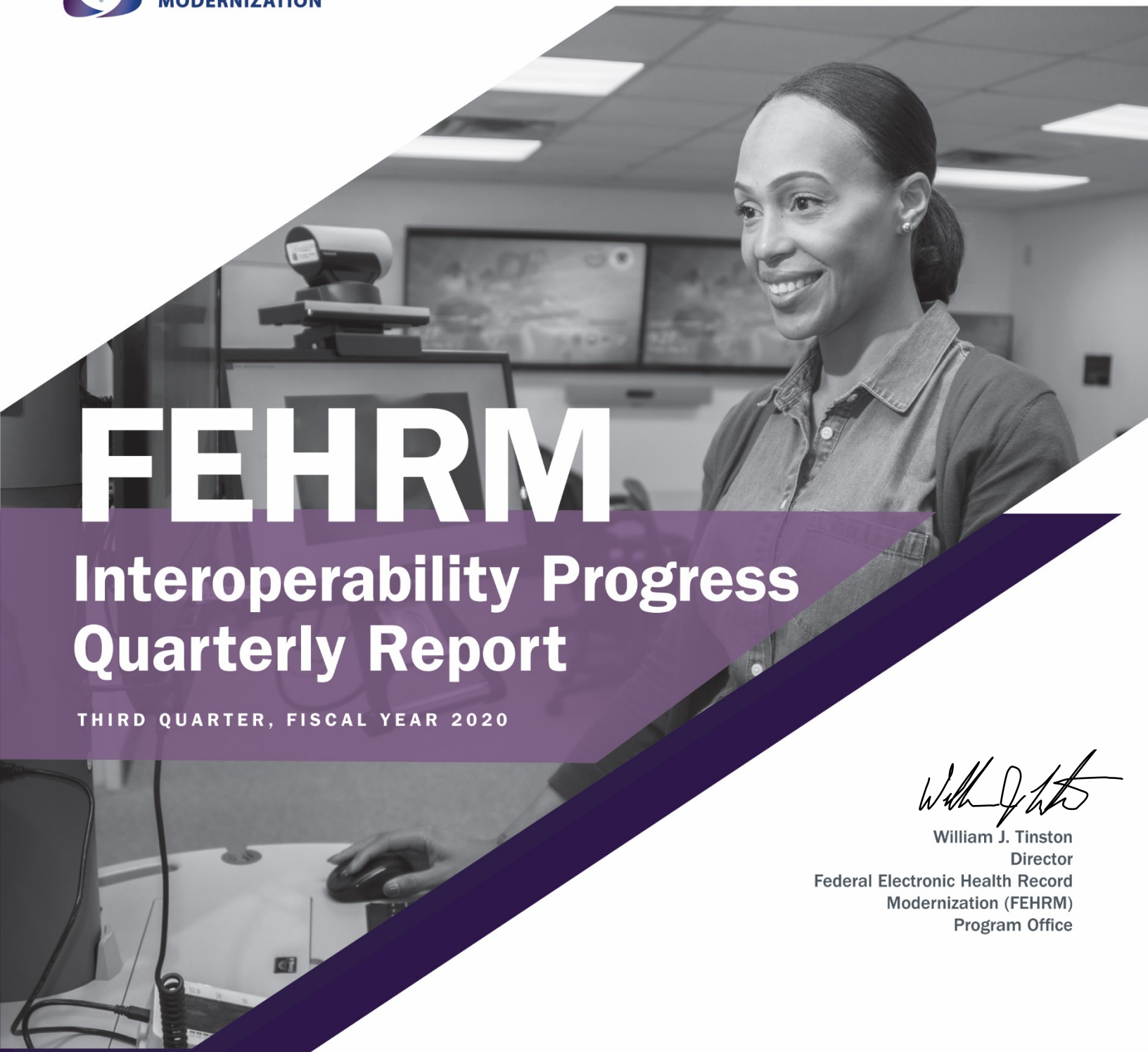
FEDERAL ELECTRONIC HEALTH RECORD MODERNIZATION



FEHRM

Interoperability Progress Quarterly Report

THIRD QUARTER, FISCAL YEAR 2020

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Interoperability Metrics

Pursuant to the National Defense Authorization Act for Fiscal Year 2020 (NDAA FY2020), the Federal Electronic Health Record Modernization (FEHRM) program office will establish a Joint Interoperability Strategy with the Department of Defense (DOD) and Department of Veteran Affairs (VA). As part of this process, the FEHRM will evaluate metrics appropriate for assessing and monitoring progress toward achieving the outlined strategy.

A snapshot of the current baseline Health Data Interoperability (HDI) metrics used to track progress toward modernization and enhancement of health data interoperability is included below. **Appendix A** includes details outlining each metric category: (A) DOD/VA Integration, (B) Community Partnerships and (C) Patient Engagement.

Electronic Health Record Modernization

- **FEHRM Permanent Leadership:** The Executive Review Panel for candidate selection, comprised of Senior Executives from DOD and VA, down-selected from more than 60 qualified candidates and conducted face-to-face interviews with six “final” candidates. This culminated in the final selection of the FEHRM Director and Deputy Director by the DOD and VA Deputy Secretaries. The FEHRM leadership transition will occur during FY2020 Q4.

