**FEDERAL ELECTRONIC
HEALTH RECORD
MODERNIZATION**

# Federal Electronic Health Record Modernization Interoperability Progress Quarterly Report

## Second Quarter, Fiscal Year 2020

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Modernization (FEHRM)
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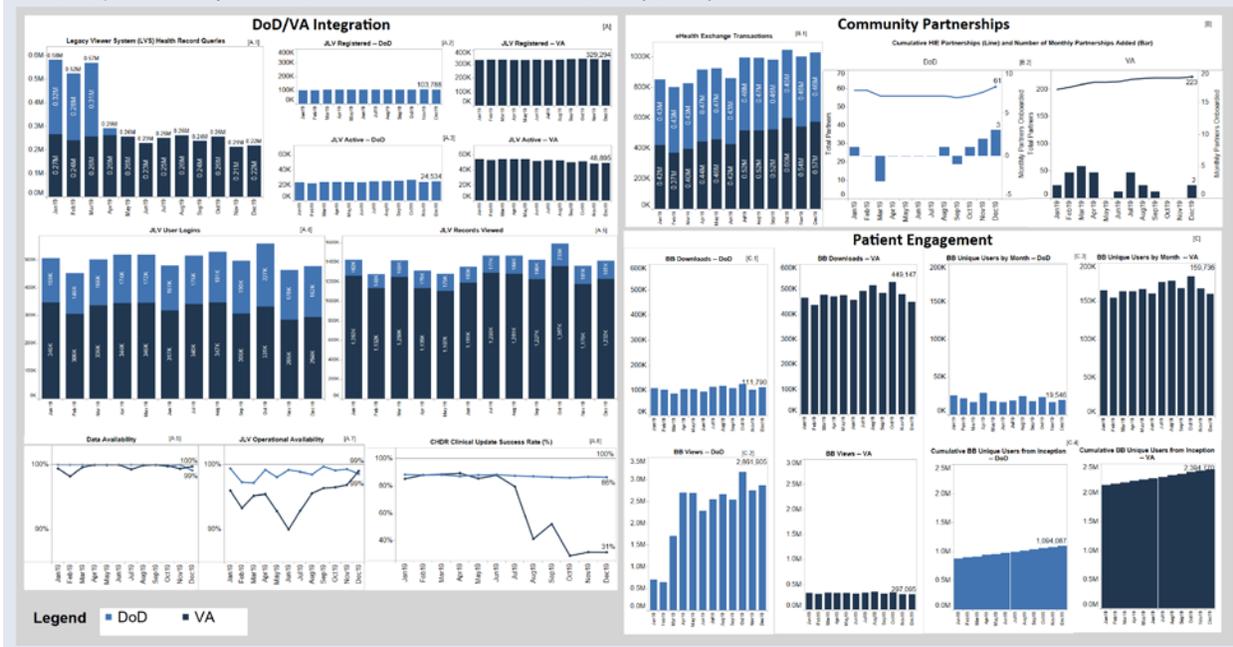**FEDERAL ELECTRONIC HEALTH RECORD MODERNIZATION**

# 1    Interoperability Metrics

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

7

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

12



HEALTH DATA INTEROPERABILITY (HDI) METRICS DASHBOARD
FY 2020 Q1, Presented By: Federal Electronic Health Record Modernization (FEHRM)

13

14

# 15    Electronic Health Record Modernization

16    •    **FEHRM Program Office:** In addition to securing FY2020 resources for establishing and
17       maturing the functions within the organization, the FEHRM changed the approach to driving
18       decision-making for the common record. During the second quarter (Q2), the FEHRM
19       rationalized the multiple disparate decision, risk and action tracking lists, partnering with the
20       program offices to create an agreed-upon comprehensive joint impact list representing all joint
21       decisions, risks, issues and opportunities. The construct allows for visibility and prioritization
22       with a framework to drive decisions to the lowest level possible. As a result of the improved
23       visibility and prioritization, the FEHRM formalized program decisions impacting the

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24     common system, resulting in practical management of environments within the enclave,
25     solutions for lifetime pharmacy encounters, presentation of all lab test results within the
26     patient portal, joint approach to life sustaining treatment orders and patient linking within
27     HealtheIntent, just to name a few.

28     • **FEHRM Permanent Leadership:** During Q2, the combined DOD and VA Executive
29     Resource Board/Hiring Panel completed resume scoring and interviews and prepared
30     recommendations for the DOD and VA Deputy Secretaries selection decision.

31     • **Joint Configuration Management:** The Chief Medical Information Officer created the Joint
32     Sustainment and Adoption Board (JSaAB), which is responsible for approval of all joint EHR
33     content and configuration changes. The JSaAB is essential to operating the common EHR,
34     providing DOD and VA insight into all configuration decisions impacting the production
35     baseline. The first meeting of the JSaAB is planned for April 1, 2020, with the charter planned
36     for signature during the third quarter FY2020. Additionally, the FEHRM created the Joint
37     Functional Decision Group (FDG) charter, with anticipated signature in April. Chaired by
38     representatives from the DOD and VA functional champions, the FDG retains decision
39     authority for all joint functional EHR issues that cannot be resolved by clinical and business
40     subject matter experts at a lower level.

