



DEPARTMENT OF VETERANS AFFAIRS
OFFICE OF INSPECTOR GENERAL

Office of Healthcare Inspections

VETERANS HEALTH ADMINISTRATION

Care Coordination
Deficiencies after the New
Electronic Health Record
Go-Live at the Mann-
Grandstaff VA Medical
Center in
Spokane, Washington



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Executive Summary

This healthcare report is the second in a trilogy of reports that address allegations associated with implementation of the new electronic health record (new EHR) at the Mann-Grandstaff VA Medical Center (facility) in Spokane, Washington, received after its go-live date in October 2020.¹

Due to the magnitude of allegations the VA Office of Inspector General (OIG) received regarding the impact of the new EHR implementation on patient care after go-live at the facility, the OIG initiated two separate, but simultaneous healthcare inspections. The OIG conducted this inspection to assess a range of allegations regarding clinical care coordination challenges and potential patient safety issues associated with implementation of the new EHR at the facility.² The other inspection focused on allegations related to medication management deficiencies following implementation of the new EHR at the facility.³ These two inspections were limited to a review of the allegations received and did not proactively determine whether other issues existed.

During the course of the two inspections, the OIG recognized challenges with identifying, tracking, and resolving problems with the new EHR after go-live at the facility. The OIG discussed those challenges and potential underlying factors related to deficiencies identified in the medication management and care coordination inspections in a third report.⁴

Following the October 24, 2020, go-live date of the new EHR at the facility, the OIG received a range of complaints related to deficiencies in care coordination associated with implementation of the new EHR at the facility. The OIG organized the multiple allegations into eight categories (see table 1).

¹ The first report is *Medication Management Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*. The third report is *Ticket Process Concerns and Underlying Factors Contributing to Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VAMC in Spokane, Washington*.

² DigitalVA, Federal Electronic Health Record Modernization Program Office, accessed April 21, 2021, [Home | Federal Electronic Health Record Modernization \(fehrm.gov\)](https://www.fehrm.gov) “An EHR is software that’s used to securely document, store, retrieve, share, and analyze information about individual patient care. It enables a digital version of a patient [health] record.”

³ VA OIG, *Medication Management Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*, Report No. 21-00656-110, March 17, 2022, <https://www.va.gov/oig/pubs/VAOIG-21-00656-110.pdf>.

⁴ VA OIG, *Ticket Process Concerns and Underlying Factors Contributing to Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*, Report No 21-00781-108, March 17, 2022, <https://www.va.gov/oig/pubs/VAOIG-21-00781-108.pdf>.

Table 1. Allegations by Category

Category	Allegations
1. Patient Record Flags	
Failure of High Risk for Suicide and Behavioral Patient Record Flags to Activate	Patient record flags used to alert staff to patients at high risk for suicide and disruptive behavior did not transfer to the new EHR, placing patients and staff at increased risk.
Visibility of Flags	The way patient record flags displayed or failed to display in parts of the new EHR raised safety concerns.
Accessibility of Suicide Risk Assessment Documents	Staff had limited access to suicide prevention, risk assessment, and reporting tools in the new EHR.
Interoperability with High Risk for Suicide Tracking Tools	Gaps existed in interoperability between the new EHR and established Veterans Health Administration (VHA) tools that facilitated tracking and monitoring of patients at high risk for suicide.
Interoperability for Interfacility Coordination	Deficits in interoperability with the new EHR resulted in inaccurate patient record flag data displayed in the legacy EHR system still in use at other VHA sites.
Interoperability for National Monitoring	Facility data reported to the national high-risk dashboard for patients with active High Risk for Suicide patient record flags had been inconsistent since the facility transitioned to the new EHR.
2. Data Migration	
Errors in Name, Gender, and Contact Information	Deficiencies in the data migration process caused incorrect names, genders, and contact information in the new EHR for some patients.
3. Scheduling Process	
Delays in Primary Care Appointments	New EHR issues caused delays in scheduling primary care appointments.
Mental Health New Patient Scheduling	New EHR issues caused Mental Health Service to stop scheduling new patients.
Inability to Assign a Provider	If patients did not have a Spokane address, they could not be assigned to a primary care provider in the system. This resulted in the inability to assign a primary care provider in the system for homeless patients.
Appointment Information	Appointments for return-to-clinic visits showed as general clinic appointments and did not contain information to show which provider or specialty area within a service the patient was scheduled to see.
Appointment Reminders	Appointment reminders were absent in the new EHR.
	Appointment reminders were inadequate and did not provide locations for appointments.
	Appointment reminders did not specify when appointments were telephone visits rather than in-person appointments, resulting in patients presenting in person for telephone appointments.

Category	Allegations
Self-Scheduling Tool Configuration	Problems with the configuration of the new self-scheduling tool, accessible in the patient portal, resulted in facility patients located in Washington State inadvertently self-scheduling appointments at a VHA site in Ohio.
4. VA Video Connect	
Appointment Failures	Many VA Video Connect appointments did not work correctly following the new EHR implementation. VA Video Connect appointments were not getting completed because the links were not working.
Provider Access	Some providers had no access to VA Video Connect since the new EHR implementation.
Appointment Check-In	Since implementing the new EHR, providers were unable to check in patients for VA Video Connect appointments. This created additional work for providers and medical support assistant staff, reducing clinic efficiency.
Misdirected VA Video Connect Appointment Links	Incorrect personal contact information caused misdirection of links used to access VA Video Connect appointments. VA Video Connect appointment links were sent to incorrect, outdated email addresses without a notice alerting providers that the email addresses were invalid.
Appointment Time Zones	Since implementing the new EHR, VA Video Connect appointments were often scheduled in the wrong time zones.
5. Referral Management	
Lost or Not Addressed Referrals	Referrals were being lost or not addressed because of difficulties in the referral management processes in the new EHR.
Tracking Referrals	The new EHR lacked a way for referring providers to track what actions had been taken for referrals, by whom and when.
Use of Messaging as a Work-Around	Due to concerns about the referral process not working consistently and the inability to track referrals in the new EHR, staff were sending messages through Message Center and sending encrypted emails after submitting referrals to ensure that referrals were seen by the receiving service.*
Referrals Within the Same Service	Deficits in the new EHR resulted in difficulties placing referrals between different programs in the same service, which could affect care coordination and result in lapses in care.
6. Laboratory Orders	
Workflow Errors	Some laboratory orders were “disappearing” and never reached the facility laboratory.
Tracking Orders	Laboratory orders were “disappearing” from the providers’ view at times, affecting coordination of care, as providers were unable to tell what had been ordered and if there was duplication in orders from other providers.
Tracking Orders	The new EHR lacked a way for providers to track laboratory orders.

Category	Allegations
Delayed Results	Receipt of laboratory results were delayed.
7. Patient Portal and Secure Messaging	
Loss of Access	Veterans were unable to access the patient portal and use secure messaging to contact care teams in the new EHR.
8. Documentation Processes	
Financial Identification Numbers (FINs) and Chart Access	Staff were unable to access the patient chart without using a between-visit encounter and FIN.
FINs for Between-Visit Encounters	The process for using FINs in the new EHR for documentation occurring between visits created additional work for providers, reduced efficiency, and increased opportunities for documentation errors.
Nurse Documentation for New Patients	Nurses were unable to create an encounter or generate a FIN if the patient had never been seen by a provider.
International Classification of Diseases, 10th Revision (ICD-10) Code Availability	Many ICD-10 diagnostic codes were not available in the new EHR, affecting providers' ability to correctly code patient diagnoses.
Service Connection Status	Staff were unable to view patients' service-connected conditions in the new EHR, affecting providers' ability to document care as related to specific service-connected conditions.

Source: *OIG analysis of allegations.*

* *Message Center is a function of the new EHR that facility staff use to collaboratively communicate about patients.*

Patient Record Flag Findings

The OIG substantiated deficiencies related to patient record flags following implementation of the new EHR. The OIG found that when the new EHR went live at the facility, patient record flags denoting patients at high risk for suicide and disruptive behavior failed to activate for some patients with active patient record flags in the legacy EHR system. In addition, staff raised safety concerns related to the way patient record flags displayed or failed to display in parts of the new EHR. The OIG also found that, when the new EHR went live, relevant clinical staff lacked access to necessary suicide prevention risk assessment and reporting tools. Additionally, interoperability issues affected functionality of established VHA suicide prevention tracking and reporting tools. Workflows in the new EHR were also disrupted by special text characters in patient record flag narrative data resulting in the display of inaccurate patient record flag data in the legacy EHR system still in use at other VHA sites. Finally, data capture challenges stemming from system configuration and inadequate training on role-specific processes for documentation necessary to trigger national data reporting resulted in inconsistencies, including

missing and erroneous data on the national dashboard for monitoring patients with active High Risk for Suicide patient record flags.⁵

The OIG determined that some of the identified concerns about patient record flag functionality in the new EHR stemmed from the design of the system, while other concerns were related to deficits in training on processes needed to support the workflow of the new system.

Table 2. Summary of Patient Record Flag Allegations and Findings*

Patient Record Flags	Allegations	OIG Determination	Status
Failure of High Risk for Suicide and Behavioral Patient Record Flags to Activate	Patient Record Flags used to alert staff to patients at high risk for suicide and disruptive behavior did not transfer to the new EHR, placing patients and staff at increased risk.	Substantiated	Resolved
Visibility of Flags	The way patient record flags displayed or failed to display in parts of the new EHR raised safety concerns.	Substantiated	Unresolved
Accessibility of Suicide Risk Assessment Documents	Staff had limited access to suicide prevention, risk assessment and reporting tools in the new EHR.	Substantiated	Resolved
Interoperability with High Risk for Suicide Tracking Tools	Gaps existed in interoperability between the new EHR and established VHA tools that facilitated tracking and monitoring of patients at high risk for suicide.	Substantiated	Resolved
Interoperability for Interfacility Coordination	Deficits in interoperability with the new EHR resulted in inaccurate patient record flag data displayed in the legacy EHR still in use at other VHA sites.	Substantiated	Resolved
Interoperability for National Monitoring	Facility data reported to the national high-risk dashboard for patients with active High Risk for Suicide patient record flags had been inconsistent since the facility transitioned to the new EHR.	Substantiated	Unresolved

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

Data Migration Finding

The OIG substantiated deficiencies in the migration of patient information to the new EHR. Migration deficiencies included incorrect patient names; patient genders; and contact

⁵ For the purposes of this report, the OIG used system configuration to refer to the software design, meaning the way the system is set up to work, including components such as workflows, user roles, visual design, and navigation.

information including addresses, telephone numbers, and email addresses. Outdated Defense Enrollment Eligibility Reporting System (DEERS) data from the Department of Defense (DoD) overwrote data from VHA’s legacy EHR system for some patients when data were migrated to the new EHR.⁶ While concerns regarding discrepancies between DEERS and VHA’s legacy EHR system data were a known issue, an effective resolution was not reached prior to go-live. A change was implemented in late February 2021 that provided a partial resolution of the problem, but the solution still required VA patients with continuing DoD affiliations to contact the DoD to have information updated in DEERS. VA Office of Electronic Health Record Modernization (VA OEHRM) staff reported that discussion was continuing between the VA and DoD regarding updates to enterprise-system level business rules needed to improve interoperability and ensure accurate data migration in the face of organizational-level policy variations.⁷

The problems associated with inaccurate data migration present significant concerns for VA plans to implement the new EHR at other VHA sites. If left unresolved, this issue could affect care of veterans across VHA sites.

Table 3. Summary of Data Migration Allegation and Finding*

Data Migration	Allegation	OIG Determination	Status
Errors in Name, Gender, and Contact Information	Deficiencies in the data migration process caused incorrect names, genders, and contact information in the new EHR for some patients.	Substantiated	Unresolved

Source: *OIG analysis.*

* *Status of issues reflect the time frame from late January through early June 2021.*

Scheduling Process Findings

The OIG substantiated that implementation of the new EHR resulted in some deficiencies in scheduling processes. A range of challenges associated with the transition to the new EHR affected provider efficiency and productivity, which in turn reduced availability of appointments in Primary Care and Behavioral Health Services. Challenges using some scheduling functions also affected appointment scheduling following go-live of the new EHR. Appointments for some services did not contain sufficient information to accurately discern the program or location for the appointment, negatively affecting the utility of appointment

⁶ DEERS is a DoD world-wide computerized database with information on service members, retirees, dependents, and some active contractors who are entitled to benefits. Active duty and retired service members are automatically registered in DEERS.

⁷ When discussing information provided by VA OEHRM in documents or learned during interviews with a VA OEHRM leader(s), manager(s), or staff member(s), the OIG uses the term *VA OEHRM staff* (whether singular or plural) generically to indicate the source of the information.

reminders. The OIG determined that insufficient system optimization of the designations used to route scheduling and referrals was a factor in the issue and was unresolved at the time of the review. Additionally, some appointment reminders failed to specify when an appointment was for a virtual visit and included instructions that led to patients mistakenly presenting in person for telehealth visits.

The OIG substantiated that problems with the configuration of the new self-scheduling tool resulted in facility patients located in Washington State inadvertently self-scheduling appointments at a VHA site in Ohio. This system error presented patient safety concerns and increased risks for deficient care coordination. In response to the identified patient safety concern, self-scheduling was disabled and VA OEHRM staff indicated work was underway to fix the underlying system configuration.

Table 4. Summary of Scheduling Process Allegations and Findings*

Scheduling Process	Allegation	OIG Determination	Status
Delays in Primary Care Appointments	New EHR issues caused delays in scheduling primary care appointments.	Substantiated	Unresolved
Mental Health New Patient Scheduling	New EHR issues caused Mental Health Service to stop scheduling new patients.	Not Substantiated	Not Applicable
Inability to Assign a Provider	If patients did not have a Spokane address, they could not be assigned to a primary care provider in the system. This resulted in the inability to assign a primary care provider in the system for homeless patients.	Not Substantiated	Not Applicable
Appointment Information	Appointments for return-to-clinic visits showed as general clinic appointments and did not contain information to show which provider or specialty area within a service the patient was scheduled to see.	Substantiated	Unresolved
Appointment Reminders—Allegedly Absent	Appointment reminders were absent in the new EHR.	Not Substantiated	Not Applicable
Appointment Reminders—Insufficient Information	Appointment reminders were inadequate and did not provide locations for appointments.	Substantiated	Unresolved
Appointment Reminders—Insufficient Telehealth Designation	Appointment reminders did not specify when appointments were telephone visits rather than in-person appointments, resulting in patients presenting in person for telephone appointments.	Substantiated	Unresolved
Self-Scheduling Tool Configuration	Problems with the configuration of the new self-scheduling tool, accessible in the patient portal, resulted in facility patients located in Washington State inadvertently self-scheduling appointments at a VHA site in Ohio.	Substantiated	Resolved

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

VA Video Connect Findings

The OIG substantiated that transition to the new EHR disrupted the use of VA Video Connect technology for some patients and providers, affecting telehealth services.⁸ The OIG did not substantiate that some providers had no access to VA Video Connect, or that providers were unable to check in patients for VA Video Connect appointments. Nevertheless, the OIG found that staff experienced a period of disruption in VA Video Connect functioning in the time frame immediately following go-live of the new EHR. Multiple facility staff across services reported problems with VA Video Connect appointment functionalities at the beginning of the new EHR transition but noted that the issues appeared to have resolved. Data migration issues, as discussed in a previous section of the report, resulted in outdated contact information populating to the new EHR, and caused misdirection of VA Video Connect appointment links to invalid email addresses. In addition, the new EHR did not have a process to alert staff when delivery of an email link failed. Some patient appointment reminders for VA Video Connect appointments displayed appointment times in the eastern time zone, instead of the Pacific time zone where the facility was located, contributing to missed appointments. An update was completed in March 2021 to allow correct mapping of patient locations to ensure VA Video Connect appointments scheduled through the new EHR displayed in the correct time zone.

⁸ VHA Telehealth Services, *VA Video Connect Solutions*. VA Video Connect is a technology employed through VHA telehealth services that enables veterans to meet virtually with their VA healthcare providers from anywhere, using encrypted video to ensure the session is secure and private.

Table 5. Summary of VA Video Connect Allegations and Findings*

VA Video Connect	Allegation	OIG Determination	Status
Appointment Failures	Many VA Video Connect appointments did not work correctly following the new EHR implementation. VA Video Connect appointments were not getting completed because the links were not working.	Substantiated	Resolved
Provider Access	Some providers had no access to VA Video Connect since the new EHR implementation.	Not Substantiated	Not Applicable
Appointment Check-In	Since implementing the new EHR, providers were unable to check in patients for VA Video Connect appointments. This created additional work for providers and medical support assistant staff, reducing clinic efficiency.	Not Substantiated	Not Applicable
Misdirected VA Video Connect Appointment Links	Incorrect personal contact information caused misdirection of links used to access VA Video Connect appointments. VA Video Connect appointment links were sent to incorrect, outdated email addresses without a notice alerting providers that email addresses were invalid.	Substantiated	Unresolved
Appointment Time Zones	Since implementing the new EHR, VA Video Connect appointments were often scheduled in the wrong time zones.	Substantiated	Resolved

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

Referral Management Findings

The OIG substantiated that deficiencies in the implementation of the Ambulatory Referral Management function, used by providers for directing patients to appropriate outpatient medical specialists, led to challenges that affected provider ability to manage referrals. Based on discussions with facility staff, analysis of tickets, and review of VA OEHRM documentation regarding optimization efforts, the OIG found that the causes for difficulties with referral management in the new EHR were multifactorial. Certain aspects of system configuration, workflow errors, interoperability deficits, and insufficient training contributed to staff difficulties with management of referrals in the new EHR. VA OEHRM staff responded to the OIG’s inquiry and indicated the “referral management resolution is ongoing with a number of mitigation plans.”

Table 6. Summary of Referral Management Allegations and Findings*

Referral Management	Allegation	OIG Determination	Status
Lost or Not Addressed Referrals	Referrals were being lost or not addressed because of difficulties in the referral management processes in the new EHR.	Substantiated	Unresolved
Tracking Referrals	The new EHR lacked a way for referring providers to track what actions had been taken for referrals, by whom and when.	Not Substantiated	Not Applicable
Use of Messaging as a Work-Around	Due to concerns about the referral process not working consistently and the inability to track referrals in the new EHR, staff were sending messages through Message Center and sending encrypted emails after submitting referrals to ensure that referrals were seen by the receiving service.	Substantiated	Unresolved
Referrals Within the Same Service	Deficits in the new EHR resulted in difficulties placing referrals between different programs in the same service, which could affect care coordination and result in lapses in care.	Substantiated	Unresolved

Source: *OIG analysis.*

* Status of issues reflect the time frame from late January through early June 2021.

Laboratory Orders Findings

The OIG substantiated deficiencies related to laboratory order functionality following implementation of the new EHR. Due to vulnerabilities in the system configuration and deficits in staff training, routing for some laboratory orders failed and orders did not reach the facility laboratory. Visibility of laboratory orders was affected by an EHR configuration in which orders could not be viewed at some stages in the workflow. Deficits in staff training contributed to facility staff's difficulty tracking orders. As a result, staff developed time-consuming work-arounds to confirm receipt of orders by laboratory staff.

Facility staff and leaders described broader concerns with configuration of the new EHR:

- Configuration introduced opportunities for human error.
- Configuration resulted in display fragmentation, with views of relevant patient health information organized by Financial Identification Number (FIN), requiring providers to navigate between multiple screens to piece together clinical information. Display

fragmentation negatively affected clinical care coordination and increased risk for errors.⁹

The OIG determined that these deficiencies presented potential risks to patient safety and coordination of care if left unresolved.

Table 7. Summary of Laboratory Orders Allegations and Findings*

Laboratory Orders	Allegation	OIG Determination	Status
Workflow Errors	Some laboratory orders were “disappearing” and never reached the facility laboratory.	Substantiated	Unresolved
Tracking Orders	Laboratory orders were “disappearing” from the providers’ view at times, affecting coordination of care, as providers were unable to tell what had been ordered and if there was duplication in orders from other providers.	Substantiated	Unresolved
Tracking Orders	The new EHR lacked a way for providers to track laboratory orders.	Not Substantiated	Not Applicable
Delayed Results	Receipt of laboratory results were delayed.	Substantiated	Undetermined

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

Patient Portal and Secure Messaging Finding

The OIG substantiated deficiencies in the functionality of the patient portal and secure messaging following implementation of the new EHR. When the new EHR went live at the facility, many patients were unable to access the patient portal, affecting access to tools that supported coordination of care, such as secure messaging, and online prescription refills. Many patients were unable to sign-in to the patient portal, with difficulties stemming from compatibility problems with different devices and versions of internet browsers, as well as failures in authentication when obsolete contact data was pulled for the required two-factor authentication process. VA OEHRM staff reported that system changes completed by the VA Office of Information Technology have resolved some causes of disruption in patient portal functionality, while other changes were in progress to resolve remaining issues.

⁹ “Terms and Acronyms,” OEHRM Cerner SharePoint website. Within the new EHR, the term encounter refers to a “[u]nique identifier that ties all pieces of a visit together,” and the term Financial Identification Number (FIN) refers to “a unique number” that is “assigned to the patient for use by the hospital's billing/workload capture system.”

Table 8. Summary of Patient Portal and Secure Messaging Allegation and Finding*

Patient Portal and Secure Messaging	Allegation	OIG Determination	Status
Loss of Access	Veterans were unable to access the patient portal and use secure messaging to contact their care teams in the new EHR.	Substantiated	Unresolved

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

Documentation Process Findings

The OIG substantiated that the implementation of the new EHR resulted in some deficiencies with documentation processes. The process for generating between-visit encounters, which document clinical actions for patient care outside of an in-person or virtual visit, and FINs created additional work for providers, reduced efficiency, and increased opportunity for documentation errors.¹⁰ The use of between-visit encounters was a deliberate system design decision, intended to improve workload capture, but the associated processes had impractical implications for clinical workflow and affected staff perceptions of system usability.

Some International Classification of Diseases, 10th Revision (ICD-10) diagnostic codes were not available in the new EHR.¹¹ Although the lack of ICD-10 codes did not directly affect patient safety, missing codes hindered the ability of staff to precisely document management of diseases and health conditions. Based on staff reports, additional content mapping may be needed to address gaps in Systematic Nomenclature of Medicine–Clinical Terms (SNOMED–CT) content and some requested ICD-10 diagnostic codes in the new EHR.

Some staff were unable to view patients’ service-connected conditions in the new EHR. OIG’s analysis of available data suggested that system errors resulting in the inability of some staff to view patient’s service-connected conditions were resolved, and the planned removal of role-

¹⁰ “Terms and Acronyms,” OEHRM Cerner SharePoint website. Within the new EHR, the term encounter refers to a “[u]nique identifier that ties all pieces of a visit together,” and the term Financial Identification Number (FIN) refers to “a unique number” that is “assigned to the patient for use by the hospital’s billing/workload capture system.” EHRM, *Between Visit Encounter Guide*, November 20, 2020. In the new EHR, clinical information is documented as a visit encounter or as a between visit encounter, and a new FIN is typically assigned to each encounter. To document clinical information outside of an in-person or virtual visit, the provider creates a between visit encounter (which generates a FIN) or selects an existing FIN (which is associated with an existing encounter) to document in the patient record.