- **Joint Configuration Management:** The Chief Medical Informatics Officer (CMIO) created the Joint Sustainment and Adoption Board (JSaAB) in FY2020 Q2, which is a joint governance body responsible for approval of all joint EHR content and configuration changes. The JSaAB directly informs the Joint Change Control Board and is essential to operating the single, common federal EHR, providing DOD and VA insight into all configuration decisions impacting the production baseline. The first meeting of the JSaAB was held April 1, 2020, with the charter currently in process for final signature and expected in FY2020 Q4. The JSaAB is now operational and is jointly approving content and configuration changes.

  The Joint Functional Decision Group (FDG) charter was signed on April 10, 2020. Chaired by representatives from the DOD and VA functional champions, the FDG retains decision authority for all joint functional EHR issues that cannot be resolved by clinical and business subject matter experts at a lower level. Most recently, the FDG has successfully engaged the joint decision-making process in several joint domains—Gender Identity, Medical Procedure and Specialty Mapping and Joint Data Needs. Through a joint effort, the single gender field was expanded into two gender fields (Administrative and Birth Sex). This enhances the ability to care for our transgender populations. The FDG also moved to adopt the updated Self-Identified Gender Identity options and display to appropriately address these patients.

During FY2020 Q3, the data management terminology group examined one DOD map and three VA maps. The specifics of these maps are as follows: the DOD Medications map included a review of 220,336 terms; the VA Allergens map included 14,075 terms; the VA Documents map included 3,445 terms; and the VA Medications map included 17,866 terms.

- **Joint Enclave Management:** Leveraging the momentum from the Environment Management Operations Center (EMOC) approach, the FEHRM's Technical Director hosted interactive technical sessions in partnership with DOD and VA program offices and their prime vendors to address risks, issues and opportunities. Sessions included: Syndromic Surveillance; Telehealth and Tele-ICU; System-Ecosystem Data Dissemination Architectures; Data Loops, including Gender Identity; System's Access Management, including Authentication and Authorization; Enclave Component Scaling; 724 Downtime Viewers Architecture Options; and Assessing the Path Forward for Internal and External Connections for the Joint Health Information Exchange (HIE). As a result, the technical subject matter experts were able to collaborate and request further examination of preliminary courses of action and associated critical milestones. This effort is a driving force for the FEHRM and Departments to get to an integrated plan for the single, common EHR and work through technical issues as they continue capability delivery.

- **Joint/Sharing Sites Implementation:** The FEHRM continued its efforts to establish a common approach to joint/sharing sites. Leveraging the insights from the Alaska Deployment "Tiger Team," the FEHRM worked with DOD/VA program management offices (PMOs) to approve vendor engagement to explore tangible joint deployment activities that can be accomplished in Alaska and inform future deployments at joint sharing sites, including at the James A. Lovell Federal Health Care Center (FHCC). The FEHRM also developed a Data Collection Workbook (DCW) pilot with three DOD/VA sharing site locations to develop a standard, repeatable process by which sharing sites are assigned classification levels. The pilot was designed to assess and refine a standardized methodological approach to assigning shared site level classifications that is repeatable at scale with minimal variance, and to inform follow on activities, including comprehensive end-to-end assessments and current state workflow analysis; transition; and configuration informatics analysis. The pilot will be sent out in July to the three pilot sites and then to an additional 52 sites upon revision. In addition, the FEHRM is developing several options to conduct an FHCC site visit in order to inform the "how and when" of a synchronous joint EHR deployment at FHCC.

- **Deployment:** During Q3, DOD focused on deployment activities that did not require either site access or in-person participation, which remained paused due to COVID-19. In June, VA resumed limited deployment engagement. Challenges remain due to travel or quarantine restrictions by state, ranging from no-travel and quarantine to site availability to re-engage, but the FEHRM is working closely with functional and

site leadership to mitigate these challenges. Both Departments are reassessing and revising deployment timelines. Go-live activity is set to resume in Q4:

- Centralized Scheduling Solution (CSS) - Columbus: August 21, 2020
- U.S. Coast Guard Pilot: August 29, 2020
- Wave NELLIS: Late September 2020

Joint Health Information Exchange (HIE)

- In April, the FEHRM launched the joint HIE, building upon the success of the DOD and VA's health information exchange work. The joint HIE is an enhanced network of private sector providers across the United States who have agreed to securely share clinical information with DOD and VA providers. It expands the ability of DOD and VA providers to quickly and securely access patient electronic health information from participating private sector providers and vice versa. The joint HIE connects DOD and VA providers with hundreds of private sector partners, representing more than 2,000 hospitals, 8,800 pharmacies, 33,000 clinics, 1,100 labs, 800 federally qualified health centers and 300 nursing homes, to help them make more informed treatment decisions.

- Since its launch, the FEHRM identified and has been working the following critical areas to optimize joint HIE functionality:
  - Patient Not Found Investigation: Revising the overall identity matching traits to mitigate excessive "Patient Not Found" responses from partners who formally matched
  - Patient Match Double-Check: Modifying the current deterministic logic
  - Bypass the Joint HIE Cache: Enabling the ability to send new requests for external partner data
  - Disability Evaluation System Toggle (pre-fetch enhancement): Adding the capability to exclude specific partners from pre-fetch queries

- The FEHRM continues to work on connecting with the CommonWell Health Alliance in order to have this capability available in October. CommonWell is a network of more than 15,000 provider sites. The initial focus will be on "auto-enrollment" activities and follow with "manual enrollment" activities. The FEHRM looks forward to continuing to expand the number of private sector providers participating in the joint HIE in subsequent quarters.