41     • **Joint Enclave Management:** Building on the revamped Environment Management
42     Operations Center (EMOC) and supporting activities, the Technical Director aggressively
43     pursued initiatives that either impact the common EHR hosting environment or would
44     benefit from a joint technical approach. In March alone, the technical team tackled
45     Centralized Scheduling Solution Design, resolving critical issues in preparation for "go-
46     live" in Columbus; telehealth; identity and access management; public health surveillance;
47     joint incident management response and domain strategy and design. Additionally, all
48     necessary interfaces in support of the capability set planned for "go-live" at Mann-
49     Grandstaff VA Medical Center (VAMC) received Authority to Connect.

50     • **Joint/Sharing Sites Implementation:** The FEHRM spearheaded efforts to establish a
51     common approach to joint/sharing sites. The resulting "Tiger Team" will focus first on a
52     synchronous deployment in Alaska, with a combined effort from the program offices to
53     determine best approach to Cerner deployment at joint sharing sites. Additionally, the
54     FEHRM leadership kicked off Cerner gap analysis at Lovell Federal Health Care Center
55     (FHCC) with a site visit in January, and will leverage learning from the Alaska deployment
56     "tiger team" to inform future planning for a synchronous deployment at Lovell FHCC in North
57     Chicago.

58     • **Deployment:** In February, user training at Mann-Grandstaff VAMC was postponed. After
59     rigorous testing, it was determined that more time was needed to complete the system build
60     and ensure clinicians and other users are properly trained to operate the system, thus delaying
61     the initial operational capability (IOC) slated for March 2020. Prior to announcing a new "go-
62     live" date, the COVID-19 pandemic emerged. VA adopted a non-intrusive posture to ensure
63     providers could focus attention on critical COVID-19 response activities. Similarly, DOD
64     suspended engagement with providers for active deployment activities, clearing the way for
65     pandemic response. At the close of the quarter, the FEHRM was working closely with the

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66  program offices to identify priority activities that could advance technical solutions, capability
67  delivery and joint initiatives without on-site engagement.

## Joint Health Information Exchange

69  • DOD and VA are moving to a joint Health Information Exchange (HIE) with a national
70  go-live planned in April 2020. The joint HIE will allow DOD and VA providers to see
71  health care services their patients may have received from any of more than 220 community
72  provider organizations throughout the country. Likewise, participating health care
73  providers will have secure access to DOD and VA health information for the Veterans,
74  Service members and dependents in their care.
75  • The new joint HIE will allow both Departments to efficiently capture, access and share
76  patient health data in near real-time, ensuring providers have access to the right data, at the
77  right place and at the right time for their patients. DOD and VA providers will have access
78  to community health data from an increased number of external health system partners,
79  visible through the Joint Longitudinal Viewer (JLV). The clinical data available to
80  providers will include allergies, immunizations, vitals, procedures, medications, progress
81  notes and more.
82  • DOD and VA have commenced planning for the CommonWell connection, which is
83  projected to occur in 2020. The CommonWell Health Alliance will significantly expand
84  the number of participating community partners. When the connection is complete, DOD
85  and VA will be connected and able to exchange data with at least 15,000 additional
86  provider sites nationwide, and that number is increasing.

## Interoperability Modernization Strategy

88  • Kicked off the Interoperability Modernization Advisory Group with senior leaders
89  representing multiple disciplines/organizations across DOD and VA. The group will set
90  overarching aspirational goals for the joint/shared interoperability vision. Integrated
91  Project Team activity is planned for FY2020 Q3 to capture objectives aligned to goals to
92  lay the foundation for the strategy.

## Interoperability Standards

94  • Developed parallel implementation guides for Dental Data Exchange: (1) HL7
95  Implementation Guide for CDA Release and (2) Dental Data Exchange. The Dental Data
96  Exchange provisional R2 was approved for use until the final guide is approved. Work
97  continued on the HL7 Implementation Guide for FHIR R4: Dental Data Exchange.
98  • The Dental Summary Exchange will not be tested by vendors at the May Connect-a-thon,
99  but work continues on specifications and incremental capabilities. Additional testing is
100  planned for September, and the ballot cycle is now planned for January 2021.
101  • Publishing of the Basic Provenance Implementation Guide is planned for April/May 2020.

