US DEPARTMENT OF VETERANS AFFAIRS
OFFICE OF INSPECTOR GENERAL

Office of Audits and Evaluations

DEPARTMENT OF VETERANS AFFAIRS

Documentation Deficiencies for Electronic Health Record Interface Testing at the Lovell Federal Health Care Center in North Chicago

OUR MISSION

To serve veterans and the public by conducting meaningful independent oversight of the Department of Veterans Affairs.

CONNECT WITH US

Subscribe to receive updates on reports, press releases, congressional testimony, and more. Follow us at @VetAffairsOIG.

PRIVACY NOTICE

In addition to general privacy laws that govern release of medical information, disclosure of certain veteran health or other private information may be prohibited by various federal statutes including, but not limited to, 38 U.S.C. §§ 5701, 5705, and 7332, absent an exemption or other specified circumstances. As mandated by law, the OIG adheres to privacy and confidentiality laws and regulations protecting veteran health or other private information in this report.

QUALITY STANDARDS

The Office of Inspector General (OIG) has released this management advisory memorandum to provide information on matters of concern that the OIG has gathered as part of its oversight mission. The OIG conducted this review in accordance with the Council of the Inspectors General on Integrity and Efficiency's Quality Standards for Inspection and Evaluation.

July 9, 2025[1]

MANAGEMENT ADVISORY MEMORANDUM

TO:	Dr. Neil Evans, Acting Program Executive Director, Electronic Health Record Modernization (EHRM) Integration Office[2]
FROM:	Larry Reinkemeyer, Assistant Inspector General, Office of Audits and Evaluations, VA Office of Inspector General (OIG)
SUBJECT:	Documentation Deficiencies for Electronic Health Record (EHR) Interface Testing at the Lovell Federal Health Care Center (the Lovell FHCC) in North Chicago

This management advisory memorandum outlines the findings and observations the OIG made in the course of determining whether VA and Oracle Health (the contractor) followed EHR interface testing procedures at the Captain James A. Lovell FHCC in North Chicago, Illinois.[3] The Lovell facility is where VA had to synchronize its system rollout with the Department of Defense's (DOD) deployment of its military health record system before going live on March 9, 2024.[4] The OIG team selected a sample of 24 from 100 total interfaces and confirmed all 24 were tested. However, the team identified inadequate documentation in some cases, which warrants VA's further attention. This memorandum is meant to convey the information necessary for VA to determine whether additional actions should be taken.[5] The OIG is taking no additional steps at this time.

---

[1] This memorandum was sent to the EHRM Integration Office on July 9, 2025, to provide the opportunity for review and comment.

[2] This memorandum is also directed to anyone performing the delegable duties of the position.

[3] The OIG evaluated whether VA and Oracle Health followed procedures for testing EHR interfaces to ensure the flow of data. The team did not examine hands-on interface user testing that assessed functionality or the quality of a user's experience.

[4] The March 9, 2024, deployment date and other system rollouts can be found in the online schedule. The Lovell FHCC is in Veterans Integrated Service Network 12—also known as the VA Great Lakes Health Care System, which comprises parts of Illinois, Indiana, Wisconsin, and Michigan. The Veterans Health Administration (VHA) divides the United States into 18 regional networks, known as Veterans Integrated Service Networks.

[5] This memorandum provides information gleaned from analyzing evidence related to interfaces tested at the Lovell facility and provided to the EHRM Integration Office to determine whether additional actions are warranted for future interface testing and development procedures. The OIG issues management advisory memoranda when exigent circumstances or areas of concern are identified through OIG hotline allegations or in the course of its oversight work, particularly when immediate action by VA can help reduce further risk of harm to veterans or significant financial losses. Memoranda are published unless otherwise prohibited from release or to safeguard protected information.

In May 2018, VA awarded a contract to Cerner (now Oracle Health) for a new EHR system.[6] As of May 2025, the department was more than halfway into its 10-year timeline to implement the system across VA facilities nationwide. The goal of the new EHR system is to give veterans and their healthcare providers a comprehensive and continuous record to improve the quality of care. It is intended to be interoperable with the DOD system and those used by community providers. However, the OIG has reported the rollout has faced numerous issues.[7] As of March 2025, the EHR system was live at six sites—with VA planning to bring 13 facilities online in 2026 (including four in Michigan). VA plans to finish deploying the EHR at all VA medical facilities as early as 2031.[8]

Testing interfaces at these locations is necessary to ensure clinical information is properly shared between the new EHR system and VA's legacy Veterans Health Information Systems and Technology Architecture (VistA), other VA systems, and applicable non-VA (community) systems.