¹¹ VA Technical Reference Model V.21.3, *International Classification of Diseases, 10th Revision, Procedural Coding System (ICD019-PCS)*. The International Classification of Disease (ICD-10) Procedure Coding System “is an international system of medical classification used for procedural coding performed in hospital inpatient health care settings. VA, *About VA disability ratings*, accessed May 17, 2021, <https://www.va.gov/disability/about-disability-ratings>.

based limitations for viewing service connections was approved, with the change targeted for completion in June of 2021.

Although the OIG did not substantiate all allegations received related to documentation processes, facility staff reported experiencing challenges in effectively navigating and using some of the new EHR capabilities. The OIG identified insufficient end user training as a main source of the difficulties and misperceptions about certain EHR functionalities. During interviews and observation of facility staff navigating the new EHR to perform care-related tasks, the OIG observed that the new EHR design and workflows caused display fragmentation in staff's views of patient health care data.¹² The OIG recognized that fragmented views may negatively affect coordination of care and provider efficiency, as well as increase risks for errors and decrease staff perceptions of system usability.

¹² Lisette C. Roman, Jessica S. Ancker, Stephen B Johnson, and Yalini Senathirajah, "Navigation in the electronic health record: A review of the safety and usability literature," *Journal of Biomedical Informatics*, 67 (2017): 69-79. The term display fragmentation is defined as a "phenomenon resulting from the separation of potentially related patient data across multiple sections of an electronic health record." Display fragmentation has been identified as a factor that negatively affects EHR usability and creates increased risk for errors and patient safety concerns.

Table 9. Summary of Documentation Process Allegations and Findings*

Documentation Processes	Allegation	OIG Determination	Status
FINs and Chart Access	Staff were unable to access the patient chart without using a between-visit encounter and FIN.	Not Substantiated	Not Applicable
FINs for Between-Visit Encounters	The process for using FINs in the new EHR for documentation occurring between visits created additional work for providers, reduced efficiency, and increased opportunities for documentation errors.	Substantiated	Unresolved
Nurse Documentation for New Patients	Nurses were unable to create an encounter or generate a FIN if the patient had never been seen by a provider.	Not Substantiated	Not Applicable
International Classification of Diseases, 10th Revision (ICD-10) Code Availability	Many ICD-10 diagnostic codes were not available in the new EHR, affecting providers' ability to correctly code patient diagnoses.	Substantiated	Unresolved
Service Connection Status	Staff were unable to view patients' service-connected conditions in the new EHR, affecting providers' ability to document care as related to specific service-connected conditions.	Substantiated	Resolved

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

Conclusion

The OIG assessed a range of allegations regarding clinical care coordination challenges associated with implementation of the new EHR. At the time of the OIG's inspection, many of the identified problems remained unresolved. Although the OIG did not identify any associated patient deaths during this inspection, the OIG is concerned that deployment of the new EHR without resolution of deficiencies presents risks to patient safety.

Further discussion of allegations related to medication management issues after go-live, ticket process concerns identified by the OIG during its evaluation of the allegations, and underlying factors related to all substantiated allegations can be found in the first and third reports of the OIG's trilogy of reports on this matter.

Throughout the inspection, the OIG found facility leaders and staff encountered challenges with the new EHR but remained undeterred and dedicated to servicing patients despite the added burden of COVID-19 pandemic stressors. The OIG recognized the hard work of all involved

and the challenges associated with implementing the new EHR for the largest integrated healthcare system in the United States.

Due to the large number of substantiated allegations and their relation to underlying factors discussed in a companion report, the decision was made to incorporate them into one recommendation to the Deputy Secretary.¹³ The OIG will review the Deputy Secretary's response to ensure that substantiated and unresolved allegations noted in this report are reviewed and addressed.

Comments

The Deputy Secretary concurred with the recommendation and provided an acceptable action plan. (See Appendix C.) The OIG will follow up on the planned actions until they are completed.



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¹³ Recommendations related to OIG-identified underlying factors contributing to deficiencies described in the first and second of the trilogy reports are issued in the third report—*Ticket Process Concerns and Underlying Factors Contributing to Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*, Report No. 21-00781-108, March 17, 2022, <https://www.va.gov/oig/pubs/VAOIG-21-00781-108.pdf>.

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Abbreviations

COVID-19	coronavirus disease 2019
CSRE	Comprehensive Suicide Risk Evaluation
DoD	Department of Defense
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5th edition
EHR	electronic health record
EHRM	electronic health record modernization
ICD-10	International Classification of Disease-10th Revision
OEHRM	Office of Electronic Health Record Modernization
OIG	Office of Inspector General
SNOMED–CT	Systematic Nomenclature of Medicine–Clinical Terms
SPED	Safety Planning in the Emergency Department/Urgent Care Clinic
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network
VistA	Veterans Health Information Systems and Technology Architecture

Foreword

This healthcare report is the second in a trilogy of reports that address allegations associated with implementation of the new EHR at the Mann-Grandstaff VA Medical Center (facility) in Spokane, Washington, after its go-live date in October 2020:

- *Medication Management Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*
- *Care Coordination Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*
- *Ticket Process Concerns and Underlying Factors Contributing to Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*

Throughout the inspection, the OIG found facility leaders and staff encountered challenges with the new EHR but remained undeterred and dedicated to servicing patients despite the added burden of COVID-19 pandemic stressors. The OIG recognized the hard work of all involved and the challenges associated with implementing the new EHR for the largest integrated healthcare system in the United States.



Introduction

Due to the magnitude of allegations the VA Office of Inspector General (OIG) received regarding the impact of the new electronic health record (new EHR) implementation on patient care after go-live at the Mann-Grandstaff VA Medical Center (facility) in Spokane, Washington, the OIG initiated two separate, but simultaneous healthcare inspections. The OIG conducted this inspection to assess a range of allegations regarding clinical care coordination challenges and potential patient safety issues associated with implementation of the new EHR.¹ The other inspection focused on allegations related to medication management deficiencies following implementation of the new EHR at the facility.² These two inspections were limited to a review of the allegations received and did not proactively determine whether other issues existed.

During the inspections, the OIG recognized challenges with identifying, tracking, and resolving problems with the new EHR after go-live at the facility. The OIG discussed those challenges and potential underlying factors related to deficiencies identified in the medication management and care coordination inspections in a third report.³

Given the overlapping focus of the three reports on the impact of the new EHR implementation at the facility after go-live, some sections of this report are replicated within the companion reports to provide pertinent information independently for the readers of each respective report.

Facility Background

The facility, part of Veterans Integrated Service Network (VISN) 20, includes four community clinics located in three states.⁴ The facility operates 24 hospital and 34 community living center beds. Patient referrals for tertiary care are coordinated with the VA Puget Sound Health Care System and the VA Portland Health Care System.⁵ From October 1, 2019, through

¹ DigitalVA, Federal Electronic Health Record Modernization Program Office, accessed April 21, 2021, [Home | Federal Electronic Health Record Modernization \(fehrm.gov\)](https://www.fehrm.gov). “An EHR is software that’s used to securely document, store, retrieve, share, and analyze information about individual patient care. It enables a digital version of a patient [health] record.”

² VA OIG, *Medication Management Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*, Report No. 21-00656-110, March 17, 2022, <https://www.va.gov/oig/pubs/VAOIG-21-00656-110.pdf>.

³ VA OIG, *Ticket Process Concerns and Underlying Factors Contributing to Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VAMC in Spokane, Washington*, Report No. 21-00781-108, March 17, 2022, <https://www.va.gov/oig/pubs/VAOIG-21-00781-108.pdf>.

⁴ The community clinics are in Wenatchee, Washington; Libby, Montana; and Ponderay and Coeur d'Alene, Idaho.

⁵ Veterans Health Administration Handbook 1142.01, *Criteria and Standards for VA Community Living Centers (CLC)*, August 13, 2008. A VA community living center, formerly known as a nursing home care unit, provides a skilled nursing environment for patients needing short and long stay services.

September 30, 2020, the facility served over 35,000 patients. The Veterans Health Administration (VHA) classifies the facility as the least complex type of facility.⁶

VA Electronic Health Record Modernization Project

In June 2017, the VA began the process of acquiring a new electronic health record. The course of that acquisition and deployment of the new EHR is detailed in [appendix A](#). Prior OIG reports published on VA’s implementation of the new EHR are listed in [appendix B](#).

Allegations

Following the October 24, 2020, go-live date of the new EHR at the facility, the OIG received a range of complaints related to deficiencies in care coordination associated with implementation of the new EHR at the facility.⁷ The OIG organized the multiple allegations into eight categories (see table 1) and initiated an inspection to evaluate the alleged deficiencies.

Table 1. Allegations by Category

Category	Allegations
1. Patient Record Flags	
Failure of High Risk for Suicide and Behavioral Patient Record Flags to Activate	Patient record flags used to alert staff to patients at high risk for suicide and disruptive behavior did not transfer to the new EHR, placing patients and staff at increased risk.
Visibility of Flags	The way patient record flags displayed or failed to display in parts of the new EHR raised safety concerns.
Accessibility of Suicide Risk Assessment Documents	Staff had limited access to suicide prevention, risk assessment, and reporting tools in the new EHR.
Interoperability with High Risk for Suicide Tracking Tools	Gaps existed in interoperability between the new EHR and established VHA tools that facilitated tracking and monitoring of patients at high risk for suicide.
Interoperability for Interfacility Coordination	Deficits in interoperability with the new EHR resulted in inaccurate patient record flag data displayed in the legacy EHR system still in use at other VHA sites.
Interoperability for National Monitoring	Facility data reported to the national high-risk dashboard for patients with active High Risk for Suicide patient record flags had been

⁶ VHA Office of Productivity, Efficiency and Staffing, *Facility Complexity Model*, accessed July 27, 2021. The VHA Facility Complexity Model categorizes medical facilities by complexity level based on patient population, clinical services offered, educational and research missions. Complexity Levels include 1a, 1b, 1c, 2, or 3. Level 1a facilities are considered the most complex. Level 3 facilities are the least complex.

⁷ VA EHR Modernization, *VA Launches New Electronic Health Record System in Pacific Northwest in Mission to Modernize Care for Veterans*, accessed May 11, 2021, <https://www.ehrm.va.gov/news/article/read/va-launches-new-electronic-health-record-system-in-pacific-northwest>.

Category	Allegations
	inconsistent since the facility transitioned to the new EHR.
2. Data Migration	
Errors in Name, Gender, and Contact Information	Deficiencies in the data migration process caused incorrect names, genders, and contact information in the new EHR for some patients.
3. Scheduling Processes	
Delays in Primary Care Appointments	New EHR issues caused delays in scheduling primary care appointments.
Mental Health New Patient Scheduling	New EHR issues caused Mental Health Service to stop scheduling new patients.
Inability to Assign a Provider	If patients did not have a Spokane address, they could not be assigned to a primary care provider in the system. This resulted in the inability to assign a primary care provider in the system for homeless patients.
Appointment Information	Appointments for return-to-clinic visits showed as general clinic appointments and did not contain information to show which provider or specialty area within a service the patient was scheduled to see.
Appointment Reminders	Appointment reminders were absent in the new EHR.
	Appointment reminders were inadequate and did not provide locations for appointments.
	Appointment reminders did not specify when appointments were telephone visits rather than in-person appointments, resulting in patients presenting in person for telephone appointments.
Self-Scheduling Tool Configuration	Problems with the configuration of the new self-scheduling tool, accessible in the patient portal, resulted in facility patients located in Washington State, inadvertently self-scheduling appointments at a VHA site in Ohio.
4. VA Video Connect	
Appointment Failures	Many VA Video Connect appointments did not work correctly following the new EHR implementation. VA Video Connect appointments were not getting completed because the links were not working.
Provider Access	Some providers had no access to VA Video Connect since the new EHR implementation.
Appointment Check-In	Since implementing the new EHR, providers were unable to check in patients for VA Video Connect appointments. This created additional work for providers and medical support assistant staff, reducing clinic efficiency.
Misdirected VA Video Connect Appointment Links	Incorrect personal contact information caused misdirection of links used to access VA Video Connect appointments. VA Video Connect appointment links were sent to incorrect, outdated email addresses without notice alerting providers that the email addresses were invalid.

Category	Allegations
Appointment Time Zones	Since implementing the new EHR, VA Video Connect appointments were often scheduled in the wrong time zones.
5. Referral Management	
Lost or Not Addressed Referrals	Referrals were being lost or not addressed because of difficulties in the referral management processes in the new EHR system.
Tracking Referrals	The new EHR lacked a way for referring providers to track what actions had been taken for referrals, by whom and when.
Use of Messaging as a Work-Around	Due to concerns about the referral process not working consistently and the inability to track referrals in the new EHR, staff were sending messages through Message Center and sending encrypted emails after submitting referrals to ensure that referrals were seen by the receiving service.*
Referrals Within the Same Service	Deficits in the new EHR resulted in difficulties placing referrals between different programs in the same service, which could affect care coordination and result in lapses in care.
6. Laboratory Orders	
Workflow Errors	Some laboratory orders were “disappearing” and never reached the facility laboratory.
Tracking Orders	Laboratory orders were “disappearing” from the providers’ view at times, affecting coordination of care, as providers were unable to tell what had been ordered and if there was duplication in orders from other providers.
Tracking Orders	The new EHR lacked a way for providers to track laboratory orders.
Delayed Results	Receipt of laboratory results were delayed.
7. Patient Portal and Secure Messaging	
Loss of Access	Veterans were unable to access the patient portal and use secure messaging to contact care teams in the new EHR.
8. Documentation Processes	
Financial Identification Numbers (FINs) and Chart Access	Staff were unable to access the patient chart without using a between-visit encounter and FIN.
FIN for Between-Visit Encounters	The process for using FINs in the new EHR for documentation occurring between visits created additional work for providers, reduced efficiency, and increased opportunities for documentation errors.
Nurse Documentation for New Patients	Nurses were unable to create an encounter or generate a FIN if the patient had never been seen by a provider.
International Classification of Diseases, 10th Revision (ICD-10) Code Availability	Many ICD-10 diagnostic codes were not available in the EHR, affecting providers’ ability to correctly code patient diagnoses.

Category	Allegations
Service Connection Status	Staff were unable to view patients' service-connected conditions in the new EHR, affecting providers' ability to document care as related to specific service-connected conditions.

Source: *OIG analysis of allegations.*

* *Message Center is a function of the new EHR that facility staff use to collaboratively communicate about patients.*

Scope and Methodology

As noted above, due to the magnitude and range of allegations the OIG received regarding the impact of the new EHR implementation on patient care at the facility, the OIG initiated two healthcare inspections on January 4, 2021. The inspections were coordinated to minimize impact on the facility.

From January 26 through August 9, 2021, the OIG interviewed facility leaders and staff, VA Office of Electronic Health Record Modernization (VA OEHRM) staff, and VHA leaders. The OIG conducted a virtual site visit given ongoing concerns with travel and the potential spread of COVID-19.⁸

The OIG reviewed relevant VA OEHRM, VHA, and facility policies. Other documents reviewed related specifically to the planning, preparation, and implementation of the new EHR as well as the review of SharePoint sites, decision memorandums, contract documents, presentations, briefings, and evaluations. The OIG also reviewed electronic health records and facility Joint Patient Safety Reports.⁹

The OIG analyzed tickets placed to record and process user problems with the new EHR. The OIG's analysis included a review of tickets from VA and Cerner Corporation (Cerner) systems.¹⁰ From October 24, 2020, through March 31, 2021, new EHR users placed over 38,700 tickets for EHR concerns. The OIG qualitatively peer-reviewed 4,094 tickets that mentioned key terms

⁸ When discussing information provided by VA OEHRM in documents or learned during interviews with a VA OEHRM leader(s), manager(s), or staff member(s), the OIG uses the term *VA OEHRM staff* (whether singular or plural) generically to indicate the source of the information.

⁹ VA National Center for Patient Safety, *Topics in Patient Safety* 17, no. 2 (2017): 3. The Joint Patient Safety Reporting system allows VHA staff to submit an electronic incident report. Electronic incident reports are reviewed by the patient safety manager or designee to determine potential severity and probability of injury. Results are analyzed to determine trends and prioritize investigative efforts.

¹⁰ "About Us," Cerner, accessed January 31, 2020, <https://www.cerner.com/ap/en/about>. Cerner works with healthcare facilities to develop EHRs that are based upon its *Millennium* and *HealtheIntent* template platforms. Cerner and VA OEHRM staff used the ticketing system to record and address issues related to the new EHR implementation. Two classifications of tickets were available—incidents and change requests. Each required different actions to process. VA OEHRM staff guidance described an incident as something that had functioned properly in the past or a disruption in the system that negatively affected workflow. A change request was described as an application for an enhancement or configuration of the new EHR to improve the user experience.

related to each allegation within this review. This inspection addresses only the allegations identified and does not attempt to address all concerns with the new EHR identified by facility staff through tickets.

The OIG gathered information regarding actions taken to remedy alleged deficiencies with the new EHR through interviews, review of EHR-related documents, and observations of facility staff navigating the new EHR. The OIG did not independently validate all statements made by interviewees. References within this report to the status of issues reflect the time frame from late January through early June 2021.

The OIG recognizes that VA OEHRM, VHA, Cerner, and other involved stakeholders are engaged in continuing work related to implementation of the new EHR.

In the absence of current VA or VHA policy, the OIG considered previous guidance to be in effect until superseded by an updated or recertified directive, handbook, or other policy document on the same or similar issue(s).

The OIG substantiates an allegation when the available evidence indicates that the alleged event or action more likely than not took place. The OIG does not substantiate an allegation when the available evidence indicates that the alleged event or action more likely than not did not take place. The OIG is unable to determine whether an alleged event or action took place when there is insufficient evidence.

Oversight authority to review the programs and operations of VA medical facilities is authorized by the Inspector General Act of 1978, Pub. L. No. 95-452, §7, 92 Stat. 1101, as amended (codified at 5 U.S.C. App. 3). The OIG reviews available evidence to determine whether reported concerns or allegations are valid within a specified scope and methodology of a healthcare inspection and, if so, to make recommendations to VA leaders on patient care issues. Findings and recommendations do not define a standard of care or establish legal liability.

The OIG conducted the inspection in accordance with *Quality Standards for Inspection and Evaluation* published by the Council of the Inspectors General on Integrity and Efficiency.

Inspection Results

The capacity to capture and effectively utilize longitudinal healthcare information and rapidly share data for provider coordination is an important factor in the provision of safe, high-quality care, and a significant benefit of an EHR.¹¹ Potential benefits of an EHR may expand with integration of other health information technology functions and software that supports clinical decision-making, increases efficiency, and automates processes to reduce opportunities for human error.¹²

However, an Institute of Medicine report stated, “evidence in the literature about the impact of health IT [information technology] on patient safety is mixed.”¹³ The report acknowledged “growing concern that health IT designs that maximize the potential for administrative and economic benefit may be creating new paths to failure.”¹⁴ The report described the importance of recognizing that health information technology, such as EHRs, exist as part of “a larger sociotechnical system—a collection of hardware and software working in concert within an organization that includes people, processes, and workflow.”¹⁵ The report observed that “many problems with health IT relate to usability, implementation, and how software fits with clinical workflow” and indicated that “[p]oorly designed, implemented, or applied, health IT can create new hazards in the already complex delivery of health care, requiring health care professionals to work around brittle software, adding steps needed to accomplish tasks, or presenting data in a nonintuitive format that can introduce risks that may lead to harm.”¹⁶ The report further cautioned “[g]iven the large investments being made in health IT, there is a great need to ensure that the new technology is actually improving safety of care.”¹⁷

¹¹ Orna Fennelly, Caitriona Cunningham, Loretto Grogan, Heather Cronin, Conor O'Shea, Miriam Roche, Fiona Lawlor, and Neil O'Hare, “Successfully implementing a national electronic health record: a rapid umbrella review,” *International Journal of Medical Informatics* 144, (September 2020).

¹² Linda T. Kohn, Janet M. Corrigan, Molla S. Donaldson, eds., *To Err is Human: Building a Safer Health System* (Committee on Quality of Health Care in America, Institute of Medicine, National Academies Press, 2000), Recommendation 8.2: “Health care organizations should implement proven medication safety practices.” <https://www.nap.edu/catalog/9728/to-err-is-human-building-a-safer-health-system>.

¹³ Institute of Medicine of the National Academies, Committee on Patient Safety and Health Information Technology, *Health IT and Patient Safety: Building Safer Systems for Better Care*, (Washington, D.C., The National Academies Press, 2012).

¹⁴ Institute of Medicine of the National Academies, Committee on Patient Safety and Health Information Technology, *Health IT and Patient Safety: Building Safer Systems for Better Care*.

¹⁵ Institute of Medicine of the National Academies, Committee on Patient Safety and Health Information Technology, *Health IT and Patient Safety: Building Safer Systems for Better Care*.

¹⁶ Institute of Medicine of the National Academies, Committee on Patient Safety and Health Information Technology, *Health IT and Patient Safety: Building Safer Systems for Better Care*.

¹⁷ Institute of Medicine of the National Academies, Committee on Patient Safety and Health Information Technology, *Health IT and Patient Safety: Building Safer Systems for Better Care*.

The following sections of the report detail the OIG’s inspection findings for allegations that the new EHR implementation created care coordination deficiencies and patient safety concerns in several areas: (1) patient record flags, (2) data migration, (3) scheduling processes, (4) VA Video Connect, (5) referral management, (6) laboratory orders, (7) patient portal and secure messaging, and (8) documentation processes.

1. Patient Record Flags

The OIG substantiated deficiencies related to patient record flags following implementation of the new EHR. Initial allegations received by the OIG cited the failure of patient record flags to transfer from the legacy EHR and activate in the new EHR when the system went live.¹⁸ The OIG subsequently learned of additional concerns about the new EHR’s management of patient record flags beyond the initial report of data migration failures. Front line staff shared safety concerns related to the way patient record flags displayed or failed to display in parts of the new EHR. Suicide prevention staff expressed concerns about limitations in staff access to suicide risk assessment tools in the new EHR as well as deficits in interoperability between the new EHR and established VHA tools that facilitated tracking and monitoring of patients at high risk for suicide. The reported deficits could result in failure to consistently identify at-risk veterans and activate patient record flags in the new EHR for patients who should be identified as being at high risk for suicide. Concerns were also raised about interoperability issues affecting interfacility coordination and deficits in data capture and reporting from the new EHR for national metrics.

The OIG’s detailed analysis follows, however, a brief [summary overview](#) of the inspection finding related to patient record flags is provided at the conclusion of this section.¹⁹

Patient Record Flags Function

Patient record flags are placed in an EHR to alert staff to patients whose behavior, medical status, or characteristics may pose “safety issues of an immediate clinical nature.”²⁰ Facility staff noted issues with two types of patient record flags: High Risk for Suicide and Behavioral. High Risk for Suicide patient record flags are used to communicate to staff that a patient has been evaluated as being at high risk for suicide. The flag alerts staff to consider the heightened risk when making treatment decisions and signals that a patient may need closer follow-up.

¹⁸ Office of Information and Technology, *History of IT at VA*, accessed January 31, 2020, <https://www.oit.va.gov/about/history.cfm>. In the 1980’s, VA developed one of the earliest EHRs that became Veterans Health Information Systems and Technology Architecture (VistA) in 1994. VistA is a comprehensive health information system and EHR that provided capabilities required for VA clinical, business, and administrative processes, and served an essential role in VA’s healthcare delivery mission. Office of Information and Technology, *VA Monograph*, January 13, 2017. Within the report, the VistA system is referred to as the legacy EHR.