## Conclusion

The Departments remain fully committed to enhancing and measuring health data interoperability between their EHR systems as well as with those of their private partners who treat DOD and VA beneficiaries. Enabling health information exchange among EHR systems in the DOD, VA and private sector will serve as the foundation for a patient-centric health care experience, seamless care transitions and improved care for Service members, Veterans and their dependents. To demonstrate the effect on patients and providers as DOD and VA move forward with their implementation of a seamless EHR system, the FEHRM will continue to monitor and report data sharing between the Departments as part of its broader support of the Departments' commitment to advance HDI through interoperability modernization strategic planning efforts.
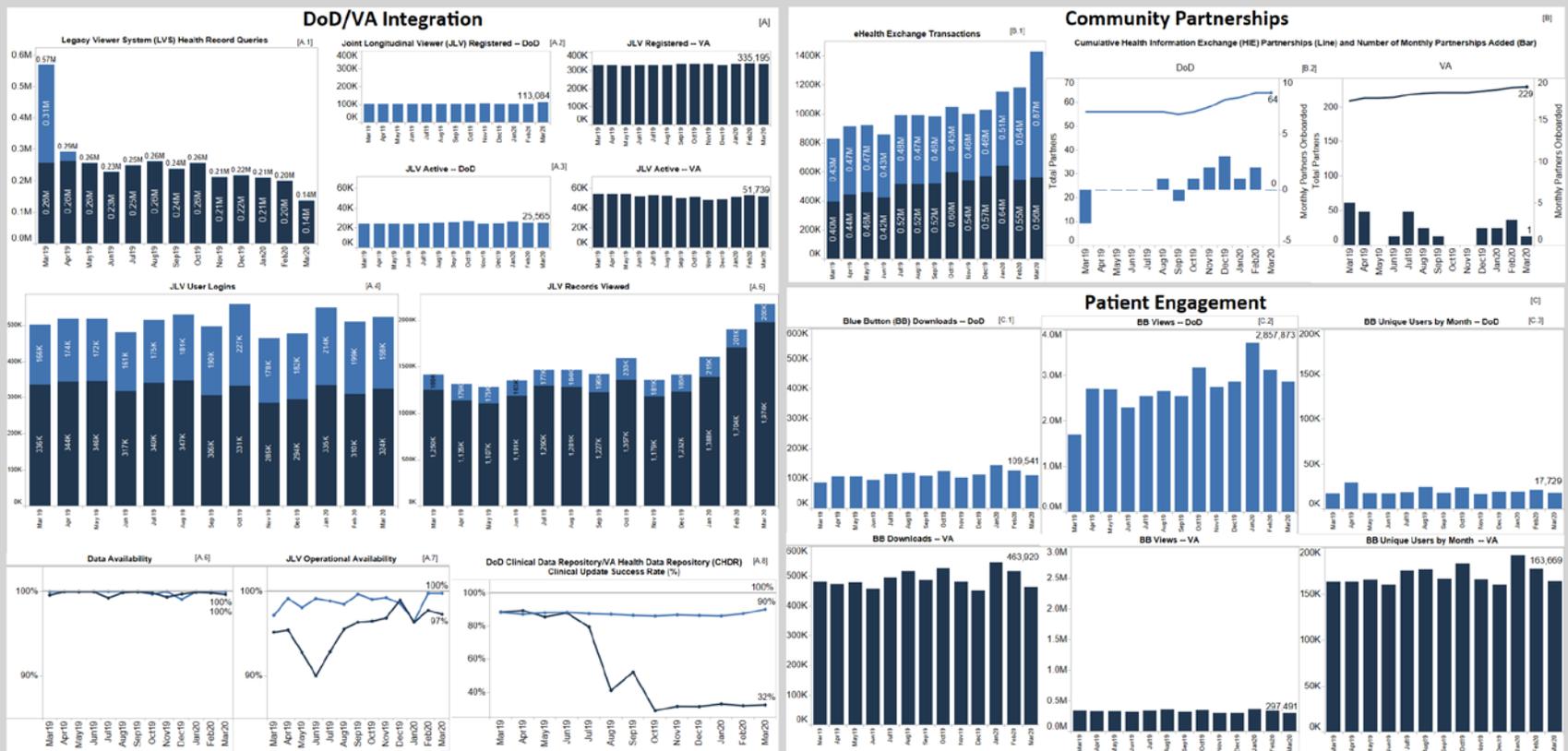
# Appendix A: Health Data Interoperability Metrics Details

**Health Data Interoperability Metrics Details:** Throughout FY2020 Q2, the FEHRM, DOD and VA continued to collaborate 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 Q2 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, outages or patches).

*Figure 1 – FY2020 Q2 Health Data Interoperability Metrics Dashboard*

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**Second Quarter Highlights:** Between FY2020 Q1 and Q2, quarter over quarter JLV (VA) and HIE (DOD) usage increased substantially. During the same period, Legacy Viewer System (LVS) usage decreased substantially.

| Notable Changes in FY2020 Q2 - Metric | Quarter over Quarter Change |
|---|---|
| • Number of Joint Longitudinal<br>• Viewer (JLV) Patient Records<br>• Viewed by VA Clinicians<br>[Metric A.5] | 34.45% **increase** from FY20 Q1 |
| • Number of HIE Transactions Exchanged Between<br>• DOD and Private Partner<br>[Metric B.1] | 47.60% **increase** from FY20 Q1 |
| • Number of LVS Health Record Queries<br>[Metric A.1] | 20.41% **decrease** from FY20 Q1 |

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 the graphic below.



