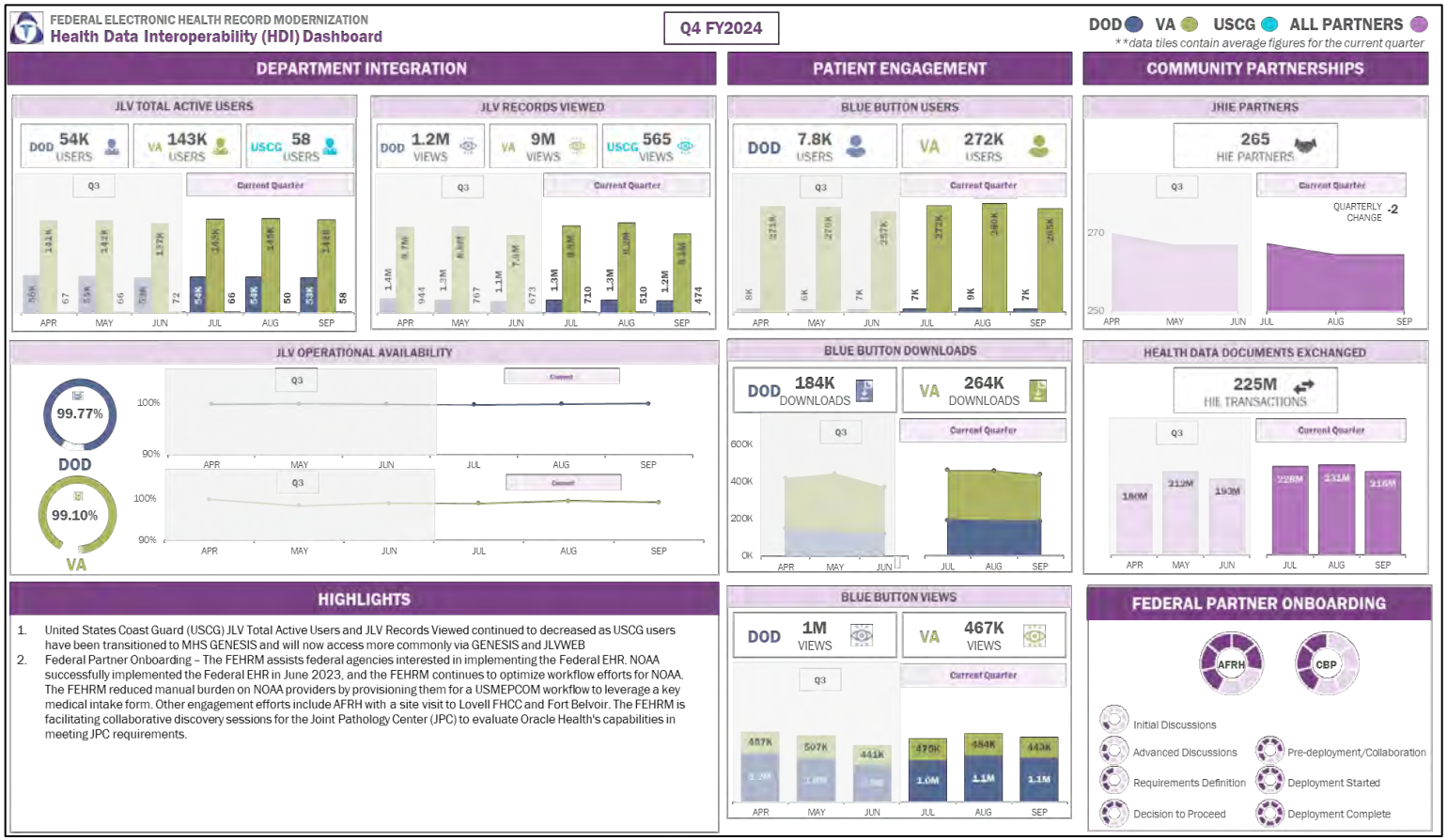
Conclusion

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 and the Departments continue to advance interoperability.

Appendix A: Health Data Interoperability Metrics Details

HDI Metrics Details: Throughout Q4 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 Q4 FY2024 HDI Metrics Dashboard.

Figure 1 – Q4 FY2024 HDI Metrics Dashboard



Q4 FY2024 Highlights: Metric highlights are captured in Table 1.