¹⁹ Summary overview hyperlinks in this report navigate to the section summary.

²⁰ VHA Directive 2010-053, *Patient Record Flags*, December 3, 2010.

Specifically, High Risk for Suicide patient record flags alert providers to the need for enhanced outreach efforts if the patient misses or cancels an appointment, and assists facility suicide prevention coordinators in monitoring high-risk patients and ensuring that patients “receive follow-up for any missed mental health and substance abuse appointments in conjunction with the clinical treatment team.”²¹ Behavioral patient record flags are intended to improve safety by alerting staff to patients who are identified as posing a significant risk for violence. Risks associated with a history of violence, threats, and disruptive behavior can be more effectively mitigated when those risks are recognized, enhancing the safety for staff and other patients as well as the effectiveness of the patient’s health care.

Failure of High Risk for Suicide and Behavioral Patient Record Flags to Activate

The OIG substantiated that when the new EHR went live at the facility, patient record flags denoting patients at high risk for suicide and disruptive behavior failed to activate for some patients with active flags in the legacy EHR.²²

Shortly prior to go-live of the new EHR, facility suicide prevention coordinators compiled a list of patients with active High Risk for Suicide patient record flags from the legacy EHR. Following go-live of the new EHR, the suicide prevention coordinators reviewed the EHRs for each of those patients to verify that the patient record flag was activated. The suicide prevention coordinators’ review found that the High Risk for Suicide patient record flags were not activated in the new EHR for 17 of the 42 patients who had active flags prior to go-live. A facility suicide prevention coordinator reported reaching out to alert VA OEHRM staff of the issue and receiving guidance on additional steps to take to activate the missing patient record flags. Facility suicide prevention coordinators followed the guidance and were able to activate the patient record flags for the identified patients.

The Chair of the facility’s Disruptive Behavior Committee reported that Behavioral patient record flags failed to activate in the new EHR for approximately half of the patients with active

²¹ Office of Mental Health and Suicide Prevention, *Suicide Prevention Program Guide*, updated November 1, 2020. Suicide prevention coordinators support VA’s National Strategy for Preventing Veteran Suicide and serve as “facility subject matter experts” and “points of contact (POCs) for matters related to suicide” prevention. Suicide prevention coordinators are responsible for “identifying, case managing, and supporting high risk Veterans within facilities and coordinating strategies to increase the awareness and adoption of suicide prevention best practices within the community.” They are also responsible to ensure “reporting mechanisms are implemented for all suicidal behaviors occurring within” the facility’s population, managing High Risk for Suicide patient record flags, and reviewing care provided for high-risk patients “using a variety of tracking and reporting tools.” VHA Directive 2008-036, *Use of Patient Record Flags to Identify Patients at High Risk for Suicide*, July 18, 2008.

²² VHA Directive 2012-026, *Sexual Assaults and Other Defined Public Safety Incidents in Veterans Health Administration (VHA) Facilities*, September 27, 2012. “Disruptive behavior is behavior by any individual that is intimidating, threatening, dangerous, or that has, or could, jeopardize the health or safety of patients, Department of Veterans Affairs (VA) employees, or individuals at the facility.”

flags in the legacy EHR.²³ Additionally, the Chair of the Disruptive Behavior Committee reported being unable to enter new flags into the new EHR during the first month following implementation. The Chair of the Disruptive Behavior Committee noted that the issues were elevated to leadership and resolved approximately a month following go-live, when a software patch implemented in the new EHR prompted the remaining Behavioral patient record flags to activate and enabled the coordinator to enter new Behavioral flags.

The OIG's review of ticket data confirmed multiple tickets communicating concerns about patient record flags failing to display. During interviews, facility staff did not identify adverse events related to the failed activation of the High Risk for Suicide or Behavioral patient record flags.

Status

While patient record flags used to alert staff to patients at high risk for suicide and disruptive behavior did not consistently transfer to the new EHR upon go-live, facility staff quickly identified the deficiencies, escalated the concerns through identified channels, and took actions as directed to resolve the discrepancies. The Chair of the Disruptive Behavior Committee reported that approximately a month following go-live, a software patch was implemented in the new EHR to activate unresolved Behavioral patient record flags and address an underlying cause for the failure. This allegation is considered resolved.

Visibility of Flags

The OIG substantiated that Behavioral patient record flags were not visible in the Patient Tracking function in Revenue Cycle, a portion of the new EHR utilized by frontline administrative staff when checking patients in for appointments.²⁴ The OIG also confirmed that Behavioral patient record flags displayed less prominently and lacked information regarding associated precautions when viewed in the patient chart area of Revenue Cycle, as compared with the display of patient record flags in Power Chart, the clinical side of the new EHR.²⁵

The OIG team directly observed the format, placement, and content visible for a Behavioral patient record flag within the new EHR as a medical support assistant navigated through the

²³ VHA Directive 2012-026, *Sexual Assaults and Other Defined Public Safety Incidents in Veterans Health Administration (VHA) Facilities*, September 27, 2012. A Disruptive Behavior Committee is “a facility-level, interdisciplinary committee whose primary charge is using evidence-based and data-driven practices for preventing, identifying, assessing, managing, reducing, and tracking patient-generated disruptive behavior.”

²⁴ Cerner, *Cerner Wiki Glossary*. Cerner defines Revenue Cycle as, “A Cerner solution that integrates the entire financial life cycle of a patient from the initial access of health care services through payment for services (or collections, if applicable).”

²⁵ Cerner, *Cerner Wiki Glossary*. Cerner defines Power Chart as, “The desktop Cerner Millennium solution used by enterprise clinicians to place orders, view a patient’s electronic health record (EHR), and add chart documentation.”

clinic's patient check-in process. The Patient Tracking function in Revenue Cycle, which the medical support assistant described as the primary tool used by the frontline administrative staff during the check-in process, did not display information that would alert the medical support assistant to an active Behavioral patient record flag for a patient on the appointment list.

The medical support assistant expressed concerns about the lack of a visible flag in this application, explaining Behavioral flags are "a warning sign that a specific protocol needs to be followed on our end" and noted that without a visible flag, staff would be unaware of necessary precautions, such as a patient requiring a police escort, and that presented a "huge safety concern." The medical support assistant explained that patient record flag pop-ups would display if the medical support assistant accessed the function to view a patient's individual chart through Revenue Cycle; however, during the typical process of checking patients in for appointments in the clinic, frontline administrative staff did not go into the individual patient chart where the flag would be visible.

The Chair of the facility's Disruptive Behavior Committee seconded the identified concerns about the way patient record flags display in the new EHR, describing this as "a huge issue for the safety of staff and other patients." The Chair stressed that patient record flags are intended to act as "alerts to staff in the initial moments of an encounter to a level of risk and informs them of risk mitigating interventions that might be utilized in delivering services to that particular patient."

The facility's Chief of Behavioral Health Service shared an example illustrating this safety concern. A Behavioral patient record flag, with an alert for a police escort, was not identified during initial contacts, allowing the patient to interact with multiple clinic staff prior to the need for precautions being recognized. Fortunately, no adverse events occurred in this instance.

The OIG's review of ticket data uncovered an additional report of concern about the lack of visibility for precautions associated with Behavioral patient record flags in another application of the new EHR. A ticket citing the pharmacy Med Manager Retail application noted an increase in unescorted patients presenting to pharmacy when a police escort was required and documented staff concerns about the delays created when staff needed to navigate elsewhere in the system to locate appropriate precautions.

Patient record flags in Power Chart displayed as large central pop-up boxes with bold red banner titles and directions for accessing additional information regarding precautions associated with the flag (see figure 1). While the pop-up was designed to be an easily visible cue alerting staff to an active patient record flag, the pop-up did not directly display details about the flag, such as recommended precautionary measures. Staff had to navigate through additional steps to find and view the flag details and associated precautions in another section of the new EHR.

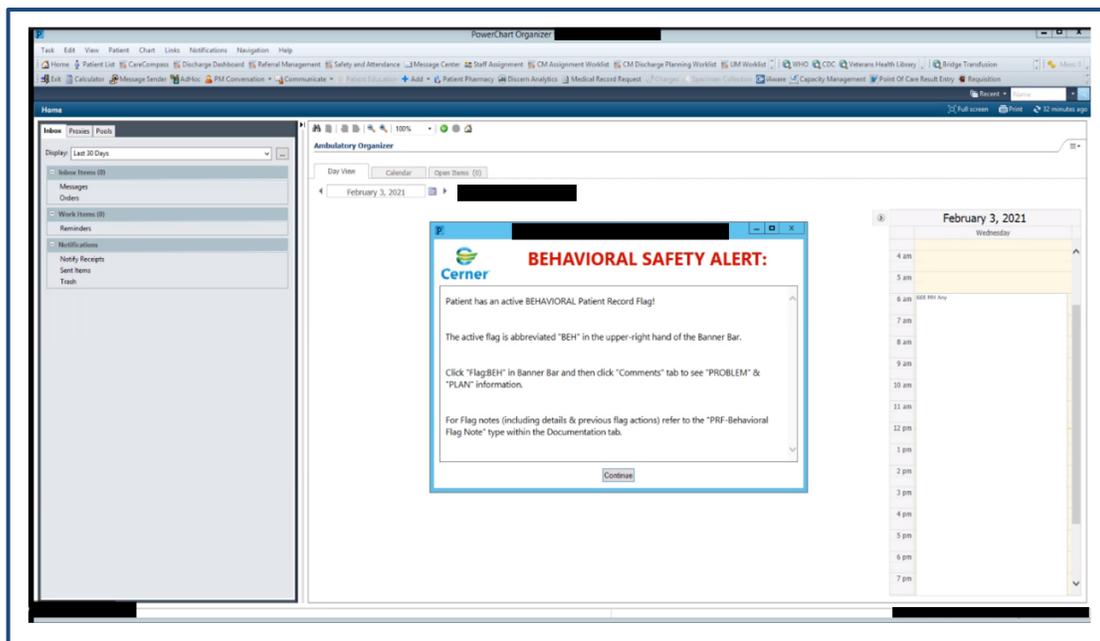


Figure 1. Screenshot of a Behavioral patient record flag in Power Chart (deidentified).
Source: Screenshot of the new EHR.

Unlike in Power Chart, patient record flags in Revenue Cycle displayed as a small pop-up notification in the bottom corner of the screen (the same location for other types of pop-up notifications), lacked a vividly colored title or banner, and did not contain information regarding how to view the flag details or precautions associated with the flag.

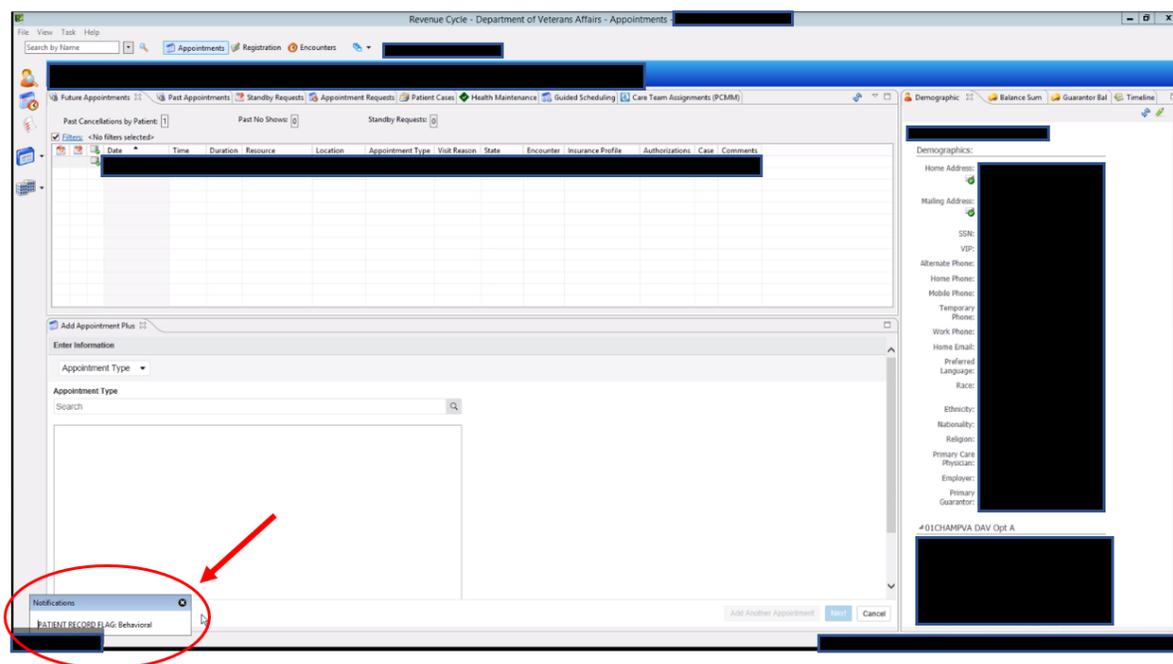


Figure 2. Screenshot of a Behavioral patient record flag in Revenue Cycle (deidentified).
Source: Screenshot of the new EHR.

Status

While attention to the way patient record flags display in Revenue Cycle and awareness of the additional steps for accessing detailed flag information in Power Chart may be identified as training issues, the concerns described above reflect practical considerations about functionality and clinical relevance for the end users of the new EHR. The OIG's review of the March 2021 Final Closure Report from the facility's Optimization Tiger Team efforts indicated that, based on the identified concerns, a request was submitted for a system change to create pop-up alerts comparable to those in Power Chart within Revenue Cycle applications.²⁶ Documentation indicated that request was logged in the Cerner system, but was on hold pending review.

The OIG's review of tickets identified a ticket generated based on Tiger Team and facility optimization work requesting a system change to provide clearer notifications of Behavioral patient record flags with associated precautions for frontline staff who utilized Revenue Cycle functions to check patients in for appointments. At the time of the OIG's review, the ticket

²⁶ In January 2021, VA OEHRM formed 20 "tiger teams" made up of facility subject matter experts, Cerner subject matter and solutions experts, and other representatives to review identified issues and requests related to the new EHR implementation. Teams met weekly for a six-week period to develop resolution pathways for the assigned areas. Recommendations were made and summarized in a final closure report issued in March 2021.

remained open and no resolution was identified. The response provided by VA OEHRM staff to an OIG inquiry on this issue in May 2021 did not include information on the status of this request.

Accessibility of Suicide Risk Assessment Documents

The OIG substantiated that some relevant clinical staff lacked access to necessary suicide prevention risk assessment and reporting tools when the new EHR was implemented.

When interviewed by the OIG, a facility suicide prevention coordinator reported that, at the time the new EHR went live, many clinical staff outside of the Behavioral Health Service did not have access to key suicide prevention documentation templates in the new EHR, including the Suicidal Behavior and Overdose Report, Comprehensive Suicide Risk Evaluation (CSRE), and Safety Plan notes.²⁷

In April 2019, VHA provided guidance for use of the Suicidal Behavior and Overdose Report that should be utilized by clinical providers to record suicidal self-directed violence behaviors.²⁸ In October 2019, VHA provided updated guidance on CSRE documentation that should be completed on the same day as a positive suicide risk screening in all ambulatory care settings and within 24 hours of a positive screen in emergency department, acute inpatient psychiatry, inpatient medicine, inpatient rehabilitation, and residential care settings.²⁹

A suicide prevention coordinator identified a lack of access to suicide risk assessments as well as reporting tools in the new EHR for facility staff in multiple services and programs, including primary care, urgent care, social work, and homeless programs. Staff access and use of suicide risk assessment and reporting tools are important facets of VHA's suicide prevention efforts.

²⁷ VA Memorandum, *Eliminating Veteran Suicide: Implementation Update on Suicide Risk Screening and Evaluation (Risk ID Strategy) and the Safety Planning for Emergency Department (SPED) Initiatives*, October 17, 2019. Nazanin Bahraini et. al., "Assessment of Rates of Suicide Risk Screening and Prevalence of Positive Screening Results Among US Veterans After Implementation of the Veterans Affairs Suicide Risk Identification Strategy," *JAMA Network Open*, 3(10), (October 21, 2020). The CSRE, an evidence-based clinical tool available via a national note template in the legacy and new EHRs, was developed through an interdisciplinary workgroup established by the VHA Office of Mental Health and Suicide Prevention. It was implemented as part of VA's Suicide Risk Identification Strategy (Risk ID). Office of Mental Health and Suicide Prevention, *Suicide Prevention Program Guide*, updated November 1, 2020. The Suicidal Behavior and Overdose Report is a national note template used in the legacy and new EHRs to document completed "suicides, attempted suicides, preparatory behaviors, and non-suicidal overdose events." It is the "primary mechanism" used to notify suicide prevention coordinators of patients "who may be at elevated risk for suicide." "Safety plans are prioritized lists of concrete coping strategies and resources Veterans create in collaboration with a care team provider to maintain safety and regain equilibrium."

²⁸ VA Memorandum, *Suicide Behavior and Overdose Report Computerized Patient Record System (CPRS) Note Template Implementation*, April 8, 2019.

²⁹ VA Memorandum, *Eliminating Veteran Suicide: Implementation Update on Suicide Risk Screening and Evaluation (Risk ID Strategy) and the Safety Planning for Emergency Department (SPED) Initiatives*, October 17, 2019.

Without access to such tools, staff may fail to effectively identify patients who are at heightened risk for suicide and engage those patients in services. For example, the topic of suicide often does not readily flow from a patient's presenting complaint, particularly in medical as opposed to behavioral health settings, making it important for staff to include key screening questions about suicide in the overall assessment. The Suicide Prevention Coordinator reported these access concerns, but Cerner staff indicated that only behavioral health staff needed access. The Suicide Prevention Coordinator reported Cerner staff validated these concerns after escalation to the VHA Office of Mental Health and Suicide Prevention. While this deficit had the potential to affect identification of patients at risk for suicide, the Suicide Prevention Coordinator identified no adverse events related to this issue.

Status

The Suicide Prevention Coordinator reported entering a ticket about this issue. Cerner-help desk staff advised this issue would require a change request, which had to undergo a review by facility leaders for a vote before being sent forward to request a change to the new EHR. The Suicide Prevention Coordinator reported that the issue subsequently was resolved through a system change that expanded access to the suicide prevention tools. A response provided by VA OEHRM staff to an OIG inquiry on the issue acknowledged that the configuration of the new EHR had limited visibility of the suicide risk assessments but confirmed that the issue was resolved in early April 2021 by providing all staff access in the new EHR.

EHR Interoperability

Interoperability with High Risk for Suicide Tracking Tools

The OIG substantiated gaps in interoperability affected functionality of some established VHA suicide prevention tracking and reporting tools following implementation of the new EHR.

VHA's Office of Mental Health and Suicide Prevention developed dashboards and tools to help suicide prevention coordinators "monitor patient care, identify potential gaps in services provided, and determine the extent to which facilities are meeting their mental health performance metrics."³⁰ During an interview with the OIG, a facility suicide prevention coordinator described concerns about the loss of certain capabilities from established VHA suicide prevention tools due to lack of interoperability with the new EHR.

³⁰ Office of Mental Health and Suicide Prevention, *Suicide Prevention Program Guide*, updated November 1, 2020.

The Suicide Prevention Coordinator reported that the VHA Safety Planning in the Emergency Department/Urgent Care Clinic (SPED) dashboard did not communicate with the new EHR.³¹ The Suicide Prevention Coordinator explained that the legacy EHR communicated with the SPED dashboard when a patient had a positive Columbia Suicide Severity Rating Scale assessment, allowing suicide prevention coordinators to monitor which patients required further assessment with a CSRE, but the new EHR lacked interoperability capability.³² The Suicide Prevention Coordinator described that the ability to identify and track high-risk patients from the SPED dashboard prevented patients “slipping through the cracks” and ensured

- CSRE completion before a patient was discharged home or transferred to another institution for care,
- placement of a needed high-risk flag, and
- monitoring of follow-up care after discharge or transfer.

The Suicide Prevention Coordinator described developing a work-around to allow monitoring for patients who were not yet established in behavioral health care at the facility. An Urgent Care Clinic behavioral health nurse was tasked with emailing a notice to the Suicide Prevention Coordinator when a patient was transferred for care outside of the VA so a patient record flag could be placed if warranted.³³

The Suicide Prevention Coordinator also noted that the new EHR *dynamic work list* function replaced the legacy EHR case management tool. Following the transition, dynamic work lists were set up to assist with monitoring and case management for the patients with High Risk for Suicide patient record flags. The Suicide Prevention Coordinator reported that a system malfunction caused the dynamic work lists to disappear, leaving the suicide prevention coordinators without an accurate source for identifying and monitoring all patients with active high-risk flags. The Suicide Prevention Coordinator described that troubleshooting with Cerner

³¹ Office of Mental Health and Suicide Prevention, *Suicide Prevention Program Guide*, updated November 1, 2020. The SPED dashboard is a “patient-level tool that identifies Veterans who are determined to be at intermediate or high-acute or chronic risk on the CSRE and are safe to be discharged home. The tool tracks whether those Veterans received a safety plan prior to discharge and indicates those who require enhanced care follow-up.”

³² Office of Mental Health and Suicide Prevention, *Suicide Prevention Program Guide*, updated November 1, 2020. The Columbia-Suicide Severity Rating Scale is a brief standardized, evidence-based assessment tool that includes specific questions “about suicidal ideation, planning, and intent and a history of suicidal behaviors.” The Columbia-Suicide Severity Rating Scale Screener is identified as the first stage screener in VA’s Suicide Risk Identification Strategy.

³³ V. Blijleven, K. Koelemeijer M. Wetzels, and M. Jaspers, “Workarounds Emerging from Electronic Health Record System Usage: Consequences for Patient Safety, Effectiveness of Care, and Efficiency of Care,” *Journal of Medical Internet Research Human Factors* (October 2017). Work-arounds are temporary solutions used by staff to manage exceptions to normal processes or workflows. Work-arounds allow staff to complete tasks, but frequently lead to “unstable, unavailable, or unreliable information or work protocols” that may have negative effects on patient care.

staff was unsuccessful in retrieving the lists, and there was no indication of why the error occurred. The suicide prevention coordinators had to re-create the lists from available, incomplete data sources and from memory. The Suicide Prevention Coordinator stated that program staff continued to utilize the dynamic work list but noted reservations about trusting in that process. The OIG concluded that the reported challenges with the new EHR's functionality resulted in a decreased ability for tracking patients at high risk for suicide.

Status

A response provided by VA OEHRM staff to an OIG inquiry indicated that the CSRE report was added to the new EHR in late January 2021. The Suicide Prevention Coordinator indicated that concerns raised about lack of interoperability of the new EHR with the SPED dashboard led to implementing the CSRE report in the new EHR for suicide prevention coordinators to identify high-risk patients. The OIG's review of the March 2021 Final Closure Report from the facility's Optimization Tiger Team efforts identified plans for additional staff training on the CSRE template and CSRE report tool in the new EHR and targeted completion by the end of April 2021. The report also noted consideration of a long-term plan for generating a Message Center alert regarding positive suicide screening results for suicide prevention coordinators.³⁴

Interoperability for Interfacility Coordination

The OIG substantiated that deficits in interoperability affected the functionality of national Category 1 patient record flags, which hindered interfacility coordination of care for patients at risk of harming others.³⁵

In an interview with the Chair of the facility's Disruptive Behavior Committee, the OIG was informed about issues with Behavioral patient records flags. The paragraph below describes statements made by the Chair in an interview with the OIG.