**Department of Veterans Affairs (VA)**
- Veterans Health Information System Technology Architecture (VistA) / Computerized Patient Record System (CPRS)
- VistA Imaging
- Enhanced Cerner Millennium data
- OEHRM

**Department of Defense (DoD)**
- Armed Forces Health Longitudinal Technology Application (AHLTA)
- Composite Health Care System (CHCS)
- Essentris ®
- Health Artifact and Image Management Solution (HAIMS)
- Theater Systems
- MHS GENESIS (Cerner)

**Private Sector**
Health Information Exchange (HIE)

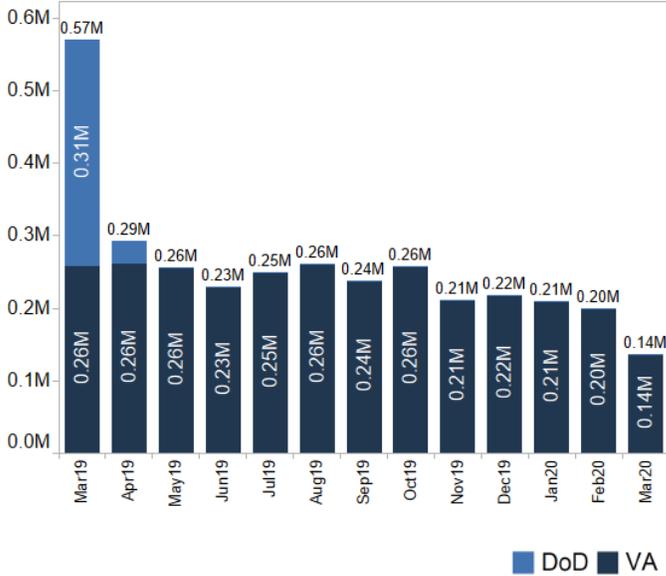2. **VLER HIE.** The VLER HIE is a secure network that shares Veteran and Military Health System beneficiary health care information electronically with civilian network providers who join the eHealth Exchange. Community partners who join the eHealth Exchange undergo stringent security requirements to access patient records and health information securely, regardless if the facility is a civilian provider, military hospital or clinic or VAMC.

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.

**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 March 31, 2020.

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## 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.
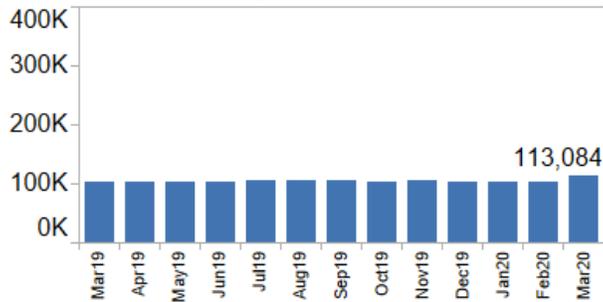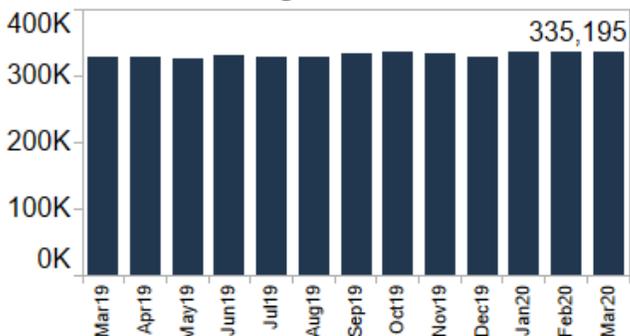


Legacy Viewer System (LVS) Health Record Queries

### Metric A.1: Total Number of 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 Remote Data View in each month. | | |