Interoperability Modernization Strategy

- The FEHRM facilitated the development of a DOD/VA Interoperability Modernization Strategy, driven by DOD and VA senior leaders and stakeholders, through a series of collaborative meetings. The strategy adopted the goals from the Office of National

Coordinator for Health Information Technology (ONC) 2020-2025 Federal Health IT Strategic Plan to align with national health IT priorities. It also defined objectives in support of the strategic goals and that address the NDAA FY2020 requirements. The strategy will enter formal coordination on July 20, 2020, targeting Congressional delivery by September 15, 2020.

Interoperability Standards

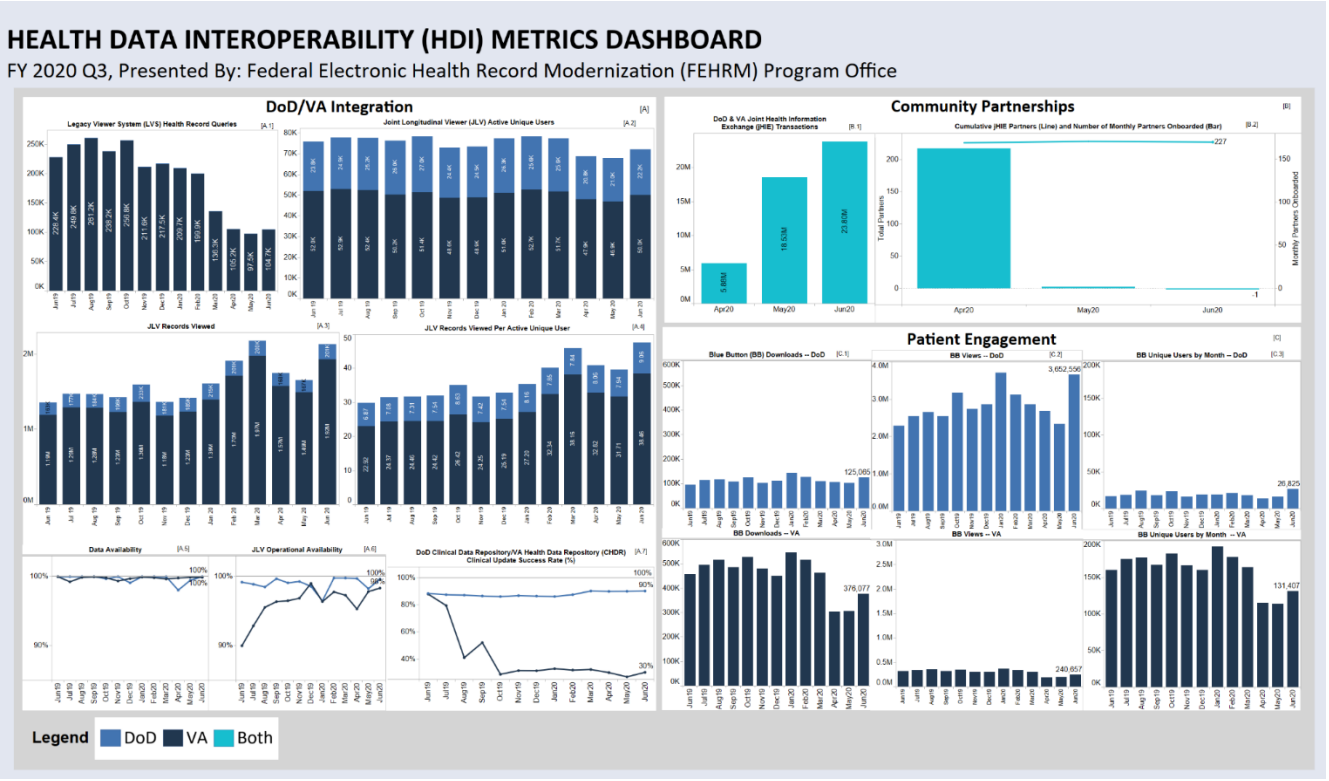
- The 21st Century Cures Act and supporting draft ONC rule required providers to share "provenance" when sharing other patient data, but provided no testable, technical interpretation of that requirement. ONC asked the Health Level Seven International (HL7) community to develop technical guidance, specifically requesting representatives from the FEHRM to drive the effort. The outcomes from this effort included the following:
  - The FEHRM convened providers, health IT vendors and policymakers to reach consensus that "author's organization" and "author's timestamp" matter the most for tracking data provenance.
  - Technical guidance on "Provenance" for Consolidated Clinical Document Architecture (C-CDA) Patient Care Summaries was published and required by ONC's final rule.
  - Technical guidance on "Provenance" for HL7 Fast Healthcare Interoperability Resources (FHIR) Application Program Interfaces was published and required by ONC's final rule.
  - Basic Provenance for C-CDA and FHIR was published through HL7 in June 2020, establishing industry best practice for sharing basic provenance.