Behavioral patient record flags placed in the new EHR did not transfer to the legacy EHR in use at other VHA sites. Patient record flag discrepancies were noted for a patient who received care at multiple VHA sites when updates were made to the patient record flag at the facility. The updates were not visible to the other sites where the patient received care. Additionally, management of patient record flags could not be transferred to a different site of care.

³⁴ *Message Center* is a function of the new EHR that facility staff use to collaboratively communicate about patients.

³⁵ VHA Directive 2010-053, *Patient Record Flags*, December 3, 2010. Category 1 patient record flags are "intended to make it possible for VHA to offer clinical services even to patients who present significant clinical (risk of danger to others) safety challenges." While the flag is assigned in the patient's EHR at the local facility, Category 1 patient record flags "become national information as part of the Master Patient Index" and are "displayed at all VHA facilities where the patient is registered."

The Chair of the facility’s Disruptive Behavior Committee reported being advised by a VA staff liaison working with Cerner staff that special characters, such as quotation marks in the text of the patient record flag prevented flags from loading correctly or communicating to the legacy EHR in use at other sites. The Chair was directed to modify the language in flags to avoid such characters, and noted that once modified in the new EHR, the flag for the identified patient displayed correctly in the legacy EHR. However, the Chair expressed concern that, unless this vulnerability was fixed in the new EHR, instead of requiring a person-dependent work-around as described above, this could present a safety risk for staff and patients.

In February 2021, the Chair of the Disruptive Behavior Committee reported having learned that a software patch would be put in place to address the identified vulnerability by disallowing entry of special characters in the text fields when entering a patient record flag. Once implemented, this software update should remediate the vulnerability identified in the initial person-dependent work-around.

Status

A response provided by VA OEHRM staff to an OIG inquiry on this issue confirmed that special characters in patient record flag text had been identified as the root cause for failures in the transfer of patient record flags from the new EHR to the legacy EHR. The issue had been resolved by an update that blocked use of those characters in patient record flag text fields as of early February 2021.

Interoperability for National Monitoring

The OIG substantiated interoperability issues between the new EHR and national monitoring tools for suicide prevention.

A suicide prevention coordinator explained that a national note template entered in a patient’s EHR after assigning a high-risk flag serves as a trigger for data capture on the national high-risk dashboard. Unbeknownst to facility staff, to activate the workflow that updates the national dashboard, the note template must be entered into the new EHR via a between-visit encounter, which documents clinical actions for patient care outside of an in-person or virtual visit.³⁶ The Suicide Prevention Coordinator confirmed that if the note template was entered under a different

³⁶ “Terms and Acronyms”, OEHRM Cerner SharePoint website. Within the new EHR, the term encounter refers to a “[u]nique identifier that ties all pieces of a visit together,” and the term Financial Identification Number (FIN) refers to “a unique number” that is “assigned to the patient for use by the hospital’s billing/workload capture system.” OEHRM, *Between Visit Encounters Guide*, November 20, 2020. In the new EHR, clinical information is documented as a visit encounter or as a between visit encounter, and a new FIN is typically assigned to each encounter. To document clinical information outside of an in-person or virtual visit, the provider creates a between visit encounter (which generates a FIN) or selects an existing FIN (which is associated with an existing encounter) to document in the patient record. Providers’ view of encounters in the EHR is organized by the associated FINs.

type of encounter, the workflow would not activate, and, though the patient was flagged as high risk, the patient's data failed to appear on the national dashboard.

Similarly, the Suicide Prevention Coordinator reported that failure to select the correct Financial Identification Number (FIN) associated with a between-visit encounter when documenting subsequent actions such as follow-up appointments resulted in failure of the data to update to the national dashboard. Thus, a high-risk patient could appear on the national dashboard as having no follow-up for months, when in fact the patient had appropriate follow-up appointments at the facility.³⁷

The Suicide Prevention Coordinator reported requesting a change to the system workflow that would prompt staff in the suicide prevention coordinator role to use a between-visit encounter and FIN when entering the note template. The Suicide Prevention Coordinator asserted that this change needed to take place before the new EHR went live at other sites to prevent confusion and similar reporting problems.

The Suicide Prevention Coordinator indicated that VHA Office of Mental Health and Suicide Prevention staff had advised that the inaccuracies in the facility data captured precluded ability to utilize the data to inform metrics on the facility's performance. The Suicide Prevention Coordinator shared a concern that the metrics were created for a reason and lack of accurate data to gauge performance had been "aggravating" for facility suicide prevention coordinators adapting to the new EHR.

Status

During an interview with the OIG in early February 2021, the Suicide Prevention Coordinator confirmed that all the facility patients with active High Risk for Suicide patient record flags were listed on the national dashboard, however, could not confirm that the data for associated metrics were accurate. The OIG determined that the design of workflows for data capture on patients with High Risk for Suicide patient record flags, combined with a lack of sufficient role-specific training on workflows and documentation prior to go-live of the new EHR, affected the availability of accurate data for national monitoring. The lack of accurate data presented challenges for oversight, both at the facility and national program office levels. Responses provided by VA OEHRM staff to an OIG inquiry in May 2021 regarding the status of identified concerns did not address this issue.

³⁷ Additional concerns related to system usability and navigation associated with between-visit encounters and FINs are discussed further in a section below on documentation processes.

Patient Record Flags Summary³⁸

The OIG substantiated deficiencies related to patient record flags following implementation of the new EHR. When the new EHR went live at the facility, patient record flags denoting patients at high risk for suicide and disruptive behavior failed to activate for some facility patients with active patient record flags in the legacy EHR. Staff raised safety concerns related to the way patient record flags displayed or failed to display in parts of the new EHR. Some relevant clinical staff lacked access to necessary suicide prevention risk assessment and reporting tools when the new EHR went live. Interoperability issues affected functionality of some established VHA suicide prevention tracking and reporting tools following implementation of the new EHR. Workflows in the new EHR were disrupted by special text characters in patient record flag narrative data resulting in inaccurate patient record flag data displayed in the legacy EHR still in use at other VHA sites. Data capture challenges stemming from system configuration and inadequate training on role-specific processes for documentation that trigger national data reporting resulted in inconsistencies, including missing and erroneous data on the national dashboard for monitoring patients with active High Risk for Suicide patient record flags.³⁹

The OIG determined that some of the identified concerns about patient record flag functionality in the new EHR stemmed from the design of the system, while other concerns were related to deficits in training on processes needed to support the workflow of the new EHR. Table 2 summarizes the relevant allegations and findings.

³⁸ To navigate to section introduction, press “alt” and “left arrow” keys together.

³⁹ For the purposes of this report, the OIG used system configuration to refer to the software design, meaning the way the system is set up to work, including components such as workflows, user roles, visual design, and navigation.

Table 2. Summary of Patient Record Flag Allegations and Findings*

Patient Record Flags	Allegations	OIG Determination	Status
Failure of High Risk for Suicide and Behavioral Patient Record Flags to Activate	Patient Record Flags used to alert staff to patients at high risk for suicide and disruptive behavior did not transfer to the new EHR, placing patients and staff at increased risk.	Substantiated	Resolved
Visibility of Flags	The way patient record flags displayed or failed to display in parts of the new EHR raised safety concerns.	Substantiated	Unresolved
Accessibility of Suicide Risk Assessment Documents	Staff had limited access to suicide prevention, risk assessment and reporting tools in the new EHR.	Substantiated	Resolved
Interoperability with High Risk for Suicide Tracking Tools	Gaps existed in interoperability between the new EHR and established VHA tools that facilitated tracking and monitoring of patients at high risk for suicide.	Substantiated	Resolved
Interoperability for Interfacility Coordination	Deficits in interoperability with the new EHR resulted in inaccurate patient record flag data displayed in the legacy EHR still in use at other VHA sites.	Substantiated	Resolved
Interoperability for National Monitoring	Facility data reported to the national high-risk dashboard for patients with active High Risk for Suicide patient record flags had been inconsistent since the facility transitioned to the new EHR.	Substantiated	Unresolved

Source: *OIG analysis.*

* *Status of issues reflect the time frame from late January through early June 2021.*

2. Data Migration

The OIG substantiated deficiencies in the migration of patient information to the new EHR. Migration deficiencies comprised incorrect patient names; patient genders; and contact information including addresses, telephone numbers, and email addresses.

The OIG’s detailed analysis follows, however, a brief [summary overview](#) of the inspection finding related to data migration is provided at the conclusion of this section.

Data Migration Function

Within the context of implementation of the new EHR, data migration is the process of moving information from the legacy EHR to the new EHR. Prior to go-live, the VA transferred veterans’

clinical and demographic data from the legacy EHR to the new EHR. Data migration failures placed patient safety and provider efficiency at risk.⁴⁰

Errors in Name, Gender, and Contact Information

The OIG substantiated that data migration errors occurred, causing incorrect patient names, genders, and contact information to populate to the new EHR. Data errors negatively affected coordination of patient care, including difficulties contacting patients for appointment scheduling, misdirection of email links affecting virtual appointments, interruption of patient access to secure messaging with care teams, and increasing risk for patient distress through *deadnaming* and *misgendering* transgender patients.⁴¹

Facility staff told the OIG that the use of data from the Department of Defense (DoD) Defense Enrollment Eligibility Reporting System (DEERS) as the primary source for patient identifiers, demographics, and contact information resulted in outdated, inaccurate patient information migrating to the new EHR for some patients.⁴² In practical terms, outdated DEERS data overwrote current data from VHA's legacy EHR when data were migrated to the new EHR.

The OIG learned that data migration concerns related to discrepancies between DEERS and VHA's legacy EHR were a known issue before the new EHR went live at the facility. Data in DEERS may be out of date, as patients who have moved, changed phone numbers, or had name changes following discharge from the DoD may not have updated their contact information in that system.

As a matter of process, decisions that affected the new EHR at the enterprise-system level required several levels of approval. VA, DoD, and Cerner workgroups held discussions about the data source concerns, with the issue being elevated to the Federal Electronic Health Record Modernization (FEHRM) program as early as February 2020 for assistance in resolving a path

⁴⁰ Pageler, G'Sell, Chandler, Mailes, Yang & Longhurst, "A rational approach to legacy data validation when transitioning between electronic health record systems," *Journal of the American Medical Informatics Association*, no. 23 (2016): 991-994.

⁴¹ *Merriam-Webster.com Dictionary*, "deadname," accessed January 4, 2022, <https://www.merriam-webster.com/dictionary/deadname>. Deadnaming refers to intentionally or unintentionally calling a transgender person by the name they were given at birth and no longer use upon transitioning. Failing to use a transgender person's affirmed name may be experienced as invalidating. *Merriam-Webster.com Dictionary*, "misgender" accessed January 4, 2022, <https://www.merriam-webster.com/dictionary/misgender>. Misgendering refers to identifying the gender of a person incorrectly, such as intentionally or unintentionally using gender pronouns, that do not align with a person's affirmed gender. Additionally, deadnaming or misgendering a transgender person around others may unintentionally reveal sensitive information about them and subject them to harassment or discrimination.

⁴² DEERS is a DoD world-wide computerized database with information on service members, retirees, dependents, and some active contractors who are entitled to benefits. Active duty and retired service members are automatically registered in DEERS.

forward from differing VA and DoD positions.⁴³ However, the problems with migration of inaccurate patient information and the associated impacts for patient care demonstrated that an effective resolution was not reached prior to go-live of the new EHR at the facility.

Facility staff described various efforts to address the data migration problems by correcting the new EHR data when able and via work-arounds when correction of the data was unsuccessful.

For example, one provider described recognizing the problem after contacting an established patient who failed to attend a VA Video Connect appointment. When the system changed, outdated DEERS data caused the appointment link to be sent to a defunct email address. Despite updating the patient's email address in the new EHR, the problem persisted, with the outdated email address overwriting the patient's current email address. The provider reported entering a ticket, but indicated no solution was identified. As a work-around to ensure the patient's continuing access to care, the provider described removing the identifying information from the patient's VA Video Connect links and manually sending the links to the patient's correct email address for subsequent appointments.⁴⁴

In another example, the facility's Lesbian, Gay, Bisexual, Transgender Veteran Care Coordinator (LGBT coordinator) described efforts made prior to go-live to contact patients whose self-identified gender designations and affirmed names might be affected by the data migration issues in order to advise them of the issue. The LGBT coordinator was concerned that the data migration issue would generate distress and affect patient trust in the system. The LGBT coordinator described meeting with affected patients, some of whom expressed anger. In a joint effort with patients' providers, a plan for communicating around this issue was developed. Mitigation plans included warm hand-offs and discussing concerns with patients during appointments. The LGBT coordinator noted the importance of conveying to patients that the underlying cause was a "system error" and not reflective of a "VA decision or change" in policy.

An administrative staff member reported that some information was easier to update than others, describing that an incorrect phone number or email address could be updated in the new EHR by support staff at the front desk when a patient presented for care. However, the staff member reported correcting a patient's name was "really difficult" and required the patient to submit paperwork to the eligibility office. The staff member described patient frustrations with the situation, reflecting "to have that information have been correct up until when we went live, and

⁴³ The FEHRM was chartered in December 2019 under statutes that established the DoD/VA Interagency Program Office. The FEHRM works with VA, DoD, and other partners toward the goal of implementing a single, common EHR. The FEHRM was chartered to be a decision-making authority in the joint venture, working across Departments to advance interoperability and manage implementation risks, including "potential functional, technical and programmatic issues." *DoD/VA 2019 Federal Electronic Health Record Modernization (FEHRM) Program Office Charter*, December 4, 2019.

⁴⁴ When VA Video Connect appointments are scheduled, an appointment email is sent to the patient's listed email address. Patients access the VA Video Connect appointment by clicking on a web link provided in the email.

now they have to go through this rigamarole of getting that information changed and submitting paperwork.”

Staff members described that even after updates were made to correct patient information, data in the EHR sometimes reverted back to the old, outdated information. Another staff member with knowledge of national workgroup discussions on the data migration issues explained that, while patient information could be updated in the new EHR, DEERS remained the primary linked data source, causing updated information in the system to revert to DEERS data each night at midnight.

Correspondence and documents provided to the OIG referenced a series of VA and DoD discussions on how to address the problems presented by the shared data issues. VA OEHRM staff provided a FEHRM document from June 2020 that outlined an enterprise-system level decision related to the authoritative clinical source of gender for the interoperable EHR, specifying that DEERS would remain the data source for DoD-affiliated patients, whereas the VA’s Master Patient Index database would serve as the source for VA patients without identified DoD affiliations. A staff member with knowledge of national workgroup discussions reported that in late February 2021, this change was implemented, providing a partial resolution of the problem, by allowing VHA to update DEERS data for patients who had no current DoD affiliations.⁴⁵ The staff member described the facility process to enact the updates without requiring additional actions from those patients:

- Facility staff become aware that patient information in the EHR is incorrect.
- Staff alert the facility’s Health Information Management Department of the issue.
- The facility’s Health Information Management Department staff send the patient’s updated information to DEERS.
- Patient information is updated in DEERS.

However, for patients with continuing DoD affiliations, the updates necessary to correct inaccurate information required that patients contact the DoD. In some cases, those patients were required to provide official paperwork requesting name and gender changes before information could be updated in DEERS.

The OIG’s review of the March 2021 Optimization Tiger Team Final Closure Report noted staff training as the primary mitigation strategy for correcting erroneous patient information. The report referenced development of instructional documents to train facility staff on processes for updating erroneous patient information and to assist staff at future implementation sites.

⁴⁵ Patients were identified as having a continuing DoD affiliation if they received DoD benefits or services such as retirees with benefits, spouses of active duty service members, or veterans serving with the National Guard or Reserves.

Status

A response provided by VA OEHRM staff to an OIG inquiry in May 2021 regarding the status of resolution for this issue referenced ongoing work between VA and DoD related to business rules, which govern the data in question. According to VA OEHRM staff, efforts were continuing to establish the updates needed to improve interoperability and ensure accurate data migration in the face of organizational-level policy variations.

The OIG is concerned that actions taken did not address the root cause of the problem and failed to prevent inaccurate data from migrating during future deployments of the new EHR. The problems associated with this unresolved issue present significant concerns for VA and its plans to implement the new EHR at other VHA sites.

Data Migration Summary

The OIG substantiated deficiencies in the migration of patient information to the new EHR. Migration deficiencies included incorrect patient names; patient genders; and contact information including addresses, telephone numbers, and email addresses. Outdated DoD DEERS data overwrote data from VHA’s legacy EHR system for some patients when data were migrated to the new EHR. While concerns regarding discrepancies between DEERS and VHA’s legacy EHR data were a known issue, an effective resolution was not reached prior to go-live. While a change was implemented in late February 2021 that provided a partial resolution of the problem, the solution still required VA patients with continuing DoD affiliations to contact the DoD to have the information updated in DEERS. VA OEHRM reported that discussion was continuing between the VA and the DoD regarding updates to enterprise-system level business rules needed to improve interoperability and ensure accurate data migration in the face of organizational-level policy variations.

The problems associated with this unresolved issue present significant concerns for VA plans to implement the new EHR at other VHA sites. If left unresolved, this issue could affect care of veterans across VHA sites.

Table 3. Summary of Data Migration Allegation and Finding*

Data Migration	Allegation	OIG Determination	Status
Errors in Name, Gender, and Contact Information	Deficiencies in the data migration process caused incorrect names, genders, and contact information in the new EHR for some patients.	Substantiated	Unresolved

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

3. Scheduling Processes

The OIG substantiated that implementation of the new EHR resulted in scheduling process deficiencies. Initial allegations received by the OIG cited delays in scheduling, inability to assign patients without a Spokane address to a primary care provider, and inadequate appointment information and appointment reminders within the new EHR. The OIG learned of an additional allegation that problems with the configuration of the new self-scheduling tool, accessible in the patient portal, resulted in facility patients located in Washington State inadvertently self-scheduling appointments at a VHA site in Ohio, where the same Cerner software component from the new EHR was used for scheduling.⁴⁶

The OIG’s detailed analysis follows, however, a brief [summary overview](#) of the inspection findings related to scheduling processes is provided at the conclusion of this section.

Scheduling Function

VHA policy establishes the expectation for timely access to care.⁴⁷ According to policy, “VHA is committed to providing timely, high quality outpatient care,” which requires an EHR with robust scheduling capability. Scheduling new appointments, arranging follow-up visits, and utilizing appointment reminders to reduce missed appointments are important steps in the provision of care and successful clinical workflows. Effective scheduling functions of the EHR can improve utilization of healthcare resources and help reduce wait times for patients.

Delays in Primary Care and Mental Health Appointments

The OIG substantiated that challenges related to implementation of the new EHR affected availability of appointments in Primary Care and Behavioral Health Services.⁴⁸ The OIG identified two factors affecting availability of appointments—decreased productivity while staff gained familiarity with the new EHR and challenges using scheduling functions of the new EHR.

⁴⁶ A patient portal is a secure, internet-based site that allows patients to interact with their healthcare team. The self-scheduling tool was part of Cerner’s Centralized Scheduling Solution that was included as a capability within the broader functions of the new EHR that deployed at the facility in October 2020. In August 2020, the scheduling tool had been deployed as a stand-alone capability at the VA Central Ohio Healthcare System outpatient ambulatory care clinic in Columbus, Ohio.

⁴⁷ VHA Directive 1230(2), *Outpatient Scheduling Processes and Procedures*, July 15, 2016, amended January 22, 2020, was in effect during some of the events discussed in this report. It was rescinded and replaced by VHA Directive 1230(3), *Outpatient Scheduling Processes and Procedures*, July 15, 2016, amended January 7, 2021, which was rescinded and replaced by VHA Directive 1230(4), *Outpatient Scheduling Processes and Procedures*, July 15, 2016, amended June 17, 2021. The three policies contain the same or similar language related to timely access to care.

⁴⁸ For the purposes of this report, the OIG uses the terms Mental Health and Behavioral Health to refer to the same facility service.

Decreased Productivity Associated with EHR Implementation

On April 14, 2021, the House Committee on Veterans' Affairs Technology Modernization Subcommittee held a hearing related to strategic review of the electronic health record modernization (EHRM) process. The Facility Director testified that the impact of the transition on productivity varied across service areas and reported that the facility's Primary Care Service was operating at "roughly 60-65 percent of baseline productivity prior to COVID." While some decline in productivity was expected in response to the major information technology transition, committee members cited concerns about prolonged loss in productivity rates.

In discussion with the OIG, the Chief of Primary Care linked continuing decreases in productivity to usability issues with some aspects of the new EHR and certain critical system workflows that negatively affected clinical efficiency. The Chief of Primary Care provided the OIG with several examples:⁴⁹

- The new EHR's tool used for guiding outpatient referrals was described as "a very, very cumbersome, extremely lengthy process...without any value added" to perform the same task that "took 30 seconds" in the legacy EHR.
- Display fragmentation, with views of relevant patient health information organized by FIN, resulted in primary care nurses spending excessive time searching through different FINs to locate orders.⁵⁰
- The "whole very inelegant and clunky workflow to generate a between-visit encounter" required for many actions providers commonly perform in coordinating and managing a patient's care was time consuming and negatively affected care team staff efficiency.

The Chief of Primary Care also acknowledged that training related to some key processes in the new EHR was "very cursory" and likely inadequate to meet provider needs, which also affected staff efficiency and productivity, a concern echoed by many staff during discussions with the OIG.

During an interview with the OIG in late January 2021, the Chief of Behavioral Health acknowledged "access has been down" since implementation of the new system and that prescribing providers were operating at approximately 50 percent capacity. The Chief of

⁴⁹ Concerns related to these aspects of the new EHR are discussed in later sections of the report.

⁵⁰ Lisette C. Roman, Jessica S. Ancker, Stephen B Johnson, and Yalini Senathirajah, "Navigation in the electronic health record: A review of the safety and usability literature," *Journal of Biomedical Informatics*, 67 (2017): 69-79. The term display fragmentation is defined as a "phenomenon resulting from the separation of potentially related patient data across multiple sections of an electronic health record." Display fragmentation has been identified as a factor that negatively affects EHR usability and creates increased risk for errors and patient safety concerns. "Terms and Acronyms," OEHRM Cerner SharePoint website. A FIN is "a unique number assigned to the patient for use by the hospital's billing/ workload capture system. A new financial number typically is assigned to each encounter."

Behavioral Health also cited concerns that the new EHR referral management workflows resulted in some referrals being lost or not seen, causing a failure to schedule some new patient appointments.⁵¹ Behavioral Health Service did not stop accepting new patients, but issues with referral management in the new EHR, detailed in a later section of the report, did result in some scheduling failures.

The Chief of Behavioral Health described difficulties quantifying actual delays because external resources helped offset the impact by reducing wait times for patients.⁵² Another mitigation strategy included shortening appointments.

Challenges Using Scheduling Functions of the New EHR

In discussions with facility staff, the OIG learned that training deficits combined with problems in the new EHR interface caused initial disruptions in scheduling follow-up appointments in Primary Care Service. A primary care staff member described that the way staff were initially told to enter follow-up appointment requests was incorrect and scheduling requests were “going into the abyss.” The staff member described clickable buttons visible in part of the system to request a follow-up but noted “that was just a dead end.” The problem was identified during the initial month following go-live of the new EHR, and staff received revised instructions on how to enter appointment requests. The staff member also noted that, in talking with the clinic scheduling staff after the transition, it was an adjustment for schedulers to have to retrieve the scheduling orders from the system as the legacy EHR provided proactive scheduling request alerts. Another staff member reported that the data migration issues that caused contact information in the new EHR to continually revert to invalid phone numbers interfered with staff’s ability to contact patients and led to patients missing appointments.