Interfaces Defined

The interfaces the OIG considered provided a connection between two devices, applications, or networks or could be a boundary that two systems communicate across.[9] Interfaces are important for the EHR system because they allow the applications used in everyday medical care to communicate information automatically to a veteran's record. For example, when an imaging machine takes an x-ray of a veteran, that image is transmitted from the imaging machine to an

---

[6] Oracle Corp. acquired Cerner Corp. on June 8, 2022, assuming responsibility for the EHR contract with VA and became Oracle Cerner at that time. The contractor now goes by Oracle Health Government Services Inc. (Oracle Health).

[7] Since April 2020, the OIG has released oversight reports on VA's rollout of the new EHR system that identified critical missteps and a lack of remediation for identified failings. Among the issues identified are: program costs are expected to exceed VA's initial estimate (VA OIG, *Deficiencies in Reporting Reliable Physical Infrastructure Cost Estimates for the Electronic Health Record Modernization Program*, Report No. 20-03178-116, May 25, 2021); the new EHR resulted in patient harm (VA OIG, *The New Electronic Health Record's Unknown Queue Caused Multiple Events of Patient Harm*, Report No. 22-01137-204, July 14, 2022); VA and Oracle Health did not have adequate controls to prevent system changes from causing major performance incidents, to respond to those incidents uniformly and thoroughly, or to mitigate their impact by providing standard procedures and interoperable downtime equipment (VA OIG, *VA Needs to Strengthen Controls to Address Electronic Health Record System Major Performance Incidents*, Report No. 22-03591-231, September 23, 2024); and staff at the VA Southern Oregon Healthcare System and the Jonathan M. Wainwright Memorial VA Medical Center in Walla Walla, Washington, reported impacts of the new EHR on patient care operations including a loss of productivity and drains on staffing and finances (VA OIG, *Facility Leaders and Staff Have Concerns about VA's New Electronic Health Record*, Report No. 24-02874-256, September 23, 2024).

[8] As noted, the deployment schedule is online. VA announced in March 2025 that deployments would be completed as early as 2031. VA Office of Public and Intergovernmental Affairs, "VA to complete Federal EHR deployment at nine additional sites in 2026," news release, March 6, 2025.

[9] See generally, National Institute of Standards and Technology Special Publication 800-160, *Engineering Trustworthy Secure Systems*, ver. 1, rev. 1, app. B: Glossary, November 2022.

Oracle Health server and then transmitted again into the individual's health record; each transmission point uses an interface (figure 1).
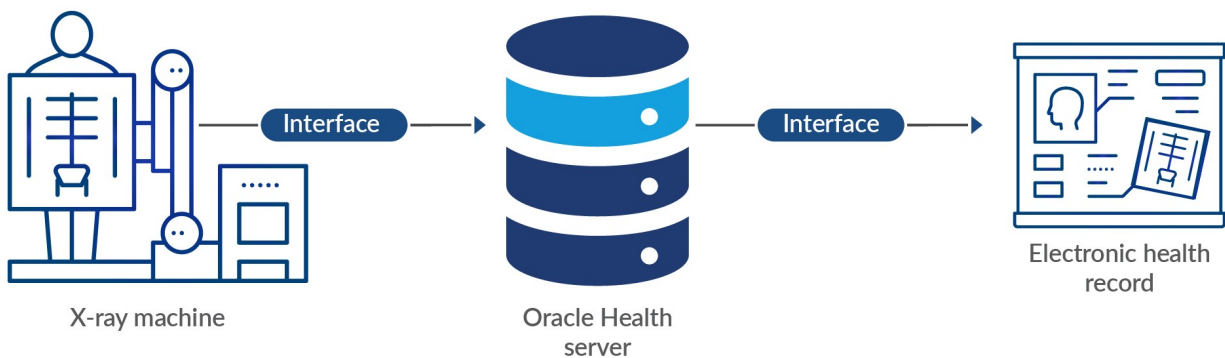

Figure 1. *EHR system diagram.*
Source: VA OIG analysis of the Picture Archiving Communication Systems Interface Control Document and VA and Oracle web pages, together with information from an interview with a Lovell informatics staff member.