- Currently, no standard exists for sharing computable dental findings across providers. Both DOD and VA refer volumes of dental care to purchased care and community providers. Receiving a computable Consultation Note for referred dental care would enhance the patient record and facilitate readiness assessments. The FEHRM convened representatives from DOD, VA, the American Dental Association and the HL7 community to develop standards for Dental Data Exchange based on HL7's CDA and FHIR. In May, the FEHRM helped lead an HL7 Connect-a-thon track where four EHR vendors tested initial implementations of the Dental Data Exchange standards. This work should result in two Dental Data Exchange standards being published by the end of 2020.

Appendix A: Health Data Interoperability Metrics Details

Health Data Interoperability Metrics Details: Throughout FY2020 Q3, the FEHRM, DOD and VA continued to monitor baseline HDI metrics and track the progress toward modernization and enhancement of health data interoperability by both Departments. Each section shows a different category of metric: (A) DOD/VA Integration, (B) Community Partnerships and (C) Patient Engagement. **Figure 1** represents a snapshot of the FY2020 Q3 Health Data Interoperability Metrics Dashboard. Detailed explanations of the metric trends follow Figure 1. A small snapshot of each individual metric is detailed, noting the change between quarters and any changes to systems that could result in potential impacts (for example, infrastructure outages or patches as well as new capabilities such as the joint health information exchange [HIE]).

Figure 1 – FY2020 Q3 Health Data Interoperability Metrics Dashboard



Q3 Highlights: As seen in **Table 1**, between FY2020 Q2 and Q3, quarter over quarter Legacy Viewer System (LVS) (VA) and Blue Button (VA) usage decreased substantially. Joint Longitudinal Viewer (JLV) (DOD) usage saw a notable decrease as well. During the same period, access to the joint HIE was launched by the FEHRM, DOD and VA.

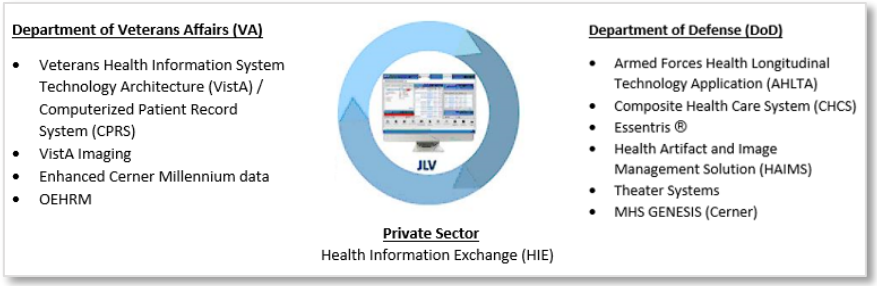
Table 1 – Quarter Highlights

Metrics with a Notable Change in FY2020 Q3	Quarterly Delta	Supporting Information
Number of VA LVS Health Record Queries (Metric A.1)	**43.71% decrease** from FY2020 Q2	• The sharp decrease in the number of VA LVS Health Record Queries (Views) is attributed to COVID-19.
Number of DOD Active Unique JLV Users (Metric A.2)	**17.43% decrease** from FY2020 Q2	• Despite the decrease in both the number of DOD JLV Records Viewed and Active Unique Users, the average number of monthly DOD JLV Records Viewed per Active Unique User remained the same between second and third quarters.
Number of DOD JLV Records Viewed (Metric A.3)	**13.12% decrease** from FY2020 Q2	
Number of Joint HIE Transactions Exchanged Between DOD/VA and Private Partners and Partners Onboard (Metrics B.1 and B.2)	---	• The FEHRM, DOD and VA opened access to the joint HIE in mid-April 2020. Providers from the Departments and private sector treating their patients are now able to use the joint HIE to request access to health records of shared patients. The baseline number of joint HIE transactions between the Departments and private partners from its launch through the end of FY2020 Q3 was 48.21 million. Any notable quarterly delta in FY2020 Q4 will be shown.
Number of VA Blue Button Downloads (Metric C.1)	**35.31% decrease** from FY2020 Q2	• The decrease in Patient Portal Blue Button usage in April and May 2020 is attributed to the overall usage of TRICARE Online (TOL) declining during COVID-19. • The increase in Patient Portal Blue Button usage in June 2020 is attributed to COVID-19 Lab Test availability.
Number of VA Blue Button Views (Metric C.2)	**36.94% decrease** from FY2020 Q2	
Number of VA Active Unique Blue Button Users (Metric C.3)	**32.45% decrease** from FY2020 Q2	

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

1. **Joint Longitudinal Viewer (JLV).** JLV, released in 2013, is a web-based graphical user interface that was 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 the DOD, VA and Virtual Lifetime Electronic Record (VLER) eHealth Exchange civilian partners within a single application. JLV retrieves clinical data from several native data sources and systems, displayed in **Figure 2**