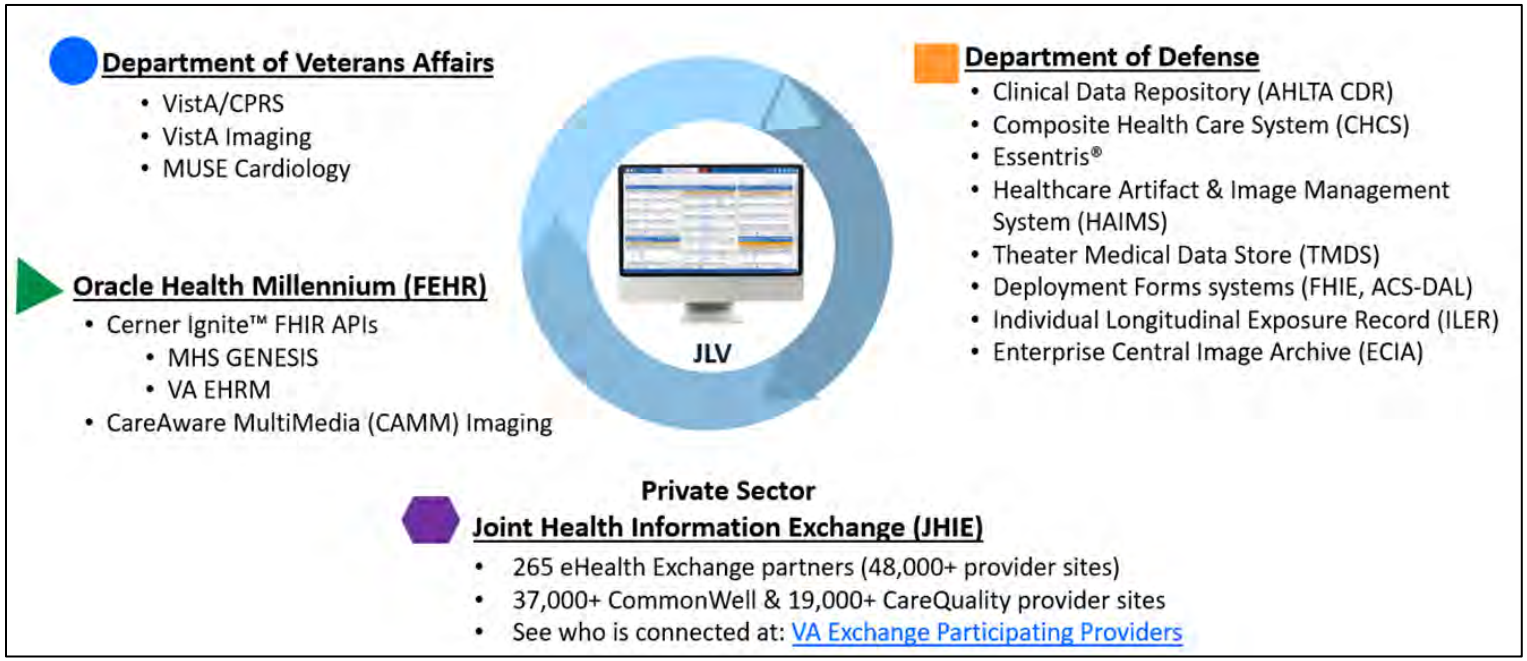
Table 1 – Quarter Highlights

Metrics	Highlights
JLV Total Active Users (USCG)	USCG JLV Total Active Users and JLV Records Viewed continued to decreased as USCG users have been transitioned to MHS GENESIS and will now access more commonly via MHS GENESIS and JLV WEB.
Federal Partner Onboarding	The FEHRM assists federal agencies interested in implementing the Federal EHR. NOAA successfully implemented the Federal EHR in June 2023, and the FEHRM continues to optimize workflow efforts for NOAA. The FEHRM reduced manual burden on NOAA providers by provisioning them for a USMEPCOM workflow to leverage a key medical intake form. Other engagement efforts include AFRH with a site visit to Lovell FHCC and Fort Belvoir. The FEHRM is facilitating collaborative discovery sessions for the Joint Pathology Center (JPC) to evaluate Oracle Health's capabilities in meeting JPC requirements.

DOD and VA use these software applications and tools to support EHR data interoperability:

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

Figure 2 -- JLV Data Sources and Systems



2. **Joint HIE:** The joint HIE is a secure network that shares Federal Electronic Health Record (FEHR) health care information electronically with participating provider organizations who join the eHealth Exchange[1] , CommonWell[2] and/or Carequality provider organizations that 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.