Interface Design

As the contractor, Oracle Health is responsible for developing EHR system interfaces.[10] To do so, the company creates interface control documents, which describe the intended exchange of information between an interface and the EHR system. The documents specify how each interface operates, define data exchanges, and lay out how the data should flow. The documents are meant for testers, who rely on this information to understand functionality and design test cases.[11] According to senior EHRM Integration Office officials, Oracle Health must conduct a design review at each new facility and update the interface control documents when changes are needed. VA technical and functional subject matter experts review the interface control documents to provide corrections, feedback, and approvals.

Interface Testing

Oracle Health and VA created a Joint Master Test Plan as part of the EHR contract. The plan divides responsibilities for coordinating and integrating testing of the EHR system between Oracle Health and the VA EHRM Integration Office.[12] According to the test plan, the amount of testing an interface receives is based on which of four categories it falls into: enterprise,

---

[10] VA Contract 36C10B18D5000, *Performance Work Statement for the VA EHRM System*, Modification P00002, April 17, 2023.

[11] VA Contract 36C10B20N0028, *Task Order 46: EHRM Program Management 4001AF: Joint EHRM Master Test Plan*, February 15, 2024. See appendix A for information on the VA and Oracle Health parties involved with system testing.

[12] *EHRM Joint Master Test Plan*, February 15, 2024.

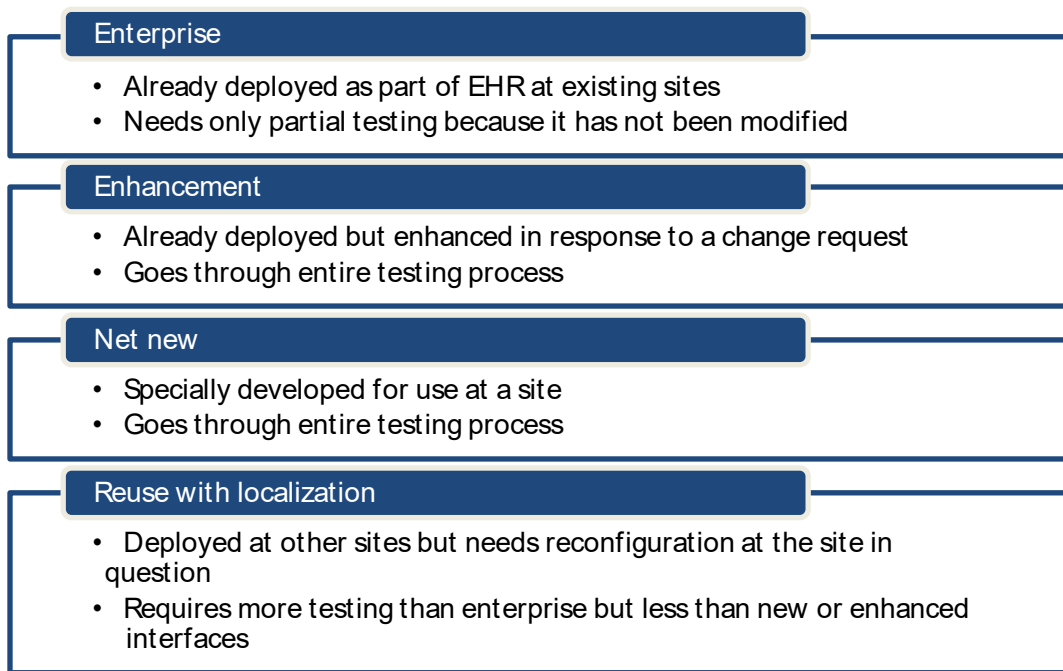enhancement, net new, or reuse with localization (in other words, localized), as described in figure 2.[13]

Enterprise
- Already deployed as part of EHR at existing sites
- Needs only partial testing because it has not been modified

Enhancement
- Already deployed but enhanced in response to a change request
- Goes through entire testing process

Net new
- Specially developed for use at a site
- Goes through entire testing process

Reuse with localization
- Deployed at other sites but needs reconfiguration at the site in question
- Requires more testing than enterprise but less than new or enhanced interfaces

Figure 2. Interface categories.
Source: VA OIG analysis of the EHRM Joint Master Test Plan, February 15, 2024.