The OIG’s review of tickets identified multiple submissions related to problems with scheduling caused by system configuration issues that rendered orders “un-schedulable.” In one example, a ticket referenced widespread problems with orders directed to locations that did not match the providers in the system, which in turn caused orders to populate as an “unknown” appointment type with a location that could not be scheduled. The ticket referenced a “report” showing 4,200 errors of this type affecting return-to-clinic orders. Response to the ticket indicated that the issue was resolved for the order provided, and that a workgroup was underway to resolve the

⁵¹ Concerns regarding lost referrals are addressed in a later section of this report.

⁵² The VISN 20 Telehealth Clinical Resource Hub supported the facility. VHA’s Office of Rural Health implemented Clinical Resource Hubs to provide primary, mental health, and specialty care to veterans in underserved areas. Clinical Resource Hubs serve a specific geographic region or VISN and help overcome barriers for access to care such as long distances to VA medical facilities or a shortage of qualified providers. Clinical Resource Hubs provide telehealth care to patients in VA medical facilities, community locations, or patients’ homes via video or telephone. When needed, Clinical Resource Hubs may also deploy mobile teams in support of local VA medical facilities to provide face-to-face care.

remaining incorrect orders. Overall, review of ticket responses showed tickets being addressed by fixing system configuration and workflow errors, building new locations in the system for routing scheduling requests, and correcting associations within the system to align staff resources and queues to the correct locations for appointment scheduling.

The Chief of Behavioral Health indicated trying to access reports in the new EHR's Discern Reporting Portal to evaluate access and scheduling metrics, but noted inconsistencies and inaccuracies in the data as well as difficulties getting “the level of data that we need.”⁵³ The Chief of Behavioral Health described that without accurate data, assessing how the service was performing to inform resource and clinical decisions was hard. The Chief of Behavioral Health added, “we’ve been operating essentially blind since the beginning” of the new EHR transition.

Status

Approximately six months after go-live, the OIG found that provider efficiency and productivity, which correlate with appointment availability and patient access, continued to be affected by challenges associated with the transition to the new EHR.

Alleged Inability to Assign a Provider

The OIG did not substantiate that the lack of a Spokane address in the new EHR resulted in the inability to assign primary care providers for homeless patients.

OIG discussions with facility leaders and staff yielded no evidence of issues specific to the new EHR affecting the ability to schedule homeless patients based on the lack of a local address. Correspondence provided to the OIG included facility homeless program data, which showed patients in the homeless program were assigned to primary care teams following go-live of the new EHR. The OIG determined that the basis of the concern was unrelated to the functionality of the new EHR.

Status

As noted above, the OIG did not substantiate the allegation regarding the inability to assign a provider based on the lack of a Spokane address in the new EHR.

Appointment Information

The OIG substantiated that the way appointments for some services displayed in the new EHR did not contain sufficient information to accurately discern the program or location for the appointment. Based on interviews and staff demonstrations within the new EHR, the OIG

⁵³ VA Electronic Health Record Modernization, *Cerner Discern Reporting Portal*, October 19, 2020. The Discern Reporting Portal is the “central hub for the majority of Cerner Operational Reporting.”

determined that capabilities for viewing relevant appointment information existed; however, the view of appointments seen by clinical staff for some services lacked sufficient detail to determine specialty area, provider, or type of appointment. Staff reported difficulties in ascertaining relevant appointment information depending on where they viewed the appointment in the new EHR.

When the OIG asked service leaders about the accessibility of appointment information in the new EHR such as service, provider, or location for future appointments, perspectives differed.

Behavioral Health Service

The facility's Chief of Behavioral Health told the OIG that when appointments were viewed in a patient's EHR "what we can see is a very generic description" and based on the system configuration for outpatient Behavioral Health Service, staff "have no way of knowing what that [the appointment] is for." The way the system was built for the outpatient Behavioral Health Service resulted in a lack of functionality. Multiple different clinical programs and types of services within programs were captured under the same location and general label of "Mental Health."⁵⁴ The lack of readily viewable appointment detail in the system has "led to a lot of confusion" for staff and veterans. Providers, who monitored high-risk patients to ensure appropriate follow-up care, had difficulties determining who the patient was scheduled to see and for what type of care when viewing future appointments.

Medicine Specialty Care Departments

The facility's Chief of Medicine told the OIG that staff would generally recognize an appointment location based on prior experience but getting detailed information was "not something that is easy to obtain in the record as it stands." The legacy EHR's future appointment list was convenient; the new EHR had "nothing like that." The lack of "one stop shopping" where all the necessary information is viewable in a single location was a common staff complaint for several functions within the new EHR. The information available up front in the provider view "doesn't necessarily give you that much information." The end user had trouble trying to find desired information in different areas of the new EHR: "you have to click and click and click...maybe you're supposed to hover over that one and click on a different one...it's just a lot of additional clicks."

⁵⁴ This issue is discussed further in the referral management section of the report as insufficient mapping of "locations" within the service was identified as a common underlying problem with scheduling and referral management.

Primary Care Service

The facility's Chief of Primary Care indicated providers could view their own clinic schedules and upcoming patient appointments using the Ambulatory Organizer function in the new EHR, a feature that allows a comprehensive view of a provider's appointments for the current day. The Ambulatory Organizer function operated outside of the individual patient charts and was different than the provider view within a patient's individual chart. A specialty care nurse manager who supported multiple clinics demonstrated the use of the Ambulatory Organizer feature. The tool displayed detailed appointment information for patients scheduled in the clinic that day. Additionally, a primary care nurse manager described the utility of the Appointment View function in the new EHR, a feature that displayed detailed information and history related to completed appointments.

In discussions with staff and observations of staff views within the new EHR, the OIG determined that system configuration, which failed to optimize the mapping of the product design to clinical service workflows, created practical functional drawbacks. Failure to gather and utilize information about the structure and workflow of a clinical service, such as the different clinical programs within the service, different types of care within the programs, or different physical locations for the care provided, resulted in failure to optimize the designations within the new EHR that are used to route scheduling and referrals. This in turn contributed to appointment information for some services displaying too generically and negatively affecting efficiency when staff needed to access detailed future appointment information for coordination of care.

Status

At the time of the OIG's review, some staff described the use of tools such as Ambulatory Organizer and Appointment View as meeting their needs, while others described continuing complaints regarding the ease of viewing sufficiently detailed appointment information for their purposes. The OIG determined that optimization of the location designations for appointments varied across services and affected staff perceptions of the adequacy of appointment information. As of May 2021, insufficient mapping of location designations to some clinical services and workflows continued to be a concern. The facility's Chief of Behavioral Health reported that work was ongoing to try and improve location mapping for the service.

Appointment Reminders—Allegedly Absent

The OIG did not substantiate that appointment reminders were absent in the new EHR. During interviews, facility staff reported patients received appointment reminders, but information in the reminders was sometimes insufficient. The OIG found that reported problems with patient appointment reminders varied across services. Differences in the degree to which the

system had been optimized for different services to route scheduling and referrals appeared to be a significant factor affecting prevalence of complaints about appointment reminders.

Appointment Reminders—Insufficient Information

The OIG substantiated that a lack of sufficient specific appointment information negatively affected the utility of appointment reminders for some services.

As noted above, staff in the Behavioral Health Service with multiple different clinical programs and types of services configured under the same location and general label, reported difficulties with the information viewable in appointment reminders. The facility’s Chief of Behavioral Health described “they might get a phone call saying, ‘You have an appointment in the mental health clinic,’ which again is a label used for a whole gamut of services, and so they don’t know where or what for.” A behavioral health provider shared an example of a patient who had appointments with a prescriber in the mental health clinic and an addiction therapist in the substance abuse treatment program. The patient’s appointments showed the same mental health clinic location, despite the fact that the patient’s appointment for substance abuse treatment was in a different building. In contrast, leaders and staff in Primary Care and Specialty Care Services had not identified concerns or received patient complaints about information in appointment reminders being too generic.

Appointment Reminders—Insufficient Telehealth Designation

The OIG substantiated that some appointment reminders failed to specify an appointment was for a virtual visit and included instructions that led to patients mistakenly presenting in person for telehealth visits.

Staff in Behavioral Health and Primary Care Services reported instances of appointment reminders failing to specify that a scheduled appointment was for a telehealth visit. One primary care staff member described patients presenting at the clinic for appointments after receiving text message reminders or appointment letters with instructions to arrive 15 minutes before the appointment time; however, the appointment showed in the new EHR as a scheduled telephone visit. The primary care staff member noted that patients showed staff appointment reminders and staff confirmed that the reminders failed to specify that the appointments were for virtual visits. The primary care staff member described the problem as “hit and miss” with no discernable pattern, as other patients received appointment reminders for virtual visits with instructions to be near a phone five minutes ahead of the appointment time.

Status

As noted above in the prior allegation regarding appointment information, the location designations used to route scheduling and referrals was the basis for viewable appointment

information. The insufficient optimization of location designations for some service areas affected the information populated to patient appointment reminders; this remained a concern for some services at the time of the OIG's review. A response provided by VA OEHRM staff in May 2021 to an OIG inquiry indicated that the new EHR configuration had been addressed at go-live and was audited to ensure that telephone appointments were set up correctly and validated that appointment messages specified a telephone appointment. However, staff across services noted problems with designation of telephone visits in reminders occurring inconsistently following go-live. VA OEHRM staff indicated that subsequently identified issues or needs for enhancements to reminder scripts for telephone visits should be addressed via the ticket process. The OIG was unable to determine the status of efforts to correct inconsistency in appointment reminders specifying virtual appointments.

Self-Scheduling Tool Configuration

The OIG substantiated that problems with the configuration of the new self-scheduling tool, accessible in the patient portal, resulted in facility patients located in Washington State inadvertently self-scheduling appointments at a VHA site in Ohio.

In August 2020, VA deployed Cerner's Centralized Scheduling Solution, a new patient appointment scheduling and management tool, as a stand-alone capability at the VA Central Ohio Healthcare System outpatient ambulatory care clinic in Columbus. The Centralized Scheduling Solution was included as a capability within the broader functions of the new EHR that deployed at the facility in October 2020. The facility and the VA Central Ohio Healthcare System websites offered information regarding online scheduling for primary care appointments that indicated online scheduling would only be available if a patient was scheduling with a "VA medical facility that accepts online scheduling" and if the patient had an appointment at the facility within the preceding two years.

On January 29, 2020, a nurse with the VHA site in Ohio reached out to a facility suicide prevention coordinator and reported concerns that patients from the facility were scheduling mental health appointments at the VHA site in Ohio. The facility Suicide Prevention Coordinator alerted the Chief of Behavioral Health to the issue and identified a plan to address the immediate clinical needs for the affected patients in coordination with the nurse at the Ohio site until the problem could be resolved.⁵⁵ The facility Suicide Prevention Coordinator reported entering EHR-related tickets and Joint Patient Safety Reports and alerting leaders to the concern.

The OIG reviewed Joint Patient Safety Reports related to facility patients inadvertently self-scheduling in Ohio and identified three reports for two unique patients related to this issue from

⁵⁵ The immediate plan included referral of patients in crisis to the Veterans Crisis Line and identification of a contact at the facility for transfer of patients who had erroneously scheduled appointments at the other site.

the time of the new EHR go-live through the end of March 2021. Two of the Joint Patient Safety Reports were for a patient with a High Risk for Suicide patient record flag, who mistakenly self-scheduled behavioral health appointments in the Ohio clinic. The OIG reviewed an issue brief completed following a suicide attempt by the patient in early February 2021, which referenced the self-scheduling tool errors and highlighted the associated safety concerns. The OIG also reviewed the EHR of the patient and, while the EHR review showed that the patient had established behavioral health care at the time of the suicide attempt, the OIG concurred that the self-scheduling tool errors presented risks for patient safety and potential to negatively affect coordination of care.

The Joint Patient Safety Report for the second patient indicated a mistakenly scheduled appointment for a next day primary care visit requested due to a patient fall. According to details provided in the report, the scheduling error was identified by the primary care provider in the Ohio clinic. The Ohio provider contacted the patient and advised the patient to seek emergency care based on the precipitating event and symptom complaints. Staff at the Ohio site were unable to reach the patient's established primary care provider directly at that time; however, the report indicated the patient was seen in urgent care the same day and the primary care team nurse followed up with the patient. While staff intervention ensured the patient was linked to appropriate treatment, the OIG found that the self-scheduling tool errors presented patient safety concerns and increased risks for deficient care coordination.

According to comments on Joint Patient Safety Reports regarding investigation of the concerns and actions taken, the self-scheduling tool issue was elevated to facility leaders, national VA leaders, VA OEHRM, and Cerner. A change request was reportedly initiated to correct the system configuration responsible for the problem, and once completed that change would restrict appointment self-scheduling to a patient's home facility. Pending completion of the change request, staff at the Ohio site were to check scheduling queues daily to identify erroneously scheduled patients.

The OIG's review of tickets identified multiple submissions related to this issue. Earlier tickets displayed no resolution or had comments reflecting lack of resolution such as "there isn't a way to prevent users from scheduling to an incorrect location" or "nothing we can do on patient workflow." The OIG's review identified a later ticket specifying that VHA leaders from the Ohio site had requested that all "direct scheduling" for the site be turned off immediately in response to the identified concerns.⁵⁶ The ticket resolution indicated that the self-scheduling option in the patient portal was disabled as of February 24, 2021, and the patient view of the self-scheduling tool had been blocked. The response further indicated expectation that the functionality would be

⁵⁶ Direct scheduling referred to patients' ability to schedule appointments using the self-scheduling tool in the patient portal.

turned back on following release of an update to the centralized scheduling package, which incorporated relationship-based scheduling rules, planned for late April 2021.

Status

Self-scheduling through the patient portal was inactivated in February 2021 to address the patient safety concern. A response provided by VA OEHRM staff in May 2021 to an OIG inquiry indicated work was underway to fix the underlying system configuration that allowed the errors to occur and resolution was pending.

Scheduling Summary

The OIG substantiated that implementation of the new EHR resulted in some deficiencies in scheduling processes. While not all allegations were substantiated, challenges associated with the transition to the new EHR affected provider efficiency and productivity, which in turn reduced availability of appointments in Primary Care and Behavioral Health Services. Challenges using some scheduling functions also affected appointment scheduling following go-live of the new EHR. Appointments for some services did not contain sufficient information to accurately discern the program or location for the appointment, and the lack of sufficient specific appointment information negatively affected the utility of appointment reminders. The OIG determined that insufficient system optimization of the designations used to route scheduling and referrals was a factor in the issue and was unresolved at the time of the review. Additionally, some appointment reminders failed to specify when an appointment was for a virtual visit and included instructions that led to patients mistakenly presenting in person for telehealth visits. The OIG substantiated that problems with the configuration of the new self-scheduling tool resulted in facility patients located in Washington State inadvertently self-scheduling appointments at a VHA site in Ohio. This system error presented patient safety concerns and increased risks for deficient care coordination. In response to the identified patient safety concern, self-scheduling was disabled and VA OEHRM indicated work was underway to fix the underlying system configuration. Table 4 provides a summary of scheduling process allegations and findings.

Table 4. Summary of Scheduling Process Allegations and Findings*

Scheduling Processes	Allegation	OIG Determination	Status
Delays in Primary Care Appointments	New EHR issues caused delays in scheduling primary care appointments.	Substantiated	Unresolved
Mental Health New Patient Scheduling	New EHR issues caused Mental Health Service to stop scheduling new patients.	Not Substantiated	Not Applicable
Inability to Assign a Provider	If patients did not have a Spokane address, they could not be assigned to a primary care provider in the system. This resulted in the inability to assign a primary care provider in the system for homeless patients.	Not Substantiated	Not Applicable
Appointment Information	Appointments for return-to-clinic visits showed as general clinic appointments and did not contain information to show which provider or specialty area within a service the patient was scheduled to see.	Substantiated	Unresolved
Appointment Reminders—Allegedly Absent	Appointment reminders were absent in the new EHR.	Not Substantiated	Not Applicable
Appointment Reminders—Insufficient Information	Appointment reminders were inadequate and did not provide locations for appointments.	Substantiated	Unresolved
Appointment Reminders—Insufficient Telehealth Designation	Appointment reminders did not specify when appointments were telephone visits rather than in-person appointments, resulting in patients presenting in person for telephone appointments.	Substantiated	Unresolved
Self-Scheduling Tool Configuration	Problems with the configuration of the new self-scheduling tool, accessible in the patient portal, resulted in facility patients located in Washington State inadvertently self-scheduling appointments at a VHA site in Ohio.	Substantiated	Resolved

Source: *OIG analysis.*

* *Status of issues reflect the time frame from late January through early June 2021.*

4. VA Video Connect

The OIG substantiated that certain factors associated with the new EHR transition disrupted the use of VA Video Connect technology for some patients and providers, affecting telehealth services. Allegations received by the OIG cited several issues affecting VA Video Connect

appointments following implementation of the new EHR, including VA Video Connect appointments not working correctly; some providers losing access to VA Video Connect technology; providers being unable to check in patients for virtual appointments; patient appointment links sent to incorrect, outdated email addresses; and appointments scheduled in the wrong time zone.

The OIG's detailed analysis follows, however, a brief [summary overview](#) of the inspection findings related to VA Video Connect is provided at the conclusion of this section.

VA Video Connect Function

VA Video Connect, a technology employed through VHA telehealth services, enables veterans to meet virtually with VA healthcare providers from anywhere, using encrypted video to ensure the session is secure and private.⁵⁷ VA Video Connect telehealth services offer a convenient way of accessing VA health care and reduce travel times for patients, especially those living in very rural areas with limited access to VA facilities. On March 11, 2020, the Deputy Under Secretary for Health for Operations and Management issued a memorandum on leveraging video telehealth as part of VA's strategy to protect veterans and VA staff from COVID-19. The guidance highlighted priorities for establishing VA Video Connect telehealth capabilities for providers and encouraged facilities to consider converting appointments to virtual visits to reduce COVID-19 exposure risks for patients and staff.⁵⁸

Appointment Failures

The OIG substantiated that staff experienced a disruption in VA Video Connect functioning in the time frame immediately following go-live of the new EHR. Multiple facility staff across services reported problems with VA Video Connect appointment functionalities at the beginning of the new EHR transition but noted that the issues appeared to have resolved. One staff member described "It's been a pandemic, so everyone's been doing VVC [VA Video Connect] for months and months and months now. Right around the time that the go-live happened, people experienced a general decrease in functionality," but noted "it was not across the board." Based on reports received from staff, a service leader estimated that just after go-live, VA Video Connect was working "about 50 percent of the time for about 50 percent of the people." The service leader also recalled an update had been completed for VA Video Connect but was unsure whether the update was initiated to address issues in the VA Video Connect application or to address problems in interoperability with the new EHR.

⁵⁷ VHA Telehealth Services, *VA Video Connect Solutions*.

⁵⁸ VA Memorandum, Deputy Under Secretary for Health for Operations and Management, *COVID-19: Protecting Veterans and the Department of Veterans Affairs (VA) Workforce by Leveraging Video Telehealth from VA Clinics and Home*, March 11, 2020.

In contrast with the facility's disruption in VA Video Connect, the Associate Director of EHRM Implementation at the VISN 20 Clinical Resource Hub reported no disruptions in the functioning of VA Video Connect technology when providing telehealth support to the facility. The Associate Director explained that the VISN 20 Clinical Resource Hub continued to use the legacy scheduling system that allowed connection to VA Video Connect, noting that decision was made after discussions with facility providers highlighted concerns about VA Video Connect appointment functionality following the new EHR transition, and training deficits.

Status

In discussions with the OIG, staff generally reported that the initial disruptions in VA Video Connect functioning observed following go-live of the new EHR had improved or resolved. While staff noted other factors, such as limited connectivity in some geographic areas, interfered with VA Video Connect appointments, those problems were not attributable to the new EHR. In a response to an OIG inquiry, VA OEHRM staff reported plans were in progress for further updates to enhance VA Video Connect functioning anticipated in September 2021.

Alleged Provider Loss of Access

The OIG did not substantiate that some providers lost access to VA Video Connect since the new EHR implementation. As detailed in a section above, many providers experienced problems with VA Video Connect functionality due to initial disruptions to VA Video Connect when the new EHR went live, but those issues were subsequently resolved and provider access restored. One service leader noted that some users lost VA Video Connect access during the initial transition, due to role-based functionality. After identification of the problem, access was restored.⁵⁹ Following resolution of the initial disruptions, service leaders reported that providers across services continued to use VA Video Connect technology to provide telehealth services for patients.

Status

As noted above, concerns regarding provider access to VA Video Connect for provision of telehealth services resolved following the initial disruptions in VA Video Connect that occurred when the new EHR went live.

⁵⁹ The legacy EHR system enabled assignment of *permissions* for each user. Permissions could be added or removed, customizing the assigned permissions based on the user's needs. The new EHR is not permissions-based. Within the new EHR, each user is assigned *roles* pre-defined by Cerner, that determine the user's permissions and access.

Alleged Provider Inability to Check In Patients

The OIG did not substantiate that providers were unable to check in patients for VA Video Connect appointments. Review of the EHRM reference guide indicated three options available to a provider to join a VA Video Connect appointment:

- A “Join Session” link located in the provider’s view of the patient’s EHR
- The appointment link that is emailed when the video session is scheduled
- The Virtual Care Manager tool in the EHR

When a patient joined the VA Video Connect appointment via the email link received, the appointment status automatically changed to “checked-in.”⁶⁰ Staff interviewed by the OIG confirmed the process worked as described by the reference guide. The initial report of problems with using the system as intended to check patients in for VA Video Connect appointments appeared to be related to the broader initial disruption or interoperability issues with VA Video Connect technology immediately following go-live of the new EHR, which were resolved as described in the previous section.

Status

As noted above, concerns regarding processes for checking in patients for VA Video Connect appointments resolved following the initial disruptions described in the previous section.

Misdirected VA Video Connect Appointment Links

The OIG substantiated that data migration issues, which populated outdated contact information to the new EHR, caused misdirection of VA Video Connect appointment links to outdated, invalid email addresses and the new EHR did not have a process to alert staff when delivery of the email link failed.

As detailed above in the data migration section of the report, outdated DoD data overwrote VHA’s legacy EHR data for some patients when data were migrated to the new EHR. Resolution of discrepant VHA and DoD data sources for patient information remained a concern.

In advance of a VA Video Connect appointment, the patient should receive an email or calendar invite containing a link used to “launch” the encrypted video session and connect the patient to the virtual room to meet with the provider. Links to access VA Video Connect appointments were misdirected when patient contact information contained in the new EHR reverted to

⁶⁰ VA, *Electronic Health Record Modernization, Video Visits - Provider Guide, Workflow-based Quick Reference Guide*, July 30, 2020.

outdated, invalid email addresses.⁶¹ Staff identified work-arounds including calling patients who did not present in the virtual appointment and manually resending links to the patient's active email.