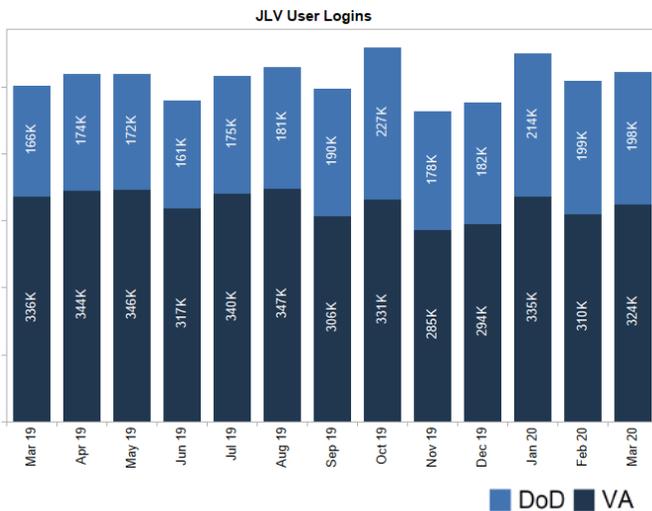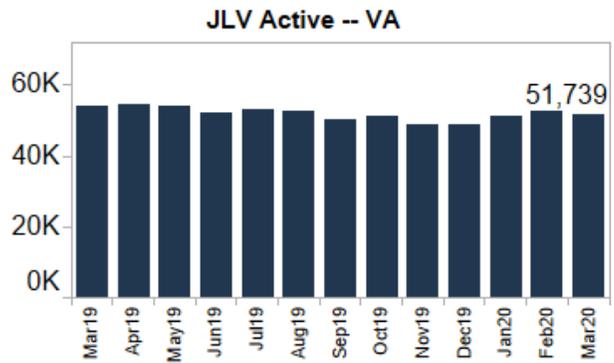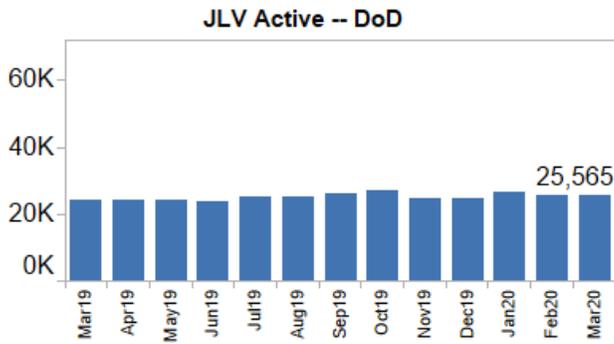| DOD | Change | Impact Factors |
|---|---|---|
| | DOD discontinued use of the LVS in April 2019, so there are no changes. | The DOD implemented the Agile Core Services/Data Access Layer integration with Data Exchange Service in April 2019 and discontinued use of the LVS. |
| VA | Change | Impact Factors |
| ▼ | The total number of health record queries decreased substantially by 20.41 percent between the first and second quarters to 545,909 queries. | VistA Web was decommissioned on February 24, 2020. |



JLV Registered -- DoD



JLV Registered -- VA

### Metric A.2: Registered JLV Users

| Definition | | |
|---|---|---|
| Number of unique users (active and inactive) who could log into the JLV at any time for DOD and VA. | | |

| DOD | Change | Impact Factors |
|---|---|---|
| ▲ | The average monthly number of registered JLV users increased slightly by 1.33 percent between the first and second quarters to 105,897. | There are no factors of note. |
| VA | Change | Impact Factors |
| ▲ | The average monthly number of registered JLV users increased slightly by 0.86 percent between the first and second quarters to 335,820. | There are no factors of note. |

Appendix A: Health Data Interoperability Metrics Details
DISTRIBUTION STATEMENT A

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### JLV Active -- DoD



### JLV Active -- VA



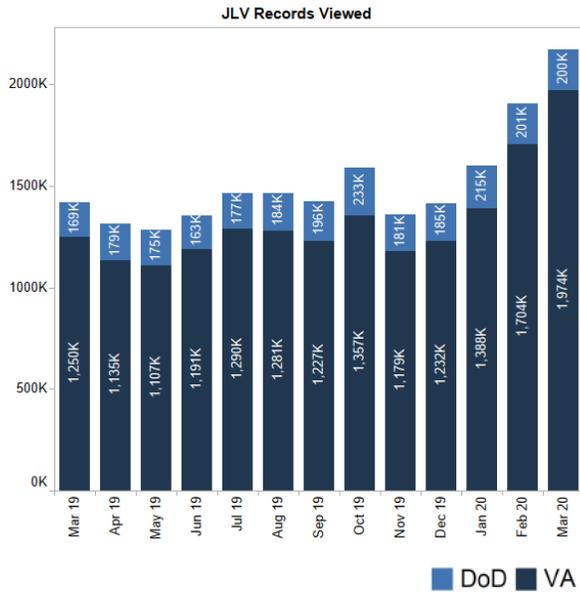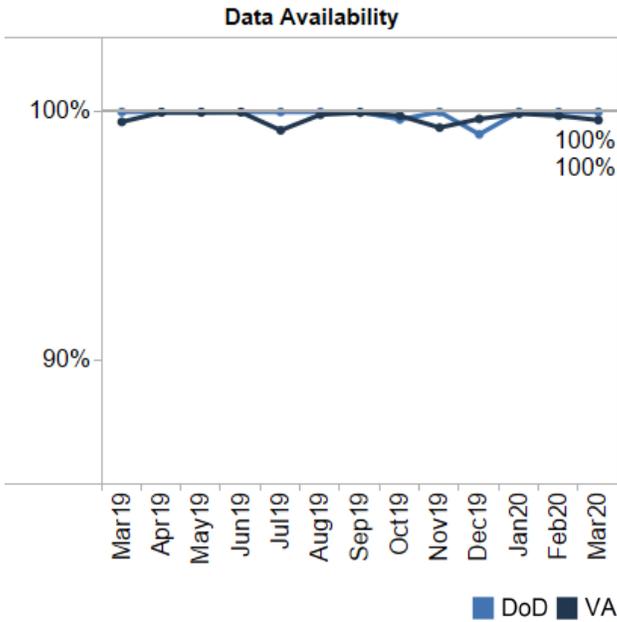| Metric A.3: Active JLV Users | | |
|---|---|---|
| **Definition** | | |
| Monthly total number of active unique users (i.e., a user who has logged on during a specific month) recorded by the JLV for DOD and VA. | | |
| **DOD** | **Change** | **Impact Factors** |
| ▲ | The average monthly number of active JLV users increased slightly by 2.03 percent between the first and second quarters to 25,822. | There are no factors of note. |
| **VA** | **Change** | **Impact Factors** |
| ▲ | The average monthly number of active JLV users increased by 4.41 percent between the first and second quarters to 51,817. | There are no factors of note. |