Figure 2 – JLV Data Sources and Systems

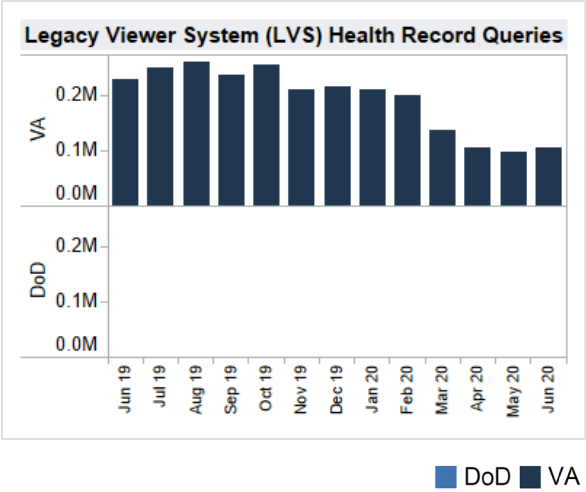


2. **Joint Health Information Exchange (HIE).** The joint HIE, formerly VLER HIE, is a secure network that shares Veteran and Military Health System beneficiary health care information electronically with civilian network providers who join the eHealth Exchange. Community partners who join undergo stringent security requirements to access patient records and health information securely, regardless if the facility is a civilian provider, military hospital or clinic or VA Medical Center.
3. **DOD Clinical Data Repository/VA Health Data Repository (CHDR).** CHDR enables DOD and VA to exchange computable outpatient pharmacy and drug allergy information for shared patients. To achieve computable interoperability, each clinical component data is first standardized to a mutually agreed upon 'mediating vocabulary' that both systems comprehend, and provide decision support, such as drug-allergy or drug-drug interaction checks.
4. **Blue Button.** Blue Button enables patients from DOD and VA to access their personal health data from their electronic health record, including allergies, laboratory and radiology results, vital signs, outpatient medications, problem lists, and encounters.

Data Sharing Statistics and Updates: The FEHRM, DOD and VA continue to expand HDI by improving upon the more than 2.2 million data elements currently shared monthly between the two Departments, as defined by the monthly total number of JLV Records Viewed by the Departments reported as of June 30, 2020.

Category A: DOD/VA 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 the less interoperable legacy systems (AHLTA, VistA) to the more interoperable modern EHR.

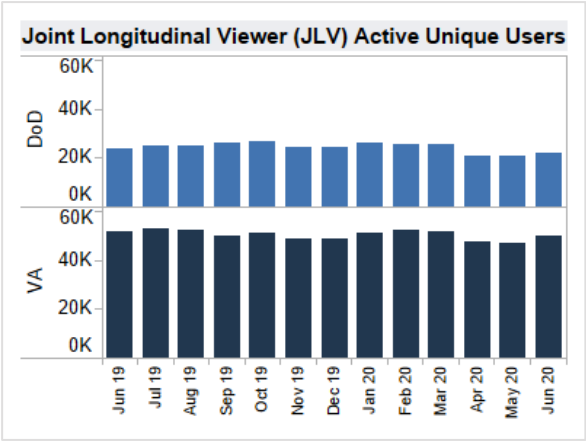


Metric A.1: Legacy Viewer System (LVS) Health Record Queries

Definition

Total number of health record queries made by DOD and VA to the Federal Health Information Exchange/Bidirectional Health Information Exchange Framework database using VistA Web and Computerized Patient Record System (CPRS) Remote Data View in each month.

DOD	Change	Impact Factors
■	DOD discontinued use of the LVS in April 2019, so there are no changes.	The DOD implemented the Agile Core Services/Data Access Layer integration with Data Exchange Service in April 2019 and discontinued use of the LVS.
VA	**Change**	**Impact Factors**
▼	The total number of health record queries decreased substantially by 43.71 percent between the second and third quarters to 307,300 queries.	• Queries to the LVS database were made in part using VistA Web, which was decommissioned on February 24, 2020. • Further decrease in FY1020 Q3 is attributed to COVID-19.

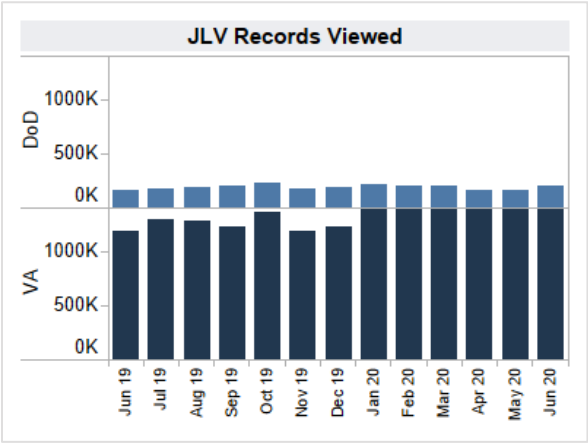


Metric A.2: Joint Longitudinal Viewer (JLV) Active Unique Users

Definition

Monthly total number of active unique users (i.e., a user who has logged on during a specific month) recorded by the JLV for DOD and VA.

DOD	Change	Impact Factors
▼	The average monthly number of active JLV users decreased by 17.43 percent between the second and third quarters to 21,321.	There are no factors of note.
VA	**Change**	**Impact Factors**
▼	The average monthly number of active JLV users decreased by 6.81 percent between the second and third quarters to 48,289.	There are no factors of note.