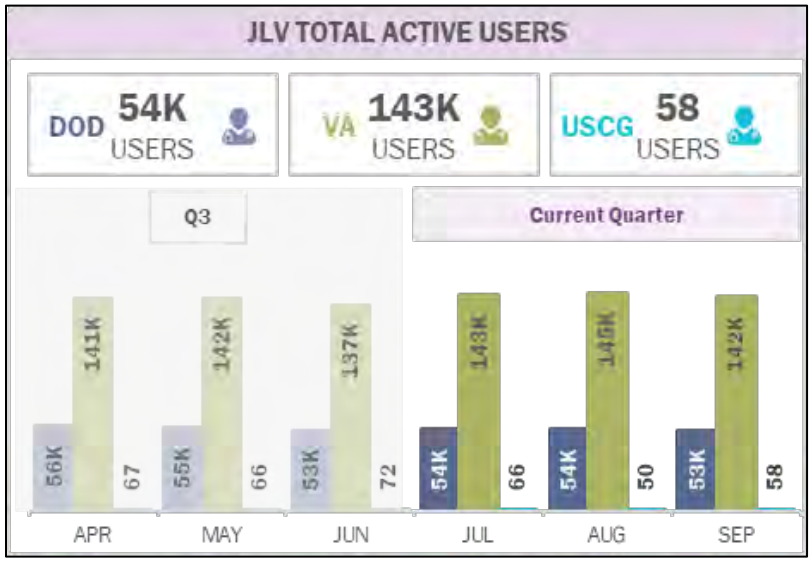
The FEHRM, DOD, and VA continue to expand HDI by improving upon the more than 9.2 million patient records currently shared monthly between the two Departments, as defined by the total number of JLV records viewed by the Departments reported as of September 30, 2024.

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

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

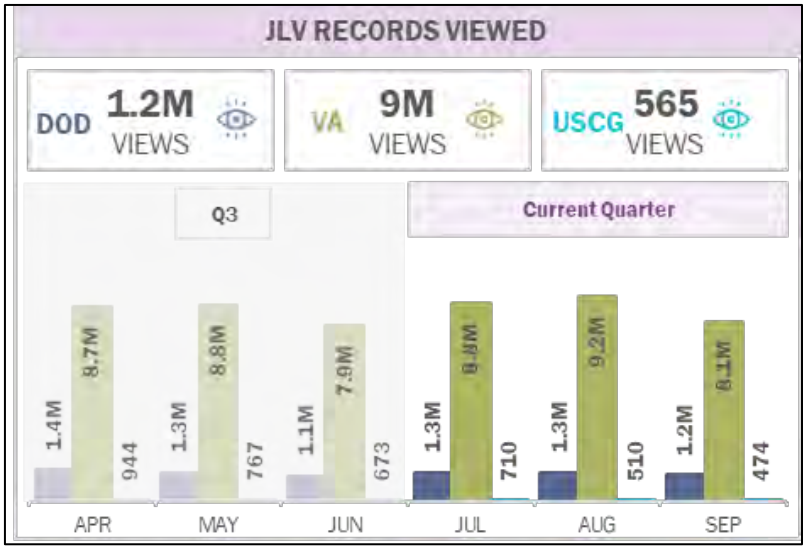
Department Integration

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.