### JLV User Logins



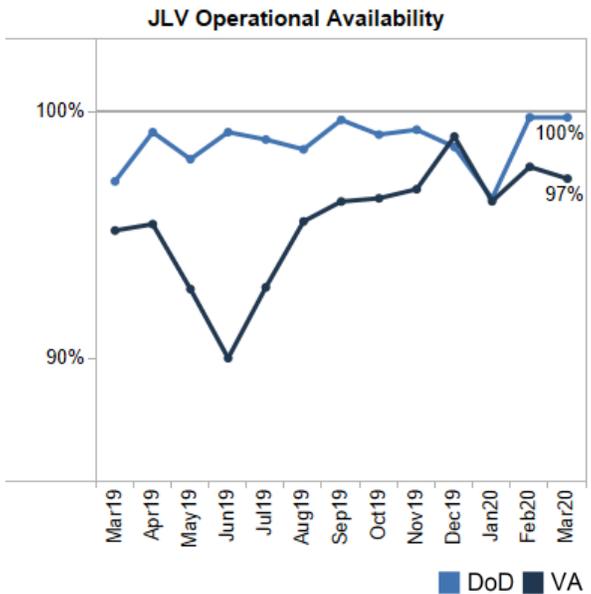| Metric A.4: JLV User Logins | | |
|---|---|---|
| **Definition** | | |
| Monthly total number of logins recorded by the JLV for DOD and VA. | | |
| **DOD** | **Change** | **Impact Factors** |
| ▲ | The total quarterly number of JLV logins increased by 4.18 percent between first and second quarters to 611,646. | There are no factors of note. |
| **VA** | **Change** | **Impact Factors** |
| ▲ | The total quarterly number of JLV logins increased by 6.35 percent between the first and second quarters to 968,077. | There are no factors of note. |

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JLV Records Viewed

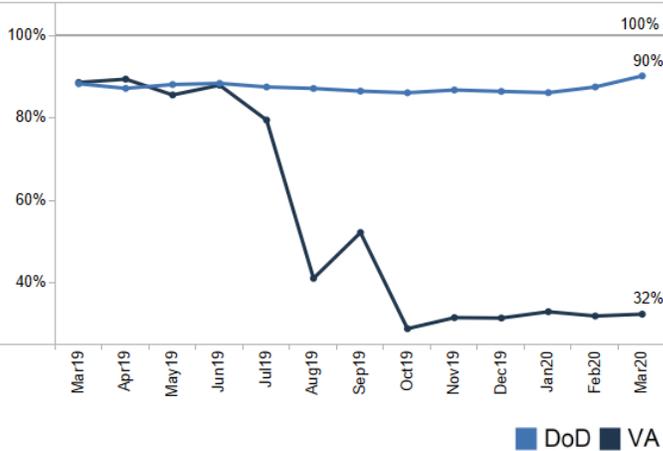| Metric A.5: JLV Records Viewed | | |
|---|---|---|
| **Definition** | | |
| Monthly total number of patient records viewed using the JLV for DOD and VA. | | |
| **DOD** | **Change** | **Impact Factors** |
| ▲ | The total quarterly number of JLV records viewed increased by 2.83 percent between the first and second quarters to 616,058. | There are no factors of note. |
| **VA** | **Change** | **Impact Factors** |
| ▲ | The total quarterly number of JLV records viewed increased substantially by 34.45 percent between the first and second quarters to 5,066.246. | • VistA Web was decommissioned February 24, 2020. Staff who used VistA Web exclusively or with JLV began transitioning to JLV exclusively upon the sunset of VistA Web.<br>• Office of Electronic Health Record Modernization implemented communications products in Q2, increasing awareness of the JLV as a bridging technology between legacy and EHRM sites.<br>• The Veterans Health Information Exchange (VHIE) strategic communications program implemented a VHIE Rural Provider-focused Communications Campaign in Q1 and Q2, which increased JLV awareness and utility.<br>• The Veterans Health Administration JLV Team conducted onsite JLV training at Spokane VAMC in February 2020 in preparation for EHRM IOC. JLV utilization increased as more users understand the relationship between EHRM and JLV more clearly. |