Interface testing can be functional or nonfunctional. Functional testing verifies the system is configured and that workflows—sequences of steps involved in work processes or tasks that users regularly perform—are working properly. This testing involves the EHRM Integration Office, Oracle Health, and facility users; it tests the integration of system interfaces across departments. An example of functional testing could include a tester entering a fictitious patient name in the EHR system to confirm that an error message of "person not found" appears and that the system gives the tester the opportunity to add the individual. Nonfunctional testing is designed to verify the transfer of data from one information system to another; verify the identity and access of patients, users, and support staff; and validate that a system's software works with other components. An example of a nonfunctional test would be verifying that data accurately moved from one system to another.

If tests reveal interfaces are not working, staff may need to compensate for this lack of functionality with manual processes, commonly referred to as work-arounds. Work-arounds are an alternate way to operate or manage without system hardware, software, or communications

[13] A net new interface is a brand-new interface.

when these features are not available. VA guidance says that while work-arounds can be used, they are not a permanent solution.[14]

Interfaces Needed at Lovell Facility

The Lovell FHCC is an integrated VA and DOD facility that serves active-duty military and their family members, as well as military retirees and veterans. The center is classified as a 1c facility.[15] None of the previous live sites for the EHR system were as complex, but the goal for the Lovell facility was for the VA and DOD systems to work together seamlessly.

The EHR system has many interfaces: 100 were deployed at the Lovell FHCC. Table 1 shows their makeup. As of May 2023, a senior informatics official at the facility reported 95 of 100 interfaces were critical.[16]

Table 1. Interfaces at the Lovell FHCC at Go-Live Date (by Type)

Type of interface	Number
Enterprise	56
Enhancement	1
Net new	6
Localized	37
Total	**100**

Source: VA OIG analysis.

Note: All types except enterprise interfaces require testing before the go-live date.

What the OIG Did

After the OIG team identified the 100 active EHR interfaces at the Lovell facility in March 2024, an OIG statistician selected a sample of 24 for review (table 2).

---

[14] VA Handbook 6500.8, *Information System Contingency Planning*, April 6, 2011. This handbook was reissued on March 25, 2025.

[15] VHA uses a medical facility complexity model to classify VA facilities. The model considers the volume of patients, the level of patient risk, the procedures performed, and the number of physician specialists, as well as any teaching and research programs. VHA facilities are classified as levels 1a, 1b, 1c, 2, or 3—with 1a being the most complex and 3 being the least complex.

[16] The review team determined that the remaining five interfaces were either not critical or the criticality was not known based on this official's reporting.

**Table 2. Sample of Interfaces
(by Type)**

Type of interface	Number
Enterprise	5
Enhancement	1
Net new	4
Localized	14
Total	**24**

Source: VA OIG analysis of Lovell facility interface sample.

For each of the 24 interfaces in the sample, the team reviewed one test execution and all associated test steps, applicable findings, and supporting documentation from the Application Lifecycle Management Tool. The tool is the required repository for test findings (any problems discovered during testing) and the status of actions to resolve findings.[17] The OIG evaluated whether VA and Oracle Health followed procedures to test EHR interfaces to ensure the appropriate flow of data.[18] As stated, the team did not assess hands-on user testing of interface functionality or on the quality of users' experience. In addition, the team interviewed VA and Veterans Health Administration (VHA) officials, as well as facility leaders and staff who used some of the 24 interfaces reviewed.

What the OIG Found

The OIG confirmed VA and Oracle Health conducted testing for the 24 interfaces reviewed; the correct interface tests were all performed according to the type of interface, and applicable retesting was completed.[19] The team compared the requirements in testing procedures to the related documentation in the Application Lifecycle Management Tool for one test of each interface and all supporting documentation, including information on all related steps, findings, and retesting.[20] Although the correct tests were executed, the OIG team observed inadequate documentation in some cases, which merits VA's attention.

The Application Lifecycle Management Tool contained no documentation showing testing had been done at the Lovell FHCC before going live with the Financial Management System interface, which bridges the EHR system and VA's payment and billing system (classified as

---

[17] *EHRM Joint Master Test Plan*, February 15, 2024.