A staff member reported that the new EHR lacked an alert to indicate an appointment link was sent to a patient's defunct email address. In contrast, when speaking with the OIG, the Associate Director of EHRM Implementation at the VISN 20 Clinical Resource Hub indicated that the legacy EHR scheduling system had the capacity to identify undeliverable email addresses when sending appointment links, creating a "hard stop." The scheduler would be alerted that the email could not be delivered and, based on established Clinical Resource Hub processes, would reschedule the appointment as a telephone visit by alerting the provider to call the patient instead of using VA Video Connect.

Status

As detailed previously, the data errors that caused emails containing appointment links to be misrouted were fixed locally for some affected patients. However, the problem persisted for others and fixing the errors may require that affected patients contact the DoD to have contact information updated in DEERS.

Appointment Time Zones

The OIG substantiated that some patient appointment reminders for VA Video Connect appointments displayed appointment times in the eastern standard time, instead of the Pacific standard time where the facility was located. In discussions with the OIG, facility staff reported incidents of patients missing appointments because patients received appointment reminders displaying the time of the scheduled appointment as eastern standard time, rather than the time zone where the patient and facility were located.⁶² One staff member clarified that the appointment was displayed in the incorrect time zone only on the patient's reminder, not on the facility's appointment view in the new EHR. Staff reported being unsure what caused this issue, but indicated that the problem was not consistent, as some VA Video Connect patient appointments displayed the correct time zone and others did not.

⁶¹ The Associated Director of EHRM Implementation at the VISN 20 Clinical Resource Hub reported that patients who received telehealth services via the Clinical Resource Hub were not affected as that scheduling system used contact information from the legacy EHR.

⁶² Facility staff indicated that while an appointment reminder might have shown a technically correct time, such as displaying 12:00 p.m. eastern standard time for an appointment scheduled to occur at 9:00 a.m. Pacific standard time, the expectation that appointment times would be provided in the local time zone could easily result in the patient attempting to access the VA Video Connect appointment at 12:00 p.m. Pacific standard time and missing the actual scheduled appointment time at 9:00 a.m. Pacific standard time.

The OIG's review of tickets identified multiple unresolved tickets that referenced the need to correct appointments to the patient's time zone. Two tickets provided responses that referenced underlying causes of the issue. Appointment notifications and reminders were driven by the time zone associated with the patient; however, the new EHR did not store or associate time zone information with the patient. As a result, the time zone defaulted to eastern standard time. Ticket responses indicated that changes were needed in the VA Video Connect system to map the patient location and associated time zone as well as to pull the appointment time from the provider location.

Status

Interviews with staff yielded differing perspectives regarding whether this issue had been resolved at the time of the OIG's review. The OIG's review of the tickets noted above indicated changes in the VA Video Connect system had been applied and validated to allow patient location mapping from the new EHR. In a response to an OIG inquiry, VA OEHRM staff reported that a system change was implemented to ensure that appointment times were communicated to the VA Video Connect system and associated appointment reminders in the appropriate patient time zone. Documentation provided indicated the interface update to correct the issue was initiated in February 2021 and completed in March 2021.

VA Video Connect Summary

The OIG substantiated that the new EHR transition disrupted the use of VA Video Connect technology for some patients and providers, affecting telehealth services. Some of the concerns have been resolved, other allegations were not substantiated, and one allegation has not been resolved. Staff experienced a period of disruption in VA Video Connect functioning in the time frame immediately following go-live of the new EHR. Multiple facility staff across services reported problems with VA Video Connect appointment functionalities at the beginning of the new EHR transition but noted that the issues appeared to have resolved. Data migration issues, as discussed in a previous section of the report, resulted in outdated contact information populating to the new EHR, and caused misdirection of VA Video Connect appointment links to invalid email addresses. The system did not have a process to alert staff when delivery of an email link failed. Some patient appointment reminders for VA Video Connect appointments displayed appointment times in the eastern standard time, instead of the Pacific standard time where the facility was located, contributing to missed appointments. An update was completed in March 2021 to allow correct mapping of patient locations to ensure VA Video Connect appointments scheduled through the new EHR displayed in the correct time zone.

Table 5. Summary of VA Video Connect Allegations and Findings*

VA Video Connect	Allegation	OIG Determination	Status
Appointment Failures	Many VA Video Connect appointments did not work correctly following the new EHR implementation. VA Video Connect appointments were not getting completed because the links were not working.	Substantiated	Resolved
Provider Access	Some providers had no access to VA Video Connect since the new EHR implementation.	Not Substantiated	Not Applicable
Appointment Check-In	Since implementing the new EHR, providers were unable to check in patients for VA Video Connect appointments. This created additional work for providers and medical support assistant staff, reducing clinic efficiency.	Not Substantiated	Not Applicable
Misdirected VA Video Connect Appointment Links	Incorrect personal contact information caused misdirection of links used to access VA Video Connect appointments. VA Video Connect appointment links were sent to incorrect, outdated email addresses without a notice alerting providers that email addresses were invalid.	Substantiated	Unresolved
Appointment Time Zones	Since implementing the new EHR, VA Video Connect appointments were often scheduled in the wrong time zones.	Substantiated	Resolved

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

5. Referral Management⁶³

The OIG substantiated that deficiencies in the implementation of the Ambulatory Referral Management function in the new EHR decreased providers' ability to manage referrals.⁶⁴ Initial

⁶³ The terms "referral" and "consult" are often used interchangeably to refer to a provider's request for a medical opinion, treatment recommendation, or specialty care from another service. Within the legacy EHR, the Consults Package was used for consults and referrals. Within the new EHR, the terms are not interchangeable. Consults are used for coordinating care in inpatient settings, while referrals are used for outpatient settings are entered through different processes in the new EHR. This report focuses on the use of referrals in the Ambulatory (outpatient) care setting in the new EHR.

⁶⁴ VA Office of Electronic Health Record Modernization, *Solutions Handbook*, November 5, 2019. The new EHR's Ambulatory Referral Management function "assists in the management and exchange of patient referrals across care networks and platforms." The function is intended to allow providers to submit and manage referrals within the new EHR.

concerns received by the OIG cited cases of referrals being lost or not addressed due to difficulties in the new referral management processes, an inability to track referrals once placed in the new EHR, use of messaging work-arounds due to tracking difficulties, and lack of a process for placing referrals between different programs within the same service.

The OIG's detailed analysis follows, however, a brief [summary overview](#) of the inspection findings related to referral management is provided at the conclusion of this section.

Ambulatory Referral Management Function

Providers use the Ambulatory Referral Management function in the new EHR to enter referrals to direct patients to an appropriate outpatient medical specialist for assessment or treatment. Effective management of referrals is necessary to ensure patients receive timely and clinically appropriate care. Breakdowns in the referral management process create vulnerabilities that risk patient safety and may negatively affect the patient and provider experience.⁶⁵

Lost or Not Addressed Referrals

The OIG substantiated that referrals were lost or not addressed due to difficulties with referral management processes in the new EHR based on multiple reports from leaders and staff across services. Through interviews with staff, review of Joint Patient Safety Reports, and analysis of Cerner tickets, the OIG determined several factors likely contributed to difficulties with managing referrals in the new EHR, including problems with system configuration, workflow errors, interoperability deficits with legacy systems to support interfacility and community care referrals, and inadequate provider training.

In speaking with the OIG, facility staff across services expressed concerns regarding lost or missed referrals. The facility's Chief of Primary Care noted that "a lot of [referrals]...got lost in space" and described the new referral process as an "ongoing issue." The facility's Chief of Behavioral Health Service stated there were certain referrals "where it goes to nowhere and we can't find them." The facility's Chief of Medicine communicated concerns that the facility had not identified all lost or missed referrals. When asked to provide the OIG with names or other identifying information of patients affected, facility staff identified challenges using the new EHR to locate lost or missed referrals. The facility's Chief of Medicine stated, "I can't take you through one lost [referral] because they are very difficult to identify." The facility's Chief of

⁶⁵ Tejal K. Gandhi, "Communication Breakdown in the Outpatient Referral Process," *Journal of General Internal Medicine* 15 (2000); 626-631.

Primary Care noted that staff would report cases of actual or potential patient harm related to issues with the new EHR through the Joint Patient Safety Reporting system.⁶⁶

The OIG reviewed the EHRs of four patients for whom facility staff attributed a delay in care to referral management errors in the new EHR. The OIG review of the patient EHRs found that human errors in the referral processes contributed to the delays, though deficits in provider training and system configuration issues were underlying factors that created vulnerabilities for such errors.⁶⁷ The OIG review determined that none of the four identified patients experienced adverse clinical outcomes as a result of the delays in care.

Based on interviews with facility service leaders, review of Joint Patient Safety Reports, and analysis of Cerner tickets, the OIG identified the following issues that may have resulted in lost or delayed referrals:

- System configurations that allowed providers to erroneously route referrals to non-facility locations⁶⁸
- System configurations that created multiple pathways for ordering different types of care and resulted in referring providers using the wrong process to order referrals
- System configurations that automatically canceled referrals more than 45 days old without notifying the referring provider that further action was required
- Incomplete or missing referral care pathways that affected referring providers' ability to request some types of specialty care
- Errors in workflows that resulted in referrals being routed to unknown or incorrect locations within the new EHR

⁶⁶ VA National Center for Patient Safety, *Topics in Patient Safety* 17, no. 2 (2017): 3. The Joint Patient Safety Reporting system allows VHA staff to submit an electronic incident report. Electronic incident reports are reviewed by the patient safety manager to determine trends and prioritize investigative efforts.

⁶⁷ For example, in one case, patient care was delayed when the referring provider accidentally selected an unavailable location for the referral, causing it to be misrouted to a DoD site. This was a human error, though an underlying cause was a system configuration vulnerability that allowed providers to select unavailable locations for referrals. Kohn, Linda T, Corrigan, Janet M, and Donaldson, Molla S., Committee on Quality of Health Care in America, Institute of Medicine, *To Err is Human: Building a Safer Health System*, Washington, D.C., The National Academies Press, 2000. A seminal Institute of Medicine publication on building a safer healthcare system highlighted the importance of a systems perspective, describing that “designing safe systems requires an understanding of the sources of errors and how to use safety design concepts to minimize these errors or allow detection before harm occurs.” This includes recognizing the sources of human error and designing systems to minimize the opportunities for such error.

⁶⁸ The system configuration included locations for not only the facility but also for other VA and DoD sites, which were not valid locations for providers to select for the referrals.

- Interoperability issues affecting workflows for routing referrals to the HealthShare Referral Manager system that was used for community care referrals⁶⁹
- Interoperability issues with the legacy EHR referral system for coordination of interfacility referrals
- Errors by the referring providers, such as failure to complete all steps to initiate the referral workflow, which resulted in incompletely-generated referral orders

The OIG learned that the Ambulatory Referral Management function was not included in the initial new EHR implementation plans for October 2020, and was a late addition shortly prior to go-live at the facility. In 2019, VA OEHRM staff made the decision to deploy the new EHR functions in separate blocks at separate times.⁷⁰ VA OEHRM staff reported that the decision to include Referral Manager in the initial capability set was approved in July 2020, due to recognition that lack of a streamlined and consistent referrals process could delay referrals and negatively affect patient care.

Facility staff attributed many difficulties with referral management to a lack of training and significant changes from the processes previously used in the legacy EHR. The OIG found that formal training conducted prior to go-live did not cover the Ambulatory Referral Management function because of the last minute inclusion of Ambulatory Referral Management function in the initial new EHR's capabilities. Facility staff were instructed to learn about use of *Referral Manager* prior to go-live via other means and described the training as "generic" or "very cursory."⁷¹ One staff member reported that some facility departments had created their own instructions on how to order referrals.

While training deficits were a factor in the lost or missed referral orders, the OIG considered the failure to recognize the likely impact of the omission of adequate referral management training on successful implementation of these capabilities a reflection of broader problems with

⁶⁹ HealthShare Referral Manager is a secure web-based system that VHA uses to generate and submit referrals and authorizations for care to community providers.

⁷⁰ The separate blocks, known as "Capability Set 1" and "Capability Set 2," were scheduled to be deployed six months apart, with Capability Set 1 scheduled to be deployed at go-live on October 24, 2020. VA OEHRM staff noted in documents from March 2020 that the Ambulatory Referral Management function was not included for deployment with Capability Set 1.

⁷¹ Available options for learning about *Referral Manager* included reviewing pre-recorded demonstrations in the VA Talent Management System, attending super user calls or various virtual town-hall style sessions, or by setting up individual user preferences during new EHR training events. Super users are facility staff who received additional training to provide peer-to-peer support during new EHR implementation. Super users attended weekly calls in preparation for go-live.

ineffective change management. A prior OIG report addressed deficiencies in content and delivery training associated with implementation of the new EHR.⁷²

Status

In discussions with the OIG, facility staff generally reported that the initial challenges with referral management observed following go-live of the new EHR had improved as a result of further training, increased staff familiarity with the Ambulatory Referral Management function, and updates to the new EHR to correct identified configuration or workflow problems. The OIG was also told that primary care staff had developed referral management guidance instructions for providers to augment the available VA OEHRM guidance and to address recognized process issues. Subsequently, VA OEHRM staff released updated guidance on the Ambulatory Referral Management function that provided additional resources for staff training. In a May 2021 response to an OIG query, VA OEHRM staff stated the “referral management resolution is ongoing with a number of mitigation plans,” including standing up a referral management workgroup to provide oversight on referral management issues.

Alleged Inability to Track Referrals

The OIG did not substantiate that the new EHR lacked a way for staff and providers to track what actions had been taken for referrals, by whom, and when. The new EHR introduced tools for tracking referrals and required changes in staff work processes. Staff identified difficulties navigating the process changes due to inadequate training and expressed perceptions that the processes were not optimal to support clinical coordination.

Facility staff reported that tracking referrals in the new EHR was very different from processes used in the legacy EHR. The legacy EHR generated automatic electronic alerts (view alerts) that pushed notifications to facility staff of actionable clinical information such as receipt of new referrals, cancelation of referrals, or completed referral results.⁷³

In contrast, a facility nurse manager described that the Ambulatory Referral Management function in the new EHR is “not a push system. It’s a pull system.” The new EHR referral workflows required staff to monitor communications in the Message Center function for notifications regarding new referrals, and the Ambulatory Referral Management function provided a tool called a *worklist* to help staff track and manage referrals. The nurse manager

⁷² VA Office of Inspector General, *Training Deficiencies with VA’s New Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington*, Report No. 20-01930-183, July 8, 2021, <https://www.va.gov/oig/pubs/VAOIG-20-01930-183.pdf>.

⁷³ VA Office of Information and Technology, *Consult/Request Tracking 3.0 User Manual*, March 2021. Status changes that automatically generated alerts included notifications of new requests, cancellations, and completion of referrals. VA, *Vista Computerized Patient Record System (CPRS) Setup Guide*, October 2019. View alerts consisted of one line of text displayed to facility staff at system sign-on or other system prompts.

described “the problem with Referral Manager is you have to have lists set up. You have to have a[n] originating and a receiving list.”⁷⁴

The OIG learned that worklists were not created automatically by the new EHR. Facility staff had to set up multiple worklists to create organized views of patients for effective management and tracking of outgoing and incoming referrals. When configured correctly, worklists facilitated staff’s ability to monitor the status of patient referrals. However, the nurse manager indicated “if you don’t have a list set up, you don’t get your patients to you.”

The OIG confirmed that the new EHR had the capacity for staff to monitor changes in referral status. OIG staff directly observed as a referral management nurse accessed a patient’s referrals and navigated through the Ambulatory Referral Management function to view detailed referral data, including service requested, priority, and referral status.

A facility service leader expressed frustration that the tracking information was inadequate. The service leader noted that in the legacy EHR, updates to referrals included a time-stamped record of actions taken, when and by whom, whereas the new EHR system allowed a view of the current referral status only.

Although the OIG did not substantiate the inability to track referrals, the OIG identified another concern during a review of ticket data. Staff submitted tickets indicating that referring providers did not receive notifications when referrals were canceled or discontinued. Without such notification, the providers may be unaware of a need for follow-up. Resolution comments for the tickets referenced a pending system enhancement request. Review of tickets also identified concerns related to canceled interfacility referrals not generating an alert to the referring provider. In contrast, a canceled referral generated a status change notification in the legacy EHR.

In a March 2021 report, VA OEHRM staff referenced resolution of referral management tracking.⁷⁵ A response provided by VA OEHRM staff on June 2, 2021, referred to the system enhancement referenced above. The OIG was unable to discern from the VA OEHRM response or available documentation when the planned system enhancements were applied or whether the changes had fully mitigated identified concerns.

⁷⁴ VA OEHRM, *Referral Management*, March 26, 2021. Originating worklists display referrals based upon the location where the referral order originated. Receiving worklists display referrals based upon where the referral is routed.

⁷⁵ Due to a range of concerns related to the functionality of referral management processes in the new EHR, VA OEHRM staff formed a team of facility subject matter experts, Cerner subject matter and solutions experts, and other representatives to review identified issues and requests related to referral management. The team was allotted six weekly meetings to review the concerns and identify potential pathways to resolution. Review of the March 5, 2021, Closure Report summarizing the work of the team notated work relevant to concerns about referral workflow, tracking of referrals, and lack of staff training on referral management.

Status

At the time of OIG’s review, changes in processes, knowledge gaps, and insufficient training continued to negatively affect staff use of referral tracking tools in the new EHR. Staff also expressed perceptions that the processes as designed in the new system were not optimal to support clinical coordination. VA OEHRM staff reported that referral tracking problems had been addressed by a system enhancement based on recommendations from the Referral Management Tiger Team. The OIG was unable to determine the status for resolution of specific referral tracking concerns about notification of canceled referrals and notifications for interfacility referrals that were identified during OIG’s review of tickets.

Use of Messaging as a Work-Around

The OIG substantiated that facility staff sent messages through Message Center and encrypted emails after submitting referrals to ensure that referrals were seen by the receiving service or provider due to an overall staff distrust regarding referral management.

Facility staff reported that concerns about lost or delayed referrals and difficulties tracking actions taken on referrals led to the use of work-arounds, such as emailing receiving providers to ensure referrals were received. When interviewed, the Chief of Behavioral Health reported

We had providers reaching out to behavioral health providers asking status or where it was, and so we recognized it was an issue...we were being told it [a referral] was generated but we couldn’t find it.

In response, the Chief of Behavioral Health described “we’ve developed work-arounds to either email, call, or do Teams messages.”⁷⁶ The Chief of Behavioral Health expressed concerns about human error and the potential impact to clinic efficiency and increased staff fatigue despite attempts to remain consistent in the use of work-arounds. One provider described using the new EHR Message Center in an effort to follow up on referrals but noted the process held too many “opportunities for error.”

Status

During January 2021 OIG interviews, facility staff reported continued use of email and other forms of messaging as a work-around to make certain that referrals were seen by the receiving services. The OIG determined that facility staff reliance on work-arounds did not ensure a consistent process, which may present a patient safety risk.

⁷⁶ *Teams* refers to Microsoft Teams, the computer-based application used by VA staff for real-time communication and collaboration, meetings, and information sharing.

Referrals Within the Same Service

The OIG substantiated that deficits in configuration of the new EHR resulted in difficulties placing referrals between different programs within a service. The OIG determined that the system configuration did not optimize clinical service workflows and led to inefficient routing and management of referrals.

As discussed in a previous section of the report, the new EHR routes referrals to the desired service based on the system's designated location of the receiving service. OIG discussions with staff indicated that the system configuration was better optimized for some services than others, resulting in different perceptions regarding the functionality of the referral management system.

One provider used the analogy of *buckets* when describing locations within the Ambulatory Referral Management function and explained that the number of buckets within the system was determined by the system configuration and design process. According to the provider, multiple different programs within the Behavioral Health Service were included in the same location bucket. The new EHR care pathways used by referring providers to specify the desired receiving service did not route referrals to a specific program in Behavioral Health, but to one general Behavioral Health bucket, a significant change from the legacy EHR.⁷⁷ The Chief of Behavioral Health raised concerns that the new EHR configuration increased chances of human error. The configuration introduced uncertainty regarding which program within the service would respond to and manage a given referral.

The problems described for Behavioral Health Service were contrasted with the reported experience of using the Ambulatory Referral Management function within medical specialty services. During interviews with staff, the OIG learned that the facility leveraged staff resources associated with VHA's Referral Coordination Initiative to support the transition of referral management processes in the new EHR, focusing on specialty care referrals.⁷⁸ A staff member knowledgeable about the implementation of the referral management team explained that specialty care referrals were reviewed for appropriateness by nurses on the team. Based upon the referring provider's request, patient preference, and facility appointment availability, referral management team nurses routed each referral to the specified service at the facility or a community provider. A referral management nurse described the team that routed referrals as "absolutely necessary" to efficiently process referrals from primary care to medical specialty care services.

⁷⁷ Providers generate referral orders using a tool, known as a care pathway, to determine the appropriate receiving service (location), ensure the appropriateness of the referral, and that any required testing is completed prior to scheduling an appointment.

⁷⁸ VHA's Referral Coordination Initiative was intended to streamline the process for VHA community care referrals through dedicated referral coordination teams composed of administrative and clinical staff.

The OIG's review of ticket data identified additional examples of insufficient mapping of referral location options to clinical service workflows. Based on discussions with service staff and leaders, the OIG determined that better optimized configurations of service locations for routing referrals and the use of a referral management team were factors in the differences between problems reported across the services.

Status

The Chief of Behavioral Health reported that a separate Tiger Team had been developed to work specifically on referral management issues for the Behavioral Health Service and indicated the team's work focused on recommendations for fixing referral locations within the new EHR to improve the routing of Behavioral Health referrals. A June 2021 response provided by VA OEHRM staff to an OIG query reported that the referral re-design for the Behavioral Health Service was underway, noting a change request was awaiting approval.

Referral Management Summary

The OIG substantiated that deficiencies in the implementation of the Ambulatory Referral Management function in the new EHR led to challenges that affected provider ability to manage referrals. Based on discussions with facility staff, analysis of tickets, and review of VA OEHRM documentation regarding optimization efforts, the OIG found that the causes for difficulties with referral management in the new EHR were multifactorial. Certain aspects of system configuration, workflow errors, interoperability deficits, and insufficient training contributed to staff difficulties with management of referrals in the new EHR. A response provided by VA OEHRM staff to the OIG's inquiry indicated the "referral management resolution is ongoing with a number of mitigation plans."

Table 6. Summary of Referral Management Allegations and Findings*

Referral Management	Allegation	OIG Determination	Status
Lost or Not Addressed Referrals	Referrals were being lost or not addressed because of difficulties in the referral management processes in the new EHR.	Substantiated	Unresolved
Tracking Referrals	The new EHR lacked a way for referring providers to track what actions had been taken for referrals, by whom and when.	Not Substantiated	Not Applicable
Use of Messaging as a Work-Around	Due to concerns about the referral process not working consistently and the inability to track referrals in the new EHR, staff were sending messages through Message Center and sending encrypted emails after submitting referrals to ensure that referrals were seen by the receiving service.	Substantiated	Unresolved
Referrals Within the Same Service	Deficits in the new EHR resulted in difficulties placing referrals between different programs in the same service, which could affect care coordination and result in lapses in care.	Substantiated	Unresolved

Source: *OIG analysis.*

* *Status of issues reflect the time frame from late January through early June 2021.*

6. Laboratory Orders

The OIG substantiated deficiencies related to laboratory order functionality following implementation of the new EHR. Initial concerns received by the OIG cited issues with “disappearing” laboratory orders, inability of ordering providers to track laboratory tests once ordered, and delays in the receipt of laboratory test results.