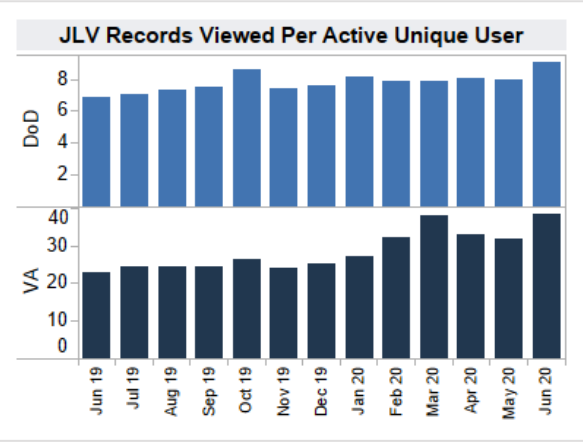


Metric A.3: JLV Records Viewed

Definition

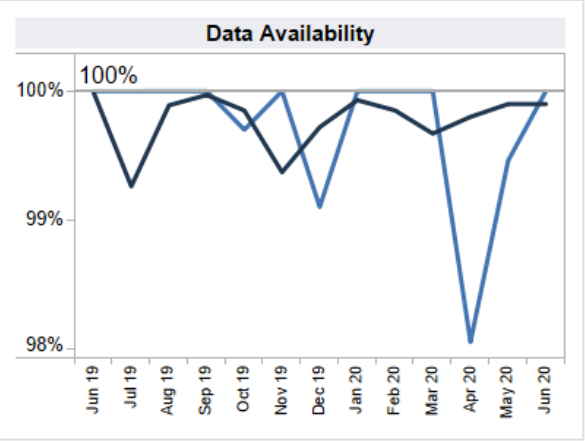
Monthly total number of patient records viewed using the JLV for DOD and VA.

DOD	Change	Impact Factors
▼	The total quarterly number of JLV records viewed decreased by 13.12 percent between the second and third quarters to 535,259.	• Despite the decrease in both the number of DOD JLV Records Viewed and Active Unique Users, the average number of monthly DOD JLV Records Viewed per Active Unique User remained the same between second and third quarters.
VA	**Change**	**Impact Factors**
▼	The total quarterly number of JLV records viewed decreased by 1.62 percent between the second and third quarters to 4,984,422.	• There are no factors of note.



Metric A.4: JLV Records Viewed Per Active Unique User

Definition		
Monthly number of patient records viewed using the JLV for DOD and VA per active unique user.		
DOD	**Change**	**Impact Factors**
▲	The average monthly number of JLV records viewed per active unique user increased by 5.08 percent between the second and third quarters to 34.33.	There are no factors of note.
VA	**Change**	**Impact Factors**
▲	The average monthly number of JLV records viewed per active unique user increased by 5.41 percent between the second and third quarters to 8.35.	There are no factors of note.



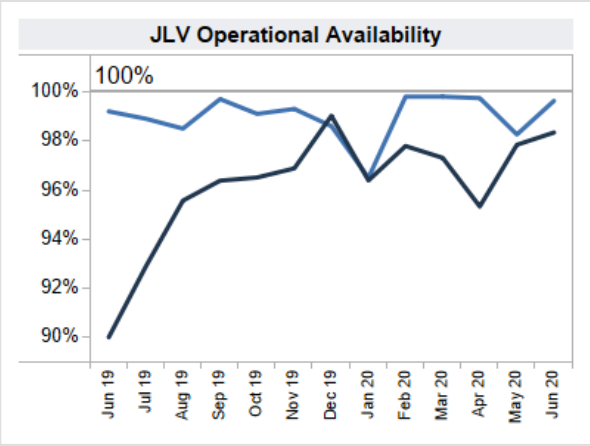
Metric A.5: Data Availability

Definition

DOD – Percentage of time the Data Exchange Service is available on the data server for all the sites located in the data centers in support of DOD to VA HIE.

VA – Percentage of time during the month that VistA Data Services (VDS) was operational (i.e., with no errors and available to both DOD and VA users) in all JLV environments (i.e., Earth Observation Cloud, Non-Secure Internet Protocol Router and Medical Community of Interest).

DOD	Change	Impact Factors
▼	The average monthly data availability decreased slightly by 0.81 percent between the second and third quarters to 99.17 percent.	There are no factors of note.
VA	**Change**	**Impact Factors**
▲	The average monthly data availability increased slightly by 0.05 percent between the second and third quarters to 99.87 percent.	There are no factors of note.

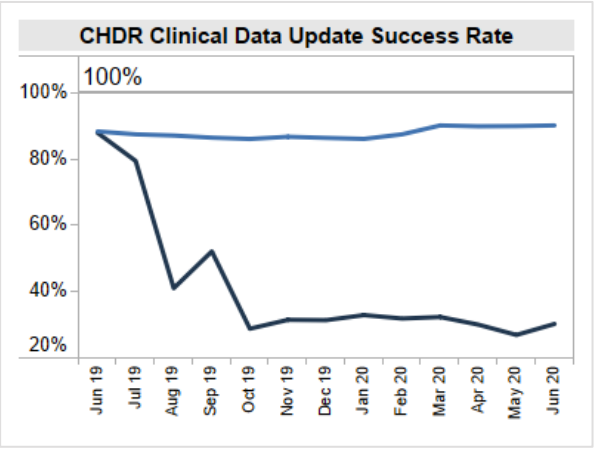


Metric A.6: JLV Operational Availability

Definition

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).

DOD	Change	Impact Factors
▲	The average monthly operational availability increased slightly by 0.51 percent between the second and third quarters to 99.21 percent.	There are no factors of note.
VA	**Change**	**Impact Factors**
■	The average monthly operational availability was unchanged at 97.2 percent in quarter three.	There are no factors of note.