[18] The team focused on the transmission of data across EHR system interfaces, which is validated by nonfunctional testing. The team also considered two interfaces in its review because they reportedly involved work-arounds.

[19] The type of testing was dictated by whether the interface was new, enterprise-based, enhanced, or localized.

[20] The testing procedures used were those in the EHR test plan and VA, EHRM Integration Office, *Application Lifecycle Management Testing Process and Guidelines*, ver. 8.0, December 2023.

localized).[21] After interviewing VA EHRM Integration Office officials, the OIG team determined the interface had undergone the required localized testing but not until after going live and that testing was recorded in another system due to special circumstances. According to the EHRM Integration Office's testing director, VA and Oracle Health could not conduct a localized test on the interface until it was released because Change Healthcare's system, on which this interface relied, shut down due to a cyberattack in February 2024. Senior EHRM Integration Office leaders said that, because of security concerns, this capability was replaced by a new system not operational until November 2024. The leaders reported the Financial Management System required a full month's worth of data to validate interface deployment. When the data were available in January 2025, the VHA Office of Finance and the EHRM Integration Office validated the necessary transactions. EHRM Integration Office senior officials confirmed that the test evidence for this interface was stored in another system outside the tool.

In addition, the OIG team identified interface testing procedures that did not clearly detail what to do when testing results and notations were inconsistent. For example, the notation "no run" means no test steps have been run, according to VA guidance.[22] Yet the term "no run" was used together with a conflicting notation of a passed test.

For example, using the Application Lifecycle Management Tool, the team determined VA and Oracle Health staff "passed" four (of 24) interfaces tested in the team's sample—(1) GE Patient Monitors, (2) CapSure VistA Live–GlobalMed, (3) Bed Management Solution, and (4) CensiTrac—despite marking all the steps for them as "no run." These four EHR interfaces exchange clinical health information involving imaging, patient movement, bed management, and surgical instruments. According to the EHRM Integration Office's testing director, this testing was based on observation validation, or VA testers watching as it was conducted by another team.

The four selected interfaces below involved 17 tests with 177 test steps where the OIG identified the tests as "passed" but were shown as "no run."[23] Only three of the 17 tests had attachments that supported the testing:

- **GE Patient Monitors.** VA conducted 13 interface solution tests, all of which passed, although the related 52 test steps were recorded as "no run." One interface test included one attachment.

---

[21] VA is migrating to the commercial off-the-shelf Momentum cloud solution, configured for VA as the integrated Financial and Acquisition Management System, which replaces the legacy Financial Management System.

[22] VA, EHRM Integration Office, *Application Lifecycle Management Testing Process and Guidelines.*

[23] Although other tests were performed, the team identified these tests only as passed and recorded as "no run."

- **Capsure VistA Live–GlobalMed.** VA completed two interface solution tests and recorded "no run" for all 38 test steps. One test for the interface included two attachments.

- **Bed Management Solution.** Oracle Health conducted one interface localization test and recorded "no run" for the 51 test steps.

- **CensiTrac.** Oracle Health performed a localization test and passed it despite marking "no run" for all 36 test steps. The test included two attachments.

The tests for these interfaces could be strengthened with better documentation because VA would have greater assurance that interfaces were sufficiently tested and could minimize any misinterpretation of results. As stated earlier, Oracle Health was responsible for updating the test documentation in the Application Lifecycle Management Tool.[24] If VA ensures Oracle Health's compliance with contractual provisions, information needed for improvement will be documented.

Furthermore, the team looked in-depth at two localized interfaces, which Lovell FHCC officials listed as a high priority and were involved in a special test event before deployment:

- **VistA Prosthetics.** In December 2023, the EHRM Integration Office's testing director stated that during a meeting of the Prosthetic and Sensory Aid Services Council, VA and Oracle Health testing personnel and facility staff discovered this interface lacked functionality that would allow a DOD provider at a DOD patient care location in the Lovell facility to order prosthetics, such as crutches, from VA. VA's EHRM Integration Office found a test case had not been developed for this missing functionality. With go-live in March 2024 approaching for Lovell, the EHRM Integration Office, Oracle Health personnel, and other VA staff determined the VistA Prosthetics interface could not be delivered as it was and developed a manual work-around to order prosthetics, with the understanding that a permanent solution would be developed after the go-live date.