The OIG’s detailed analysis follows, however, a brief [summary overview](#) of the inspection findings related to laboratory orders is provided at the conclusion of this section.

Laboratory Orders Function

Laboratory testing is an important tool used by providers to guide clinical decisions made during patient care. Experts estimate that laboratory test results affect “60-70 [percent] of clinical

decisions” made by providers.⁷⁹ VHA policy delineates the timely communication of test results as “essential to ensuring safe and effective health care.”⁸⁰

EHRs provide a computer-based system for laboratory order entry that may help providers navigate challenges when faced with the large selection of complex laboratory testing available for use in diagnostic testing. When leveraged correctly, the use of a computer-based system for laboratory order entry can reduce the chance for medical errors and improve patient care.⁸¹

Workflow Errors Causing Disappearing Laboratory Orders

The OIG substantiated that some laboratory orders were “disappearing” and never reached the facility laboratory. The OIG identified vulnerabilities in the system configuration and deficits in staff training as factors responsible for the workflow errors.

Facility staff descriptions of laboratory order workflow errors highlighted three primary issues resulting in lost laboratory orders:

- System configuration resulted in dead end orders that did not route to the laboratory
- System configuration allowed laboratory orders to be inadvertently routed to other VHA or DoD laboratories
- Failure of the ordering provider to designate outpatient laboratory orders as *future orders*⁸²

During discussions with the OIG, facility staff across services identified situations in which laboratory orders disappeared or went “nowhere” once placed in the system. A facility nurse described incidents of laboratory orders being visible on provider workflows but not visible to laboratory staff for processing.

The Chief of Medicine described that searching for and ordering laboratory tests in the new EHR was “not easy.” The Chief of Medicine explained the difficulty in selecting the correct order from the provider view of laboratory orders. The Chief of Medicine demonstrated searching for and ordering a complete blood count during an interview with the OIG.⁸³ The search result

⁷⁹ Providers depend on timely and accurate laboratory test results as an important part of early disease detection, diagnosis of disease, and treatment. Kenneth A. Sikaris, “Enhancing the Clinical Value of Medical Laboratory Testing,” *Clinical Biochemist Review* 38, no. 3 (2017): 107-114.

⁸⁰ VHA Directive 1088, *Communicating Test Results to Providers and Patients*, October 7, 2015.

⁸¹ Jason M. Baron and Anand S. Dighe, “Computerized provider order entry in the clinical laboratory,” *Journal of Pathology Informatics* 2, no. 35 (2011).

⁸² Providers must use future orders to request laboratory testing for patients in the outpatient setting. Once placed, the future order remains on the patient’s chart, waiting for activation by laboratory staff once the patient arrives at the outpatient laboratory. Future orders do not prevent patients from getting the order completed the same day.

⁸³ A complete blood count is a common laboratory test used to measure specific components in the blood.

displayed 53 order options for the laboratory test (see figure 3). The Chief of Medicine further noted that the first option displayed in the list would go to “nowhere” if selected.

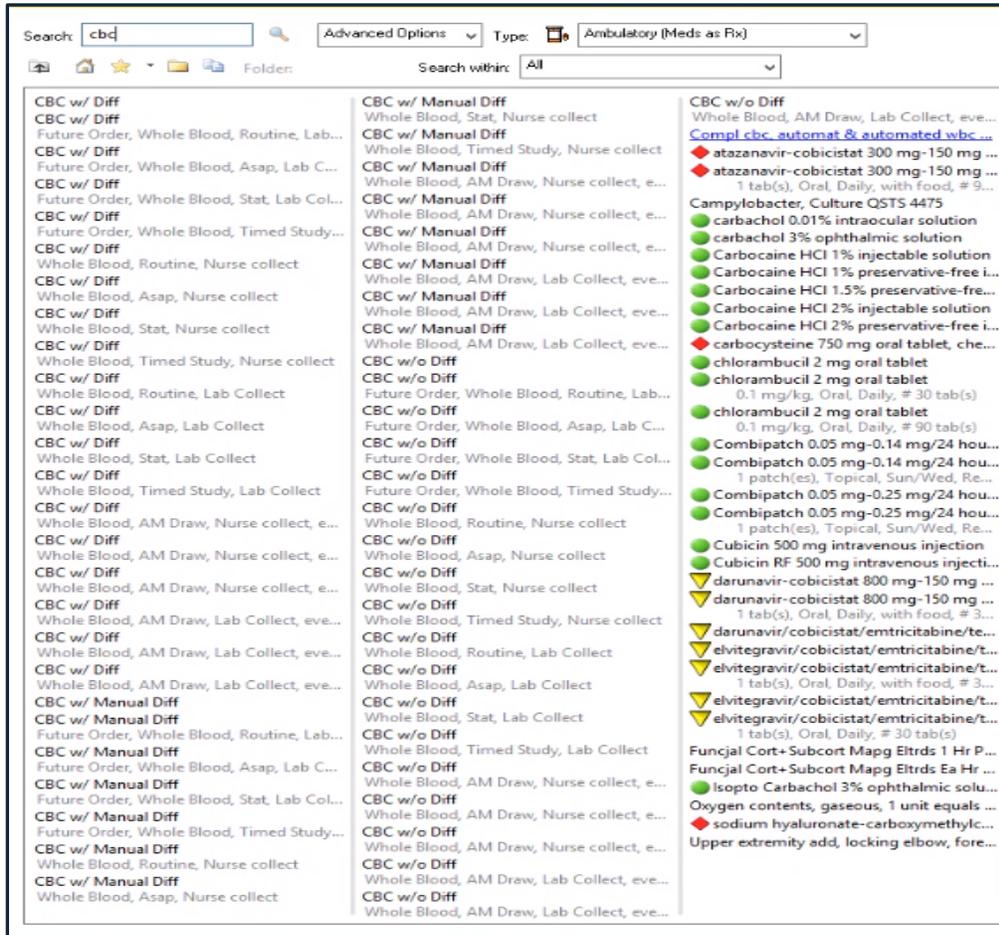


Figure 3. Example of complete blood count laboratory order search.
Source: Screenshot of new EHR.

EHRM guidance documents with tips for staff on new EHR functionalities indicated that facility providers may improve efficiency of the ordering process by designating frequently used laboratory tests as “Favorites.” Providers had the option to add Favorite orders to a personalized folder in the new EHR to avoid the need to repeatedly search from the full list. However, the Chief of Medicine noted that providers could inadvertently designate Favorite orders that did not work.

The OIG also learned that system configurations within the new EHR resulted in providers selecting the incorrect facility location when placing a laboratory order. A laboratory staff member knowledgeable about laboratory procedures explained that the new EHR did not default the order location selection to the local facility, resulting in providers having access to all available options for laboratory tests at “every single Cerner site” when placing an order. While

additional training provided after go-live reportedly decreased the frequency of laboratory orders incorrectly routed to other facilities, the laboratory staff member noted that the underlying system issue remained and increased risks for human error. The OIG's review of tickets indicated this was a system design choice and Cerner staff responses to the tickets provided no resolution for this concern.

The facility's Chief of Primary Care reported early difficulties when providers in outpatient areas failed to designate laboratory orders as future orders. As a result, workflows failed. In outpatient settings, providers placed a future order and laboratory staff activated the future order once the patient presented to the laboratory for specimen collection. The laboratory staff member indicated that laboratory orders not placed as future orders in the outpatient setting required cancelation and reordering by laboratory staff. The Chiefs of Primary Care and Medicine described a lack of emphasis in training on the importance of correctly designating outpatient orders as future orders. A VA OEHRM Quick Reference Guide issued in May 2021 addressed the use of future orders for requesting laboratory testing in the outpatient setting.

Status

While inadequate training was cited as a leading contributing factor to some laboratory orders disappearing, the OIG determined the inability of ordering providers to easily identify incorrectly placed orders and failure to optimize the system configuration to reduce opportunities for human error remained a significant patient safety risk. A response provided by VA OEHRM staff in June 2021 to an OIG inquiry indicated that the issue remained unresolved, but noted the design of the laboratory orders set was a necessary part of the new EHR implementation and advised that the order set functionality would increase as other facilities go-live with the new EHR. VA OEHRM staff referenced knowledge of the concerns that the system configuration created increased risks for human error but reported that the new EHR design, which allowed providers to create Favorite order folders, "accounted for this complexity."

Difficulty Tracking Laboratory Orders

While the OIG substantiated that laboratory orders without workflow errors also temporarily "disappeared" from providers' views, the allegation that the system lacked the capability to track laboratory orders was not substantiated.

Facility staff descriptions of difficulties with tracking orders emphasized that the ability to track orders was dependent on the use of the correct FIN.⁸⁴ A nurse manager identified that the primary challenge was how system workflows affected staff's ability to view orders from the

⁸⁴ "Terms and Acronyms," VA OEHRM Cerner SharePoint website. As noted in a previous footnote, the term Financial Identification Number (FIN) refers to "a unique number" that is "assigned to the patient for use by the hospital's billing/workload capture system."

originating FIN during subsequent steps in laboratory processing. The nurse manager further explained:

One of the issues that we [...] stumbled across [...] is when we place an order for lab, once [the] lab accepts that [order], it disappears off our FIN completely [...] As soon as they [the laboratory] pull [*sic*] it to collect it and create their own FIN number, it only shows up on their FIN number, the orders. Once it's [laboratory test is] resulted, it's resulted in every view, FIN.

The nurse manager described that initially “We were putting in multiple labs thinking, what’s going on? Why is it disappearing?” A facility service chief reported that staff employed work-arounds such as instant messaging, email, or calling the laboratory to ensure receipt of laboratory orders and noted impact on provider productivity, estimating that what previously “took 15-20 minutes is now taking over an hour” for some providers.

A VA OEHRM Quick Reference Guide issued in May 2021 addressed tracking the status of outpatient future laboratory orders and explained that, once activated by laboratory staff, the status of the order was viewable with designations including “future,” “dispatched or collected,” “in lab,” or “complete.” However, the document did not provide specific guidance for staff on how or where in the new EHR to access that status information.

The facility’s Chief of Primary Care described “there is a larger issue with orders,” and shared concerns about how the new EHR configuration resulted in a fragmented view of patient health information. The Chief of Primary Care explained “for [an] effective chart review you have to see orders in general. What's been done? What’s pending? What’s future? What was canceled?” and noted “there's no effective way to do that.” The Chief of Primary Care provided an example of how the display fragmentation “makes it extremely difficult” and affected clinical care coordination:

Let's say a cardiologist ordered an echocardiogram and it was completed today. In order to find that order, you would have to look specifically on that cardiology encounter. So, if you just went into the patient’s chart on a new encounter that you created, you would not see that order...you could see where someone might not know that it hasn't been read, yet the order is not visible to them. They may order an echocardiogram because they think it's necessary and not realize that it's been done.

The Chief of Primary Care expressed frustration with the clinical impact of this system configuration issue for patients and providers, stating “I just think that that's unconscionable,” and added “I have complained about this, many, many times, in many forums.” The OIG identified multiple tickets related to concerns about the clinical impact of display fragmentation stemming from the system configuration. Ticket responses provided no resolution for these concerns.

Status

At the time of the OIG's review, facility staff reported that the ability to easily view and track laboratory results continued to be affected by challenges associated with the transition to the new EHR. The OIG determined that staff's lack of familiarity with the system workflow design for laboratory orders, which affected where orders were viewable at different stages of the process, contributed to initial confusion tracking laboratory orders. However, staff training deficits did not fully account for concerns about display fragmentation in views of patient health information associated with the new EHR design. The OIG's review of the March 2021 Final Closure Report from the facility's Optimization Tiger Team efforts failed to yield sufficient information to ascertain what actions had been implemented to address the identified concerns. In a June 2021 response to an OIG inquiry, VA OEHRM staff indicated that the identified issues related to staff ability to view and track laboratory orders had been discussed during system optimization work, and was considered resolved, but did not provide details regarding the resolution.

Delayed Receipt of Laboratory Results

The OIG substantiated that receipt of laboratory test results was delayed for some providers. The OIG determined that difficulties with laboratory order functionality in the new EHR, such as the workflow errors described above, contributed to the delays. The OIG's determination was based upon multiple reports from leaders and staff across services; however, the OIG did not independently verify cases.

The Chief of Behavioral Health reported that laboratory results were taking a "significant amount of time and there are significant delays." A laboratory staff member acknowledged issues associated with workflow errors and mistakes in order entry as discussed in previous sections of this report but reported no knowledge of new EHR issues delaying results once the orders were received by the laboratory.

One behavioral health case was provided as an example in response to an OIG query for specific cases with delayed laboratory results impacting patient care. In that case, the laboratory order was placed on November 9, 2020, and the ordering provider reported not receiving results until December 2, 2020. However, the OIG's review of the patient case in the new EHR found documentation that the ordered laboratory tests were resulted within two hours of the order placement. This established that the completion of the laboratory results was not delayed; however, the OIG's post hoc review relied on information viewable in the new EHR at the time of the review and could not ascertain if the same information was viewable to the ordering provider in real time.

The OIG's review of tickets identified some reports of delays in laboratory test results attributed to system workflow issues:

- Failure in laboratory workflow status update resulting in the loss of a specimen and need to collect additional specimens
- Workflow issue resulting in a delay in moving *stat* results to completed status⁸⁵
- Workflow issue resulting in a failure to send completed laboratory results to the provider in Message Center
- Delays in populating results from the new EHR to the legacy EHR potentially affecting coordination of patient care provided through non-facility providers, such as tele-ICU⁸⁶

Status

During OIG discussions with facility leaders and staff in late January through early February 2021, the identified issues regarding delayed laboratory results remained of concern for staff. The OIG determined, based upon review of ticket data, that the identified workflow issues contributing to delays in stat results and communication of results from the new EHR to the legacy EHR had been resolved. Based on ticket responses, the OIG was unable to determine the status of resolution for the reported failures to update workflow statuses and send results via Message Center. A response provided by VA OEHRM staff in June 2021 to an OIG inquiry indicated that the facility had reported some delays in laboratory results, but noted the issue was corrected two weeks post-go-live by a configuration update and was no longer a concern. Without further specific examples from facility staff and tickets, the OIG was unable to ascertain resolutions across multiple underlying causes. Further, the OIG was unable to quantify the degree to which the difficulties staff reported with tracking orders affected real-time awareness of resulted orders in the system or contributed to perceptions of delays.

Laboratory Orders Summary

The OIG substantiated deficiencies related to laboratory order functionality following implementation of the new EHR. Due to vulnerabilities in the new EHR configuration and deficits in staff training, routing for some laboratory orders failed and orders did not reach the facility laboratory. Visibility of laboratory orders was affected by an EHR configuration in which orders could not be viewed at some stages in the workflow. Deficits in staff training contributed to facility staff's difficulty tracking orders. As a result, staff developed time-consuming work-arounds to confirm receipt of orders by laboratory staff.

⁸⁵ Merriam-Webster.com Dictionary, "stat," accessed November 26, 2021, <https://www.merriam-webster.com/dictionary/stat>. Stat is a Latin word meaning immediately.

⁸⁶ National VA TeleCritical Care Program, *Welcome to the National VA TeleCritical Care*, Tele-ICU services provide electronic monitoring for critically ill patients via bidirectional audiovisual technology, allowing remotely located critical care intensivists to comanage care in conjunction with a patient's bedside clinical team in the ICU.

Facility staff and leaders described broader concerns with configuration of the new EHR:

- Configuration introduced opportunities for human error.
- Configuration resulted in display fragmentation, with views of relevant patient health information organized by FIN, requiring providers to navigate between multiple screens to piece together clinical information. Display fragmentation negatively affected clinical care coordination and increased risk for errors.

The OIG determined that these deficiencies presented potential risks to patient safety and coordination of care if left unresolved.

Table 7. Summary of Laboratory Orders Allegations and Findings*

Laboratory Orders	Allegation	OIG Determination	Status
Workflow Errors	Some laboratory orders were “disappearing” and never reached the facility laboratory.	Substantiated	Unresolved
Tracking Orders	Laboratory orders were “disappearing” from the providers’ view at times, affecting coordination of care, as providers were unable to tell what had been ordered and if there was duplication in orders from other providers.	Substantiated	Unresolved
Tracking Orders	The new EHR lacked a way for providers to track laboratory orders.	Not Substantiated	Not Applicable
Delayed Results	Receipt of laboratory results were delayed.	Substantiated	Undetermined

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

7. Patient Portal and Secure Messaging

The OIG substantiated deficiencies in the functionality of the patient portal, which resulted in problems with patients’ access to secure messaging, following implementation of the new EHR. Initial concerns received by the OIG reported patients’ inability to access secure messaging in the new EHR. The OIG determined that patients’ inability to access the new patient portal, My VA Health, affected patient and facility communication through secure messaging as well as other patient portal functions.

The OIG’s detailed analysis follows, however, a brief [summary overview](#) of the inspection finding related to patient portal secure messaging is provided at the conclusion of this section.

Patient Portal and Secure Messaging Function

A patient portal is a secure, internet-based site that allows patients to interact with their healthcare team. Within VHA, the patient portal is used by patients to communicate securely online with their care teams, keep track of appointments, view current medication lists, request prescription refills, communicate about test results, and view or print a copy of information from their EHR. VA secure messaging is a web-based service, accessed through the patient portal, which facilitates electronic communication between patients and staff by streamlining communication to care teams for the exchange of non-urgent health information.⁸⁷ In some instances secure messaging may provide an alternative to an office visit or telephone call.

Loss of Access

The OIG substantiated deficiencies in accessibility of the My VA Health patient portal and secure messaging function following implementation of the new EHR.

The My HealtheVet patient portal, associated with the legacy EHR, was not interoperable with the new EHR. The My VA Health patient portal, designed to be compatible with the new EHR, was implemented as a replacement. In preparation for the transition to the new EHR, facility leaders issued a letter in early October 2020 advising patients of the pending transition to the new EHR on October 24, 2020, and instructing patients to use the new My VA Health as their patient portal as of that date. Following the implementation of the new EHR and corresponding My VA Health portal, many patients reported difficulties with accessing the new portal and inability to contact their care teams through secure messaging.

The facility's My HealtheVet Coordinator reported requesting volunteer assistance to field more than 300 voicemail messages from patients requesting help due to being unable to access the new My VA Health portal. The My HealtheVet Coordinator described some challenges patients experienced in accessing the new portal, including compatibility problems depending on the device and internet browser version being used. The My HealtheVet Coordinator reported that assisting patients telephonically to access the patient portal could require "up to an hour just walking them through this." Difficulties were also reported when the required two-factor authentication process pulled obsolete contact data for some patients' secondary verification, causing the authentication process to fail.⁸⁸ When outdated contact information was the barrier, subsequent steps were required for patients to request updates to their contact information, creating further delay. The My HealtheVet Coordinator described accessing the My VA Health

⁸⁷ VHA Handbook 1101.10(1), *Patient Aligned Care Team (PACT) Handbook*, October 24, 2020.

⁸⁸ Two-factor authentication permits a more secure method of network access than using only a username and password. Two-factor authentication sends a unique code to one of the user's registered contacts, such as a cell phone number or email address, which the user then inputs to log into the system.

portal as “quite cumbersome” in comparison with the legacy My HealtheVet portal and acknowledged many patients had expressed frustration with the change.

Additionally, the OIG was told that the My VA Health patient portal did not automatically populate patient and provider relationships to facilitate patient messaging to members of their assigned care teams. In the My HealtheVet portal, a patient’s primary care provider was pre-populated as the default at the top of a drop-down list in the messaging section, allowing patients to select the desired recipient from the pre-populated list. Other teams, such as Patient Advocate, Billing, Chaplains, and some specialty care providers seen within the past year were also pre-populated to the list. In the My VA Health portal, the recipient field for secure messaging did not include a pre-populated list of providers or care teams, and required patients to manually enter or search for the name of the intended recipient.

The facility’s My HealtheVet Coordinator reported the loss of the pre-populated care team listings created “mass confusion” among patients. Although a search option was available, the My HealtheVet Coordinator explained that some patients could not recall their providers’ names to conduct a search. Uncertainty regarding how to use the messaging function was a common enough patient complaint that the facility’s My HealtheVet Coordinator reported developing an explanation that addressed commonly asked questions that could be emailed to patients contacting the office for assistance with this issue.

Clinical staff described that the patient portal and secure messaging access problems directly affected staff workflow and coordination of patient care. Staff reported that walk-ins significantly increased because patients were unable to reach their care teams by other methods. One clinical staff member estimated the clinic was seeing “about 20 walk-ins a day simply because people can’t reach us.” A provider recounted concerns from multiple patients who were unable to request medication refills through the patient portal. The provider reported that patients were frustrated and would “resort to coming into the pharmacy in person” because “the phone delays are too long and they are not able to do it online.”

Status

In a May 2021 response to an OIG inquiry, VA OEHRM staff indicated that a root cause for the access problems was the security access configuration and rules that were blocking multiple internet browsers. In response, the VA Office of Information Technology implemented system fixes to improve accessibility of the patient portal. VA OEHRM staff indicated that system changes resolved many of the barriers to access; however, they noted that an issue remained with a system workflow related to authentication, and the VA Office of Information Technology was continuing work to resolve that issue at the time of the OIG’s review.

VA OEHRM staff reported that problems with outdated patient contact data affecting the two-factor authentication process had been resolved via marketing materials for patients that

explained how to view and update their contact information to ensure it was correct. VA OEHRM staff also noted that the process for updating contact information was shared with patients during calls fielded by Cerner staff, VA OEHRM staff, and facility patient advocate office staff when patients sought assistance for this issue.

Due to the identified difficulties with locating providers for secure messaging, VA OEHRM staff reported a system change request was initiated to link information from VHA’s Primary Care Management Module, which stores data on patient and provider relationships with the patient portal. Completion of this change would allow patients to select their associated providers from a drop-down list in the patient portal secure messaging function. VA OEHRM staff provided a status update regarding this planned enhancement, indicating the change should go into effect in June 2021.

Patient Portal and Secure Messaging Summary

The OIG substantiated deficiencies in the functionality of the patient portal and secure messaging following implementation of the new EHR. When the new EHR went live at the facility, many patients were unable to access the patient portal, affecting access to tools that supported coordination of care, such as secure messaging and online prescription refills. VA OEHRM staff reported that system changes completed by the VA Office of Information Technology resolved some causes of disruption in patient portal functionality, while other changes were in progress to resolve remaining issues.

Table 8. Summary of Patient Portal and Secure Messaging Allegation and Finding*

Patient Portal and Secure Messaging	Allegation	OIG Determination	Status
Loss of Access	Veterans were unable to access the patient portal and use secure messaging to contact their care teams in the new EHR.	Substantiated	Unresolved

Source: OIG analysis.

** Status of issues reflect the time frame from late January through early June 2021.*

8. Documentation Processes

The OIG substantiated that implementation of the new EHR resulted in some deficiencies and inefficiencies with documentation of coordination of care activities. Initial concerns received by the OIG cited system workflows that required generating between-visit encounters and FINs, which created additional work for providers, reduced efficiency, and increased opportunity for

documentation errors.⁸⁹ Initial concerns also cited problems related to staff's inability to access the patient EHR without creating a between-visit encounter (with a FIN), nurses' inability to create an encounter if the patient had never been seen by a provider, ICD-10 diagnostic codes not available in the EHR, and staff's inability to view patients' service-connected conditions in the new EHR.⁹⁰

The OIG's detailed analysis follows, however, a brief [summary overview](#) of the inspection findings related to documentation processes is provided at the conclusion of this section.