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**Data Availability**



| Metric A.6: 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.<br>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 increased slightly by 0.40 percent between the first and second quarters to 100.0 percent. | There are no factors of note. |
| **VA** | **Change** | **Impact Factors** |
| ▲ | The average monthly data availability increased slightly by 0.17 percent between the first and second quarters to 99.82 percent. | There are no factors of note. |

**JLV Operational Availability**



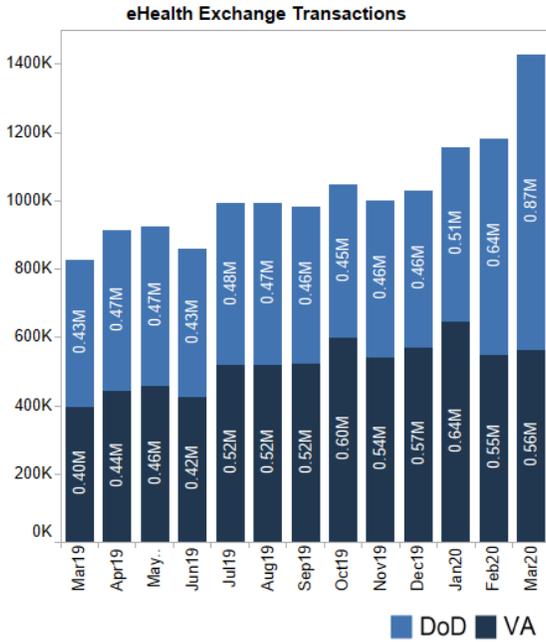| Metric A.7: JLV Operational Availability | | |
|---|---|---|
| **Definition** | | |
| The percentage of time during the month that the JLV was available for login and functionally operational by DOD and VA users (i.e., available for users to conduct a patient search and to access both DOD and VA EHR data in the cloud environment). | | |
| **DOD** | **Change** | **Impact Factors** |
| ▼ | The average monthly operational availability decreased slightly by 0.30 percent between the first and second quarters to 98.7 percent. | There are no factors of note. |
| **VA** | **Change** | **Impact Factors** |
| ▼ | The average monthly operational availability decreased slightly from 97.5 percent in quarter one to 97.2 percent in quarter two. | There are no factors of note. |

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**CHDR Clinical Update Success Rate (%)**



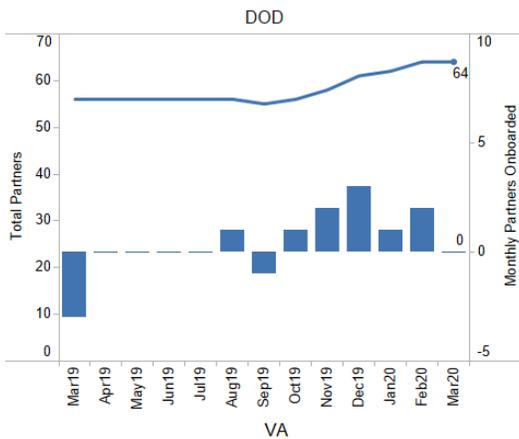| Metric A.8: CHDR Clinical Data Update Success Rate from DOD to VA and VA to DOD | | |
|---|---|---|
| **Definition** | | |
| Percentage of CHDR clinical update messages with data (allergy or pharmacy) successfully processed. A successful process occurs when the sending agency receives a response from 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 1.51 percent from 86.44 percent in quarter one to 87.95 percent in quarter two. | There are no factors of note. |
| **VA** | **Change** | **Impact Factors** |
| ▲ | The average monthly CHDR clinical data update success rate had an increase of 1.82 percent from 30.58 percent in quarter one to 32.40 percent in quarter two. | VA identified three distinct issues that affected message processing by DOD systems of VA messages: terminology mediation issues for allergy and pharmacy data, which constituted a significant proportion of the issues, as well as patient identification recognition and internal system communication issues. |

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## Category B: Community Partnerships

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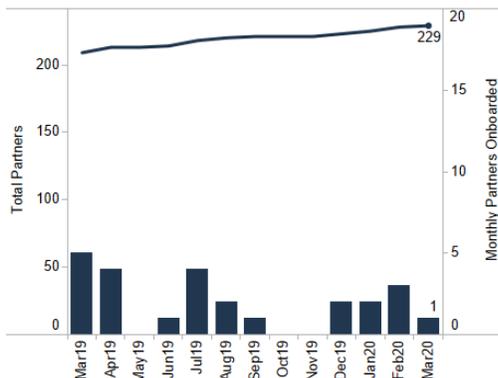


eHealth Exchange Transactions

## Metric B.1: Number of eHealth 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 | Change | Impact Factors |
|---|---|---|
| ▲ | The total number of HIE transactions increased substantially by 47.62 percent between the first and second quarters to 2,012,759. | Integrated Disability Evaluation System pre-fetch was enabled in February, in which AHLTA's next-day appointments are queued as requests for the joint HIE, which pre-fetches the data for clinicians. |
| **VA** | **Change** | **Impact Factors** |
| ▲ | The total number of HIE transactions increased by 2.49 percent between the first and second quarters to 1,751,966. | There are no factors of note. |