- **HealthShare Referral Manager.** In January 2024, VA tested this platform used by Lovell community care staff to generate referrals and authorizations for veterans to receive care from non-VA providers.[25] According to the EHRM Integration Office's testing director, a facility referral management workflow was developed during the site

---

[24] VA Contract 36C10B18D5000, *Electronic Health Record Modernization (EHRM) System Performance Work Statement (PWS) Electronic Health Record Modernization (EHRM) Integration Office (IO) EHRM Waves H, I, & J (VISNs 10 and 12) Deployments*, ver. 1.0, May 23, 2022; VA Contract 36C10B20N0028, *Task Order 46: EHRM Program Management 4001AF: Joint EHRM Master Test Plan*.

[25] Referrals validate a veteran's eligibility for community care and authorize services and procedures that can be performed by a community provider.

deployment activities, as VA and DOD each had their own interface for sending referrals to community care. Referrals placed on a VA or DOD patient encounter were not recognized by the other agency's interface.

From January through March 2024, the EHRM Integration Office, Oracle Health personnel, and other VA staff developed and participated in a special on-site test focused on these and related interfaces. After the Lovell FHCC went live, the EHRM Integration Office updated its testing procedures to include the process used in the special test for future deployment sites. However, the Lovell facility was still experiencing issues with these workflows. As of April 2025, a senior informatics official at the Lovell facility reported that the work-arounds for the prosthetics and referral manager interfaces were still in use.

The OIG reviewed interface control documentation for VistA Prosthetics and HealthShare Referral Manager and confirmed the lack of functionality between VA and DOD with these two interfaces. At least for these two interfaces, documentation supported that testers had not accounted for the joint nature of workflows at the Lovell facility. Had VA not identified the lack of functionality during deployment, the VistA Prosthetics and HealthShare Referral Manager interfaces would have been deployed and joint services would have been unavailable. Facility engagement in interface testing will continue to be important at future EHR deployment sites with distinct workflows.

VA followed procedures to test interfaces the OIG team reviewed at the Lovell FHCC. The impact of that testing would be strengthened, however, with improved documentation in the Application Lifecycle Management Tool. Documentation is important; it can be used to verify that interfaces are implemented correctly, operating as intended, and meeting security requirements—critical to EHR deployments at additional sites.[26]

Requested Action

The OIG requests that the EHRM Integration Office inform the OIG of what actions, if any, are taken to strengthen documentation of EHR interface testing and the identification of system workflows requiring testing in future sites. The OIG makes no recommendations at this time.

VA Response

VA elected not to submit a formal written response or provide comments at the time of this memorandum's publication.

---

[26] For the need for documentation, see National Institute of Standards and Technology, Special Publication 800-53, *Security and Privacy Controls for Information Systems and Organizations*, rev. 5, September 2020. The EHR contract performance work statement (October 5, 2017) says the contractor (Oracle Health) must comply with all applicable National Institute of Standards and Technology standards related to information system authorization, testing, and continuous monitoring.