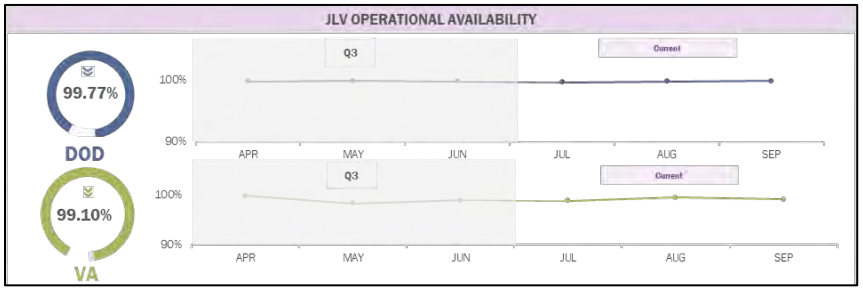


JLV Total Active Users

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

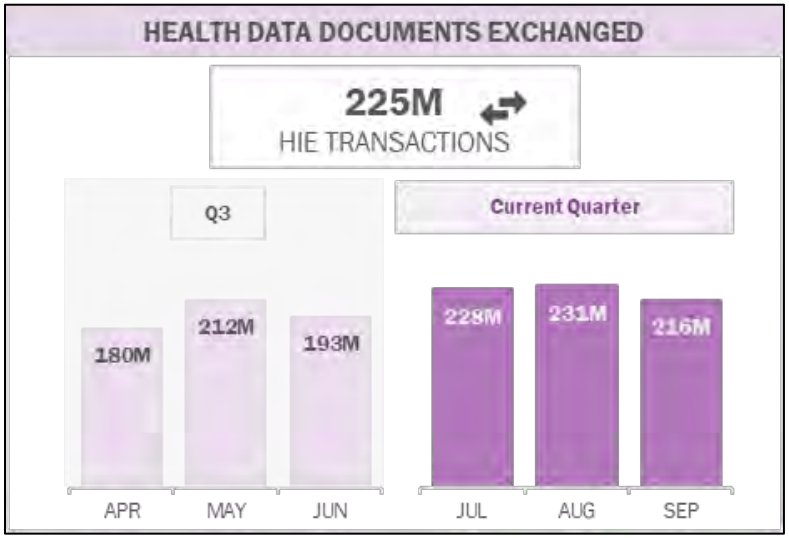
Definition

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).

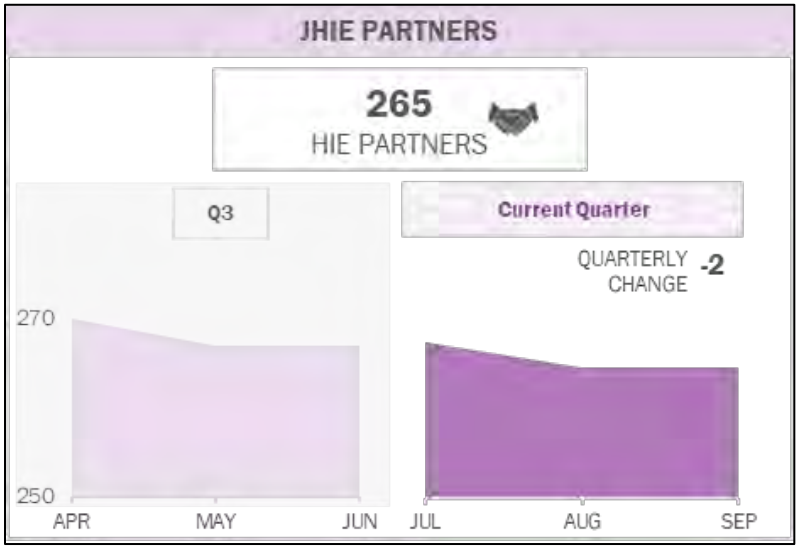
Community Partnerships

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

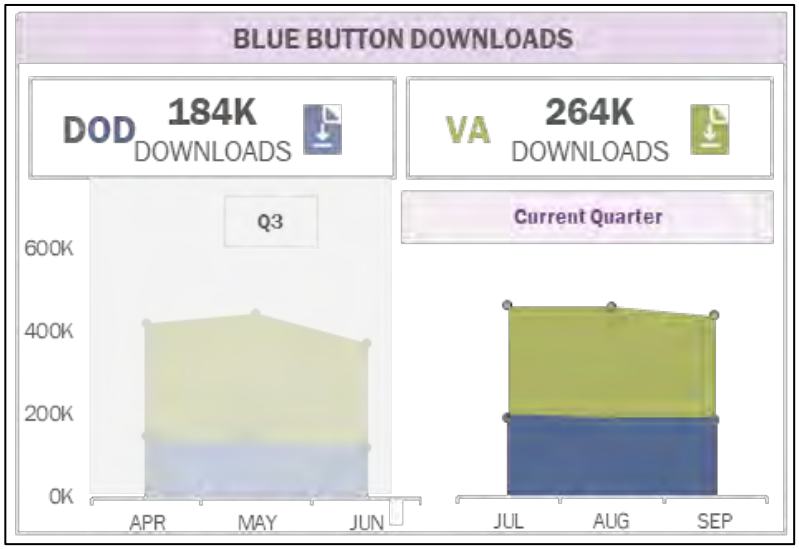
Definition
Monthly count of C-CDA, C32, or C62 (i.e., document architecture that facilitates interoperability of health data between EHR systems) documents exchanged between the Departments and private partners.