Metric A.7: DOD Clinical Data Repository/VA Health Data Repository (CHDR) Clinical Data Update Success Rate from DOD to VA and VA to DOD

Definition

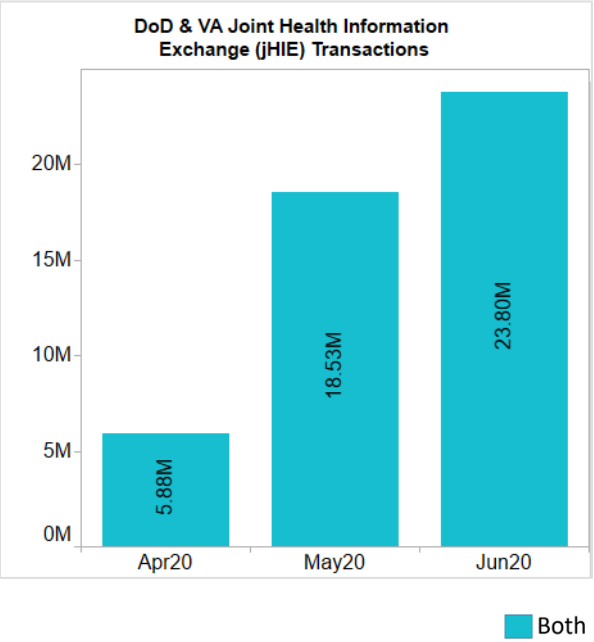
Percentage of CHDR clinical update messages with data (allergy or pharmacy) successfully processed. A successful process occurs when the sending agency receives a response from the receiving agency indicating successful receipt, translation and storage of clinical data.

DOD	Change	Impact Factors
▲	The average monthly CHDR clinical data update success rate had an increase of 2.10 percent from 87.95 percent in quarter two to 90.05 percent in quarter three.	There are no factors of note.

VA	Change	Impact Factors
▼	The average monthly CHDR clinical data update success rate had a decrease of 3.32 percent from 32.40 percent in quarter two to 29.08 percent in quarter three.	• The VA identified three distinct issues that affected message processing by DOD systems of VA messages: terminology mediation issues for allergy and pharmacy data, patient identification recognition and internal system communication issues. • The DOD CHDR team performed additional analysis and has indicated changes in the July 2019 release affected how the DOD CHDR application acknowledged reception of VA messages; the correction to this issue is planned for a later patch update due to higher priority security patch updates. • The DOD CHDR team has also verified the messages being received from VA are being processed and stored in the CDR and therefore, no patient safety concerns exist.

Category B: 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.

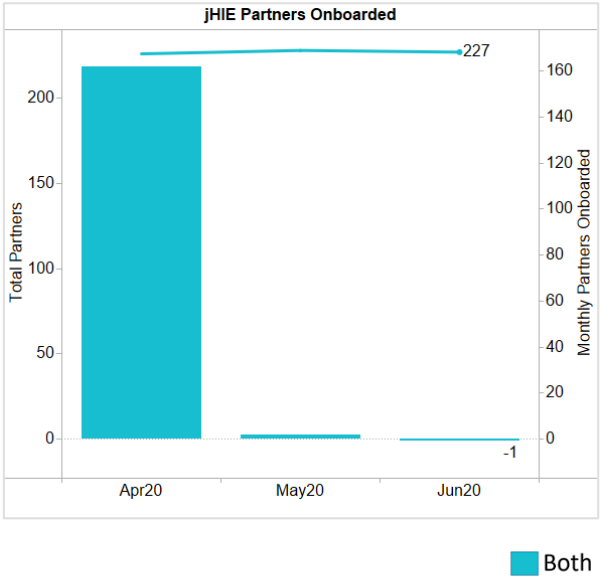


Metric B.1: Joint Health Information Exchange (HIE) Transactions

Definition

Monthly count of Consolidated Clinical Document Architecture, C32 or C62 (document architecture that facilitates interoperability of health data between EHR systems) documents exchanged between the Departments and private partners.

DOD/VA	Change	Impact Factors
	Since the launch of the joint HIE, there were 48,213,681 joint HIE transactions.	The FEHRM, DOD and VA opened access to the joint HIE in mid-April 2020. Providers from the Departments and private sector treating their patients are now be able to use the joint HIE to request access to health records of shared patients.



Metric B.2: Joint HIE Partners Onboarded

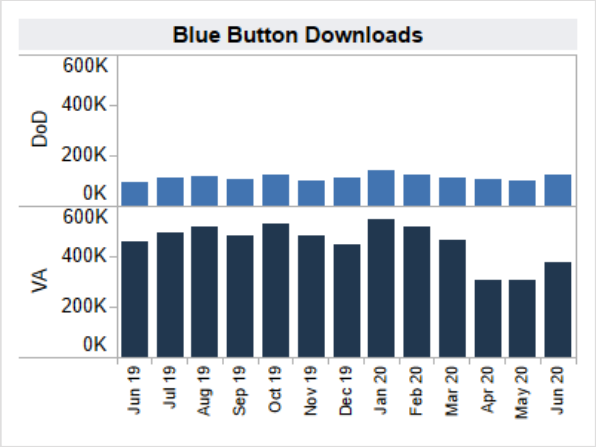
Definition

Monthly and cumulative count of private sector providers who are partners in the joint HIE. A private sector provider is counted as one partner if the provider has one or more data sharing agreement(s) with DOD and/or VA.