Appendix A: Test Community

The test community comprises Oracle Health, the Electronic Health Record Modernization Integration Office, and the Veterans Health Administration—meaning they are involved at various points in the electronic health record (EHR) testing life cycle (figure A.1).
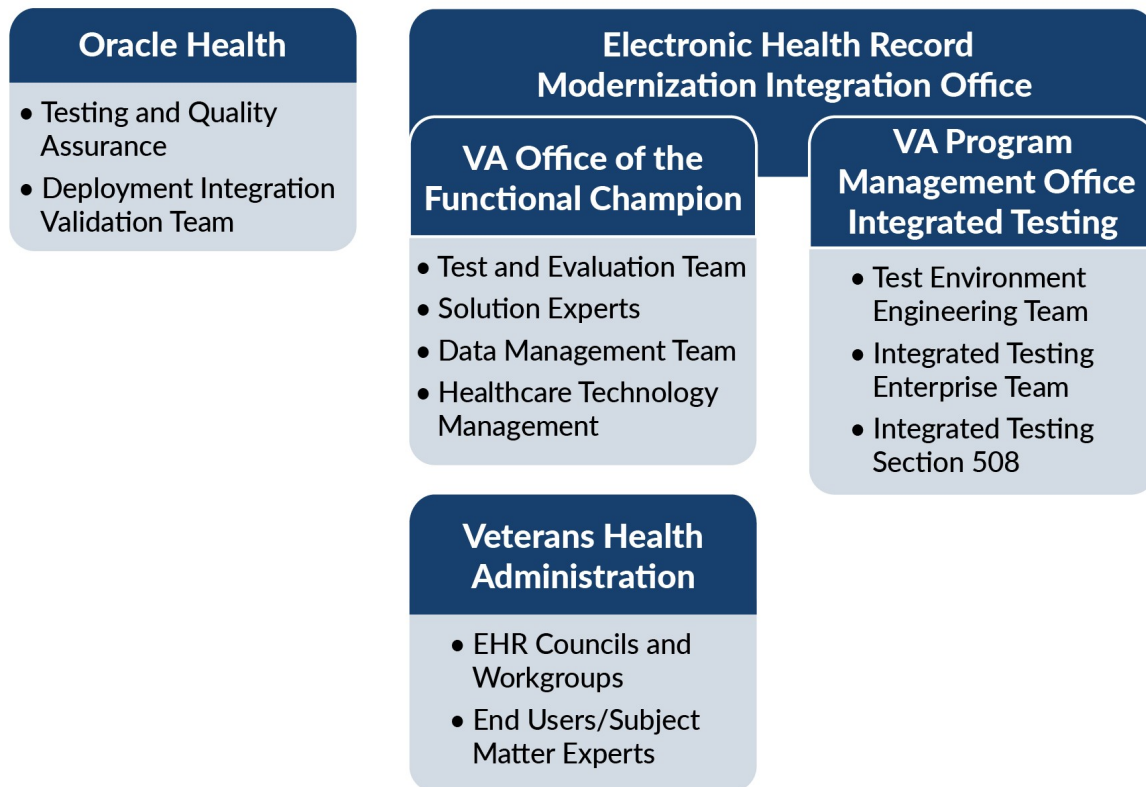
Oracle Health
- Testing and Quality Assurance
- Deployment Integration Validation Team

Electronic Health Record Modernization Integration Office

VA Office of the Functional Champion
- Test and Evaluation Team
- Solution Experts
- Data Management Team
- Healthcare Technology Management

VA Program Management Office Integrated Testing
- Test Environment Engineering Team
- Integrated Testing Enterprise Team
- Integrated Testing Section 508

Veterans Health Administration
- EHR Councils and Workgroups
- End Users/Subject Matter Experts

Figure A.1. The test community.
Source: EHRM Joint Master Test Plan, February 15, 2024.

OIG Contact and Staff Acknowledgments

Contact	For more information about this management advisory memorandum, please contact the Office of Inspector General at (202) 461–4720.
Review Team	Jessica Blake, Director Matthew Gray Benjamin Howe Nicolas Shands
Other Contributors	Laurence Adair Allison Tarmann Rashiya Washington

Management Advisory Memorandum Distribution

VA Distribution

Office of the Secretary
Veterans Benefits Administration
Veterans Health Administration
National Cemetery Administration
Assistant Secretaries
Office of General Counsel
Office of Acquisition, Logistics, and Construction
Board of Veterans' Appeals
Electronic Health Record Modernization Integration Office
Director, VISN 12: VA Great Lakes Health Care System
Director, Captain James A. Lovell Health Care Center

Non-VA Distribution

House Committee on Veterans' Affairs
House Appropriations Subcommittee on Military Construction, Veterans Affairs,
   and Related Agencies
House Committee on Oversight and Government Reform
Senate Committee on Veterans' Affairs
Senate Appropriations Subcommittee on Military Construction, Veterans Affairs,
   and Related Agencies
Senate Committee on Homeland Security and Governmental Affairs
National Veterans Service Organizations
Government Accountability Office
Office of Management and Budget
US Senate:
   Illinois: Tammy Duckworth, Richard Durbin
   Wisconsin: Tammy Baldwin, Ron Johnson
US House of Representatives:
   Illinois: Sean Casten, Danny K. Davis, Bill Foster, Jesús "Chuy" García,
   Jonathan Jackson, Robin Kelly, Raja Krishnamoorthi, Mike Quigley, Delia Ramirez,
   Jan Schakowsky, Brad Schneider, Eric Sorensen, Lauren Underwood
   Wisconsin: Bryan Steil

OIG reports and memoranda are available at www.vaoig.gov.