DOD

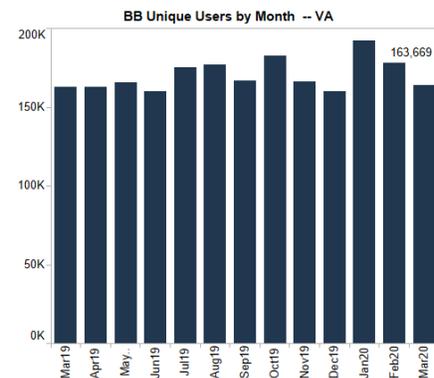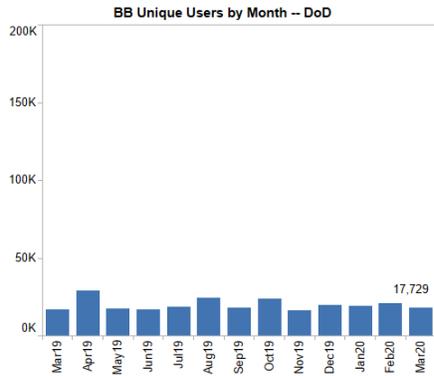## Metric B.2: Number of VLER HIE Partners Onboarded

### Definition

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

| DOD | Change | Impact Factors |
|---|---|---|
| ▲ | Three additional VLER HIE partners were onboarded between the first and second quarters, bringing the total to 64. | There are no factors of note. |
| **VA** | **Change** | **Impact Factors** |
| ▲ | Six additional VLER HIE partners were onboarded between the first and second quarters, bringing the total to 229. | There are no factors of note. |



VA

etrics Details

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## Category C: 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.
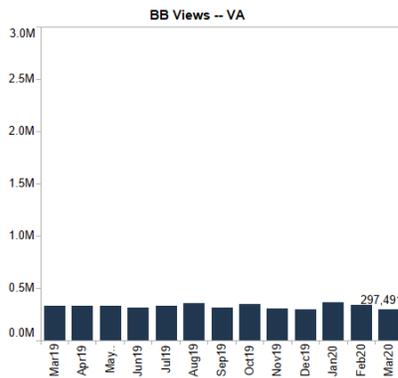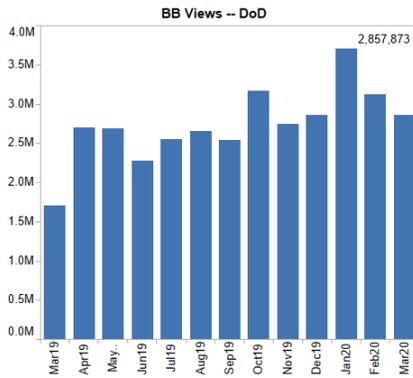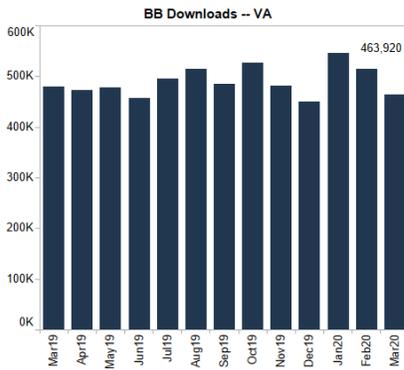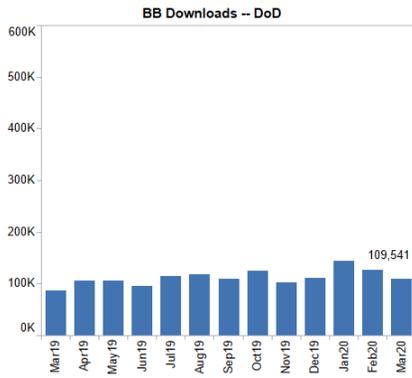


BB Unique Users by Month -- DoD

17,729



BB Unique Users by Month -- VA

163,669

### 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 increased by 11.73 percent between the first and second quarters to 379,186. | There are no factors of note. |
| **VA** | **Change** | **Impact Factors** |
| ▲ | The total quarterly number of Blue Button downloads increased by 4.61 percent between the first and second quarters to 1,524,302. | There are no factors of note. |

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**BB Downloads -- DoD**



**BB Downloads -- VA**



| 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 increased by 10.46 percent between the first and second quarters to 9,680,341. | There are no factors of note. |
| **VA** | **Change** | **Impact Factors** |
| ▲ | The total quarterly number of Blue Button views increased by 5.59 percent between the first and second quarters to 995,073. | There are no factors of note. |

**BB Views -- DoD**



**BB Views -- VA**



| 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 2.37 percent between the first and second quarters to 19,296. | Usage for March 2020 is lower than average due to COVID-19. |
| **VA** | **Change** | **Impact Factors** |
| ▼ | The average monthly number of Blue Button unique users increased by 4.85 percent between the first and second quarters to 177,747. | Usage for March 2020 is lower than average due to COVID-19. |