DOD/VA	Change	Impact Factors
	163 joint HIE partners were onboarded since the launch of the joint HIE, bringing the total to 227.	The FEHRM, DOD and VA opened access to the joint HIE in mid-April 2020. Providers from the Departments and private sector treating their patients are now be able to use the joint HIE to request access to health records of shared patients.

Category C: Patient Engagement

Value Statement: Blue Button has served 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.

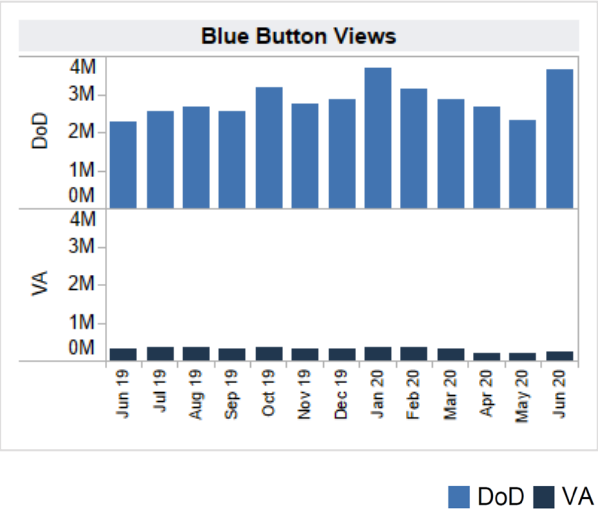


Metric C.1: Blue Button Downloads

Definition

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

DOD	Change	Impact Factors
▼	The total quarterly number of Blue Button downloads decreased by 12.39 percent between the second and third quarters to 332,210.	• The decrease in Patient Portal Blue Button usage in April and May 2020 is attributed to the overall usage of TRICARE Online (TOL) declining during COVID-19 Operations. • The increase in Patient Portal Blue Button usage in June 2020 is attributed to COVID-19 Lab Test availability.
VA	**Change**	**Impact Factors**
▼	The total quarterly number of Blue Button downloads decreased by 35.31 percent between the second and third quarters to 986,104.	• The decrease in Patient Portal Blue Button usage in April and May 2020 is attributed to the overall usage of TOL declining during COVID-19 Operations. • The increase in Patient Portal Blue Button usage in June 2020 is attributed to COVID-19 Lab Test availability.

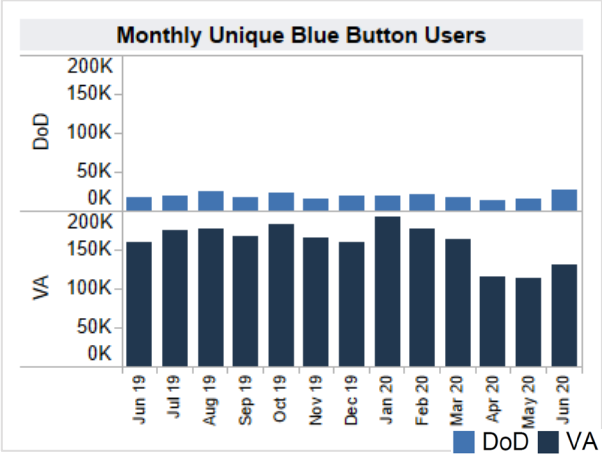


Metric C.2: Blue Button Views

Definition

Total number of views generated by end users per month.

DOD	Change	Impact Factors
▼	The total quarterly number of Blue Button views decreased by 10.56 percent between the second and third quarters to 8,657,926.	• The decrease in Patient Portal Blue Button usage in April and May 2020 is attributed to the overall usage of TOL declining during COVID-19 Operations. • The increase in Patient Portal Blue Button usage in June 2020 is attributed to COVID-19 Lab Test availability.
VA	**Change**	**Impact Factors**
▼	The total quarterly number of Blue Button views decreased by 36.94 percent between the second and third quarters to 627,515.	• The decrease in Patient Portal Blue Button usage in April and May 2020 is attributed to the overall usage of TOL declining during COVID-19 Operations. • The increase in Patient Portal Blue Button usage in June 2020 is attributed to COVID-19 Lab Test availability.



Metric C.3: Monthly Unique Blue Button Users

Definition

Number of unique Blue Button users within a month.

DOD	Change	Impact Factors
▼	The average monthly number of Blue Button unique users decreased by 2.52 percent between the second and third quarters to 18,881.	• The decrease in Patient Portal Blue Button usage in April and May 2020 is attributed to the overall usage of TOL declining during COVID-19 Operations. • The increase in Patient Portal Blue Button usage in June 2020 is attributed to COVID-19 Lab Test availability.
VA	**Change**	**Impact Factors**
▼	The average monthly number of Blue Button unique users decreased by 32.45 percent between the second and third quarters to 120,066.	• The decrease in Patient Portal Blue Button usage in April and May 2020 is attributed to the overall usage of TOL declining during COVID-19 Operations. • The increase in Patient Portal Blue Button usage in June 2020 is attributed to COVID-19 Lab Test availability.