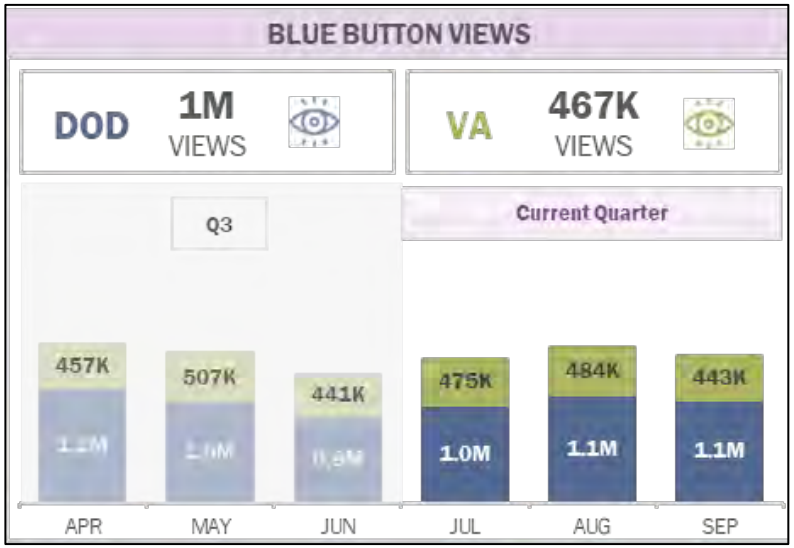
Joint HIE Partners Onboarded
Definition
Monthly and cumulative count of participating provider organizations who are partners in the joint HIE. Note: A provider organization is counted as one partner if the provider has one or more data-sharing agreement(s) with DOD or VA.

Patient Engagement

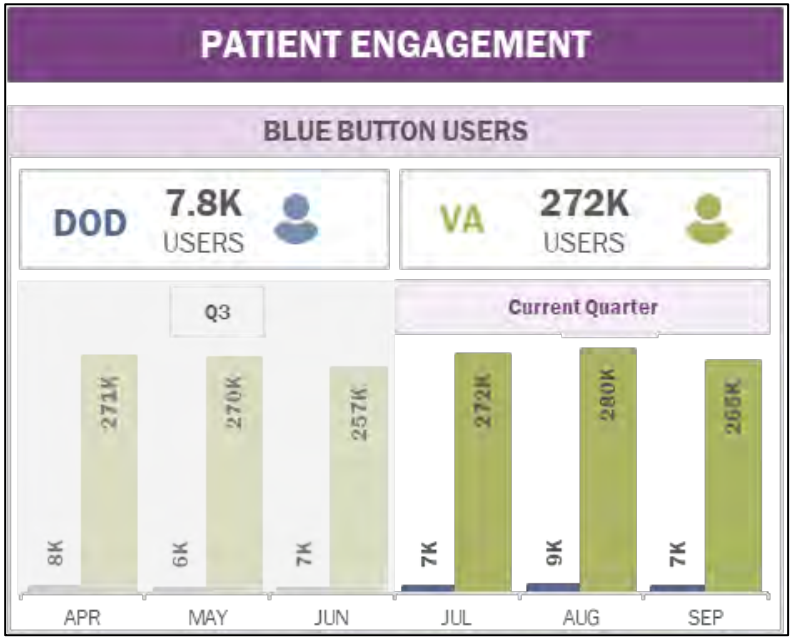
Value Statement: Blue Button serves as the foundation for broader patient engagement activities within the Departments, enabling patients to have easy access to their own health information in a usable format. The FEHRM monitors several metrics associated with Blue Button that show patient engagement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



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



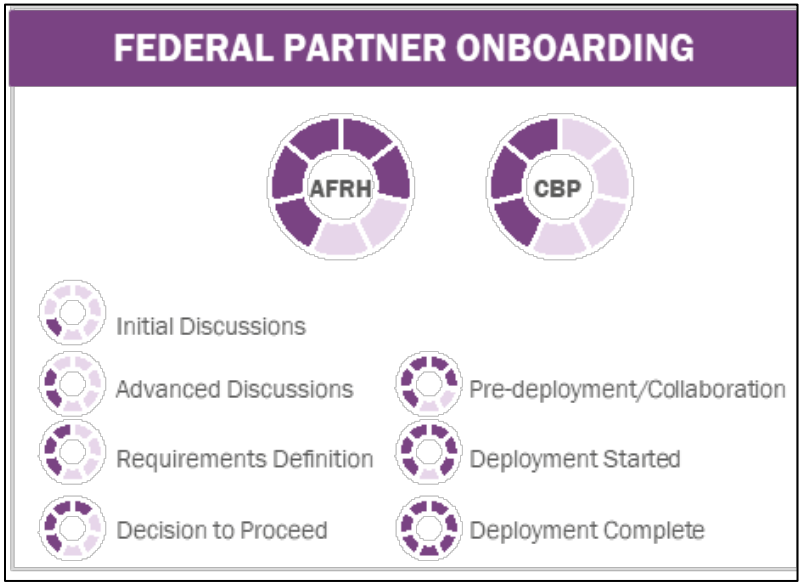
Blue Button Views
Definition
Average number of views generated by end users per month.



Monthly Unique Blue Button Users
Definition
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.