Documentation Functions

VHA policy on patient health records directs facilities to:

maintain complete, accurate, timely, clinically-pertinent, and readily-accessible patient health records, which contain sufficient recorded information to serve as a basis to plan patient care, support diagnoses, warrant treatment, measure outcomes, support education, research, and facilitate performance improvement processes and legal requirements.⁹¹

EHRs were implemented to enhance access to patient data by healthcare providers. An EHR serves as a historic record of a patient's care and a method of communication between providers and staff that facilitates the continuity of patient care and aids in clinical decision-making. Documentation in an EHR must be able to support the diagnoses, procedures, and ongoing treatment provided to a patient.

Alleged Inability to Access Patient EHRs

The OIG did not substantiate that staff were unable to access patient EHRs without creating a between-visit encounter and FIN. In discussions with staff, observations of staff using the new

⁸⁹ "Terms and Acronyms," VA OEHRM Cerner SharePoint website. Within the new EHR, the term encounter refers to a "[u]nique identifier that ties all pieces of a visit together," and the term Financial Identification Number (FIN) refers to "a unique number" that is "assigned to the patient for use by the hospital's billing/workload capture system." EHRM, *Between Visit Encounter Guide*, November 20, 2020. In the new EHR, clinical information is documented as a visit encounter or as a between visit encounter, and a new FIN is typically assigned to each encounter. To document clinical information outside of an in-person or virtual visit, the provider creates a between visit encounter (which generates a FIN) or selects an existing FIN (which is associated with an existing encounter) to document in the patient record.

⁹⁰ VA Technical Reference Model V.21.3, *International Classification of Diseases, 10th Revision, Procedural Coding System (ICD019-PCS)*. The International Classification of Disease (ICD-10) Procedure Coding System "is an international system of medical classification used for procedural coding performed in hospital inpatient health care settings. VA, *About VA disability ratings*, accessed May 17, 2021, <https://www.va.gov/disability/about-disability-ratings>. A service-connected condition refers to a medical condition that was incurred or aggravated in line of duty in active military service.

⁹¹ VHA Handbook 1907.01, *Health Information Management and Health Records*, March 19, 2015.

EHR, and review of VA OEHRM guidance on new EHR functionalities, the OIG learned that staff were able to locate and access patient records using patient names, medical record numbers, or FINs. In the new EHR, creation of between-visit encounters was not necessary for chart reviews, data mining, and other inquiries not requiring documentation. However, for purposes of documentation in a patient's EHR, use of an encounter created through a visit or through a between-visit encounter (with an associated FIN) was necessary. Staff were able to document in a patient's EHR by selecting the encounter associated with a visit, or, if the coordination of care occurred outside a patient visit, by using a between-visit encounter.

In discussions with staff, the OIG determined that deficiencies in staff training prior to go-live contributed to confusion about when use of between-visit encounters and FINs were necessary. The lack of sufficient role-specific training on workflows in documentation such as required uses for between-visit encounters affected staff's ability to locate patient information in the new EHR. While the OIG identified training deficits as a cause of reported difficulties, discussion with staff also highlighted concerns from frontline providers about system usability and navigation to support clinical workflows based on the system design. During interviews with the OIG, facility staff repeatedly described the system design, which linked and filtered display of patient information through specific FINs, as negatively affecting the usability of the new EHR. Some of those concerns have been referenced in earlier sections of the report and described issues regarding system design resulting in display fragmentation with views of patient information organized by FINs. Other concerns are discussed below.

Status

The OIG did not substantiate that staff were unable to access the patient EHR without creating a between-visit encounter and FIN.

Financial Identification Numbers for Between-Visit Encounters

The OIG substantiated that new EHR processes for use of between-visit encounters and associated FINs for documentation created additional work steps for providers, affected efficiency, and increased opportunities for documentation errors.

In the new EHR, clinical information is documented as a visit encounter or as a between-visit encounter. Between-visit encounters are created to document clinical actions and enter orders for patient care outside of an in-person or virtual visit.

The use of between-visit encounters was a deliberate system design decision, intended to capture workload associated with care provided between scheduled visits, which historically was not captured as provider productivity. The workflow to create a between-visit encounter required multiple steps. The OIG reviewed VA OEHRM guidance documents related to the use of

between-visit encounters. VA OEHRM guidance issued in April 2021 outlined different multi-step processes for creating a between-visit encounter in response to various scenarios:

- Patient-related communication
- Receipt of laboratory, pathology, or diagnostic result requiring orders to be placed
- Receipt of messages through the Message Center function requiring the provider to place further orders⁹²

The OIG did not attempt to quantify steps and the related impact on provider workflow because work steps differed depending on the clinical event or reason for creating the between-visit encounter.

The Chief of Primary Care described the process to create a between-visit encounter as a “clunky workflow” indicating the process was “extremely time consuming and frustrating.” The Chief of Behavioral Health described the process as “cumbersome and confusing.” One provider described the process as “death by mouse click.” The Chief of Primary Care informed the OIG that the issues with between-visit encounters have a “huge negative impact on our productivity.” A facility nurse observed the same, explaining that “it’s time consuming when you think about how many times we have to do it.”

The Chief of Behavioral Health also voiced concerns about the system design creating increased opportunity for human error, including potential for incorrect documentation and billing. The Chief of Behavioral Health explained that if staff select the wrong FIN, documentation is associated with the wrong encounter and workload is assigned incorrectly. The OIG’s review of Joint Patient Safety Reports identified a case wherein a referral for time-sensitive medical care was administratively canceled because the referral had been placed using an incorrect encounter and associated FIN, resulting in a delay in care for the patient. The OIG also identified tickets that illustrated how human errors associated with the system design had potential to affect patient care and jeopardize the integrity of patient information. For example, orders placed using an incorrect encounter and FIN resulted in a delay for stat laboratory orders populating to the laboratory’s worklist. Another ticket noted difficulties ensuring documentation was placed on the correct originating encounter and associated FIN to ensure communication back to the referring provider for coordination of care.

Status

At the time of the OIG’s review, staff remained concerned about the identified issues regarding the processes for between-visit encounters and use of FINs. Updated VA OEHRM guidance for

⁹² *Message Center* is an application in the new EHR for staff to send messages regarding patients. Providers can view patient’s results, and place and launch orders from Message Center.

between-visit encounters, issued on April 29, 2021, noted that “per recent decisions made to streamline the BVE [between-visit encounter] process” staff were not required to document workload credit in the between-visit encounter workflow, and “an alternative process for capturing workload credit is being explored.” The OIG was unable to determine the impact of this change on provider workload, efficiency, and documentation errors, as the change altered only part of the work steps, and between-visit encounters were still required to document changes in clinical data and enter orders outside of an in-person or virtual visit. The OIG observed that the noted change did not address the broader concerns expressed by staff regarding system usability and navigation to support clinical workflows and minimize errors.

Alleged Inability to Document New Patient Visits

The OIG did not substantiate the allegation that nurses were unable to create an encounter or generate a FIN if a patient had never been seen by a provider. The OIG’s discussions with service leaders and staff confirmed that members of a patient’s care team were able to document in the new EHR prior to the patient’s visit with the provider. However, some staff noted challenges in determining the correct encounter and FIN to use for documentation in certain circumstances.

Status

As noted above, the OIG did not substantiate the allegation that nurses were unable to create an encounter or generate a FIN if the patient had never been seen by a provider.

International Classification of Diseases, 10th Revision (ICD-10) Code Availability

The OIG substantiated that some ICD-10 diagnostic codes were unavailable in the EHR, affecting providers’ ability to correctly code patient diagnoses.

The ICD-10 system is an international methodology of medical classification used for “procedural coding” in health care settings. When a patient seeks medical care, the provider must determine the primary reason for the care and treatment provided. The patient’s diagnosis is documented in the EHR encounter using an ICD-10 code.

Staff interviewed by the OIG shared varying perspectives that ranged from some diagnostic codes were missing or difficult to locate in the new EHR to the ICD-10 search engine worked better in new EHR than in the legacy EHR.

The Chief of Behavioral Health noted challenges primarily related to the transition to use of ICD-10 diagnostic codes in the new EHR, which was a shift from the use of diagnostic codes based on the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) for

behavioral health diagnoses in the legacy EHR.⁹³ The Chief of Behavioral Health acknowledged some training issues around selection of the correct codes due to differences in the ICD-10 and DSM-5 diagnostic classifications and staff noted differences between ICD-10 diagnoses and DSM-5 diagnoses for some disorders.

The OIG's review of tickets identified that the inability to assign some ICD-10 codes in the new EHR was affected by gaps in content mapping between ICD-10 diagnostic codes and the Systematic Nomenclature of Medicine–Clinical Terms (SNOMED–CT) codes that served as the source for diagnostic and procedural codes within the EHR system available for providers' use when coding encounters.⁹⁴ While most frequently used ICD-10 codes were represented, some ICD-10 codes did not have corresponding terminology in SNOMED–CT. The OIG observed that ticket responses displayed inconsistent approaches to resolve the issue. Resolutions for different tickets included responses that SNOMED–CT would need to create a content mapping for the missing ICD-10 code, the provider should use the diagnoses available from SNOMED–CT, and a missing ICD-10 code was added to the system as requested.⁹⁵

Status

At the time of the OIG review, providers continued to report some diagnostic codes were unavailable, and the OIG's review of ticket responses through the end of March 2021 suggested that gaps in SNOMED–CT content mapping for some requested ICD-10 diagnostic codes remained.

Service Connection Status

The OIG substantiated that staff were unable to view patients' service-connected conditions in the new EHR.⁹⁶

⁹³ DSM-5, is a standardized classification of mental disorders used by practitioners to diagnose and treat mental health conditions.

⁹⁴ Systematic Nomenclature of Medicine–Clinical Terms (SNOMED–CT) is a standardized system of clinical terminology that was developed to provide a consistent approach to the exchange of medical information. SNOMED–CT was “designated as a US standard for electronic health information exchange” and “adopted for use by the US federal government.” SNOMED–CT nomenclature is contained in electronic files that can be imported into any database or other software applications.

⁹⁵ “The U.S. SNOMED CT Content Request System (US CRS) is available for users to request for new content or modifications to the SNOMED CT terminology.” National Library of Medicine, *SNOMED CT FAQs*, accessed June 1, 2021, <https://www.nlm.nih.gov/healthit/snomedct/faq.html>.

⁹⁶ 38 U.S.C. § 101. The phrase “service-connected means, with respect to disability or death, that such disability was incurred or aggravated, or that the death resulted from a disability incurred or aggravated, in line of duty in the active military, naval, or air service.”

Generally, “veterans do not pay for care related to service-connected conditions.” Care for service-connected conditions must be accurately documented to ensure the patient is not billed for the services provided.

Staff described initial problems with viewing patients’ service-connected conditions in the EHR noting this was related to restrictions in the view available to nurses based on user role as well as failure of the system workflow used to launch the view of detailed service connection information. One staff member reported that the workflow problem had been fixed but some staff were unaware of the restored functionality.

The OIG’s review of tickets revealed the workflow design that permitted staff to view service-connected information in the Ambulatory Workflow was missing or non-functional after the new EHR go-live. Multiple tickets reported that the service-connected link did not launch to allow the staff to view and select the patient’s service-connected condition, which was necessary for accurate documentation. Ticket dates suggest the workflow errors occurred during the weeks immediately following go-live of the new EHR.

Additional concerns shared about the process for accessing service connection information echoed previous themes regarding the new EHR configuration creating a fragmented view of patient health information and affecting provider efficiency due to the need to navigate through different parts of the EHR to collect relevant patient data. Staff described being unable to view the information directly from the encounter, with one provider describing “you have to click and click and click.”

VA OEHRM staff released additional guidance for staff in May 2021, which detailed the steps for accessing patient service connection information. Based on staff interviews and the VA OEHRM guidance documents reviewed, the OIG was unable to determine if the May 2021 guidance reflected improvements to enhance functionality of the workflow for accessing a patient’s service-connected information, or whether such functionality previously existed but was not used due to deficits in staff training.

Status

The OIG’s analysis of available data suggested that the system errors that resulted in inability of some staff to view patient’s service-connected conditions were resolved. VA OEHRM staff indicated that role-based limitations affecting the ability of nurses to view service connection information were a result of decisions in the initial system design; however, an expansion of that capability was approved with the change targeted for completion in June of 2021.

Documentation Processes Summary

The OIG substantiated that the implementation of the new EHR resulted in some deficiencies with documentation processes. The process for generating between-visit encounters and FINs

created additional work for providers, reduced efficiency, and increased opportunity for documentation errors. The use of between-visit encounters was a deliberate system design decision, intended to improve workload capture, but the associated processes had impractical implications for clinical workflow and affected staff perceptions of system usability.

The OIG substantiated that some ICD-10 diagnostic codes were not available in the new EHR. Although the lack of ICD-10 codes did not directly affect patient safety, missing codes hindered the ability of staff to precisely document management of diseases and health conditions. Based on staff reports, additional content mapping may be needed to address gaps in SNOMED-CT content and some requested ICD-10 diagnostic codes in the new EHR.

The OIG substantiated that some staff were unable to view patients' service-connected conditions in the new EHR. OIG's analysis of available data suggested that system errors resulting in the inability of some staff to view patient's service-connected conditions were resolved, and the planned removal of role-based limitations for viewing service-connected conditions was approved, with the change targeted for completion in June of 2021.

While the OIG did not substantiate all allegations received related to documentation processes, facility staff reported experiencing challenges in effectively navigating and using some of the new EHR capabilities. The OIG identified insufficient end user training as a main source of the difficulties and misperceptions about certain new EHR functionalities. In interviews with facility staff and observation of staff navigation in the new EHR to perform care-related tasks, the OIG observed an overarching theme related to the new EHR system design and workflows that caused display fragmentation in staff views of patient health care data. Fragmented views of patient health information can negatively affect coordination of care and provider efficiency, as well as increase risks for errors. Complex or time-consuming navigation through the EHR to accomplish tasks associated with clinical care documentation negatively affected staff perceptions of system usability.

Table 9. Summary of Documentation Process Allegations and Findings*

Documentation Processes	Allegation	OIG Determination	Status
FINs and Chart Access	Staff were unable to access the patient chart without using a between-visit encounter and FIN.	Not Substantiated	Not Applicable
FINs for Between-Visit Encounters	The process for using FINs in the new EHR for documentation occurring between visits created additional work for providers, reduced efficiency, and increased opportunities for documentation errors.	Substantiated	Unresolved
Nurse Documentation for New Patients	Nurses were unable to create an encounter or generate a FIN if the patient had never been seen by a provider.	Not Substantiated	Not Applicable
International Classification of Diseases, 10th Revision (ICD-10) Code Availability	Many ICD-10 diagnostic codes were not available in the new EHR, affecting providers' ability to correctly code patient diagnoses.	Substantiated	Unresolved
Service Connection Status	Staff were unable to view patients' service-connected conditions in the new EHR, affecting providers' ability to document care as related to specific service-connected conditions.	Substantiated	Resolved

Source: OIG analysis.

* Status of issues reflect the time frame from late January through early June 2021.

Conclusion

The OIG conducted an inspection to assess a range of allegations received by the OIG regarding clinical care coordination challenges associated with implementation of the new EHR.

The OIG categorized the allegations reviewed into eight categories and identified deficiencies in multiple areas:

- Patient record flags
- Data migration of incorrect patient names, genders, and contact information
- Scheduling processes
- VA Video Connect functioning
- Referral management
- Laboratory orders
- Patient portal and secure messaging
- Staff documentation and encounter processes

At the time of the OIG's inspection, many of the identified problems remained unresolved. The OIG is concerned that further deployment of the new EHR without resolution of the deficiencies presents risks to patient safety.

Further discussion of allegations related to medication management issues after go-live, ticket process concerns identified by the OIG during evaluation of the allegations, and underlying factors related to all substantiated allegations can be found in the companion reports of the OIG's trilogy of reports on this matter.

Recommendation

The Deputy Secretary ensures that substantiated and unresolved allegations noted in this report are reviewed and addressed.

Appendix A: Electronic Health Record Modernization

In the 1980s, VA developed one of the earliest EHRs that became Veterans Health Information Systems and Technology Architecture (VistA) in 1996.⁹⁷ VistA is a comprehensive health information system and EHR that provides all capabilities required for VA clinical, business, and administrative processes, and serves an essential role in VA's healthcare delivery mission. In June 2017, former VA Secretary David Shulkin determined that a "substantial investment" was required in order to maintain and improve VistA's operational capability, and "keep pace with the improvements in healthcare information technology and cybersecurity." Further, after many years of attempting to achieve EHR interoperability, VA and the DoD were unable to adopt the same EHR or create a congressionally required interoperable medical record platform.

In February 2017, the DoD began deployment of its new EHR, known as Military Health System (MHS) GENESIS. At its core, MHS GENESIS is the commercial EHR developed by Cerner. On June 1, 2017, former VA Secretary David Shulkin announced it to be in the public's interest to contract with Cerner to have a common EHR platform across VA and the DoD.⁹⁸ In this announcement, Secretary Shulkin determined that VA may issue a solicitation directly to Cerner for the acquisition of the EHR system that the DoD was deploying.

On May 17, 2018, former Acting VA Secretary, Robert Wilkie announced that the VA had signed a \$10 billion contract with Cerner to transition to a new EHR. Since the new VA-wide EHR would share the same commercial software platform and data hosting environment as the DoD EHR, VA would further benefit from the DoD's recent early deployment experience.⁹⁹ DoD began the rollout of MHS GENESIS in Spokane, Washington, on February 7, 2017, at Fairchild Air Force Base, and continued that roll out at additional sites in the Pacific Northwest. The DoD's early EHR deployments faced multiple delays and setbacks. DoD shared lessons learned to assist and guide VA's deployment strategy.¹⁰⁰

To oversee the VA new EHR deployment, the VA OEHRM was established in June 2018.¹⁰¹ VA OEHRM responsibilities include management of the preparation, deployment, and maintenance

⁹⁷ "History of IT at VA," DigitalVA, accessed January 31, 2020, <https://www.oit.va.gov/about/history.cfm>. Within the context of this report, the VistA system is referred to as the legacy EHR. Office of Information and Technology, *VA Monograph*, January 13, 2017, accessed January 11, 2020, https://www.va.gov/VISTA_MONOGRAPH/VA_Monograph.pdf.

⁹⁸ VA, Office of the Secretary, *Determination and Findings*, June 1, 2017.

⁹⁹ The United States Senate confirmed Robert Wilkie as the Secretary of VA on July 23, 2018. Mr. Wilkie was the Acting Secretary from March 28 to May 29, 2018.

¹⁰⁰ VA OEHRM staff reported that DoD shared lessons learned to inform EHR configuration decisions.

¹⁰¹ VA Establishes Office of Electronic Health Record Modernization to Support Transition from Legacy Patient Data System," accessed June 17, 2021, <https://www.va.gov/opa/pressrel/pressrelease.cfm?id=5084>.

of the new EHR.¹⁰² VA OEHRM leadership includes an Executive Director, Chief Medical Officer, and Chief Technology Integration Officer.¹⁰³

EHRM Milestones

March 28, 2020. The facility was scheduled to be the first VHA medical center to implement the new EHR. However, on February 10, 2020, a VA spokesperson announced the new EHR's deployment would be postponed, six weeks prior to the intended go-live date, as the new EHR was only "75-80 percent" ready.

April 3, 2020. The former VA Secretary informed Congress that the COVID-19 pandemic necessitated a shift in overall priorities and directed that VA OEHRM efforts take a non-intrusive posture with VHA healthcare operations to ensure that health care at VHA facilities was not impeded. As reported by a facility staff member, when the COVID-19 pandemic caused facility priorities to shift, only a limited number of staff continued new EHR-related work.

August 7, 2020. VA announced that activities at the facility for an October go-live of the new EHR had resumed.¹⁰⁴ VA work not directly involving facility staff had continued during the COVID-19 pandemic delay. VA work during that time included infrastructure readiness requirements at the facility and completion of the requisite 73 interfaces for go-live, including design, build, connectivity, and technical testing requirements.¹⁰⁵

October 24, 2020. Facility providers and administrators began using the new EHR for clinical and administrative work.

March 19, 2021. Nearly five months after the go-live of the new EHR at the facility, VA announced that an ongoing analysis of the facility's new EHR post-deployment activities had prompted a "strategic review" and "need for a schedule shift" of future go-live sites. The review was planned to last less than 12 weeks. The VA Secretary commented:¹⁰⁶

A successful EHR deployment is essential in the delivery of lifetime, world-class health care for our Veterans....After a rigorous review of our most-recent deployment at Mann-Grandstaff VA Medical Center, it is apparent that a strategic

¹⁰² On June 25, 2018, the former Acting VA Secretary, Peter M. O'Rourke, established VA OEHRM.

¹⁰³ "Leadership," VA Office of Electronic Health Record Modernization, accessed January 17, 2020, <https://www.ehrm.va.gov/about/bios>.

¹⁰⁴ VA, *VA Responds to COVID-19 with Schedule Revisions to Electronic Health Record Implementation*, accessed October 22, 2020, <https://www.ehrm.va.gov/news/article/read/va-responds-to-covid-19-with-schedule-revisions-to-electronic-health-record-implementation>.

¹⁰⁵ The VA OEHRM Director of Change Management opined that, in hindsight, the lack of VA OEHRM contact during this period was a significant factor, which hindered Change Management's ability to prepare facility staff for the upcoming transition.

¹⁰⁶ "VA announces strategic review of Electronic Health Record Modernization program."

review is necessary. VA remains committed to the [Cerner] solution, and we must get this right for Veterans.

In the role of Acting Deputy Secretary, Dr. Carolyn Clancy, led the strategic review effort with frequent engagement from VA Secretary Denis McDonough.

July 2021. The VA published the initial results of the strategic review through the Comprehensive Lessons Learned Report. The VA identified key areas “to ensure the success of future deployments and to prevent and reduce issues at future sites”:

- Improving the veteran experience
- Ensuring patient safety
- Providing extended training to frontline employees
- Building confidence at VA sites
- Implementing organizational and program improvements
- Improving operational efficiencies
- Making governance effective
- Centralizing data management for workers and veterans¹⁰⁷

December 2021. The VA announced an updated deployment plan for the new EHR. The plan included a revised deployment schedule and outlined changes in management and governance of EHRM “to address previously identified organizational challenges with limited stakeholder inputs in decision-making, accountability, and information sharing transparency.”¹⁰⁸ The future EHRM management structure announced by VA did not include VA OEHRM staff and identified a new position to lead the VA’s EHRM, the Program Executive Director for EHRM Integration, working under the Deputy Secretary.¹⁰⁹

¹⁰⁷ “Electronic Health Record Comprehensive Lessons Learned Report,” VA Electronic Health Record Modernization, accessed January 12, 2022, https://federalnewsnetwork.com/wp-content/uploads/2021/07/071421_va_ehr_lessonslearned_FNN.pdf. The VA’s report summarized the results of a strategic review of the new EHR’s deployment.

¹⁰⁸ VA Office of Public and Intergovernmental Affairs “VA advances Electronic Health Record Modernization program,” news release December 1, 2021, <https://www.va.gov/opa/pressrel/pressrelease.cfm?id=5745>.

¹⁰⁹ VA Office of Public and Intergovernmental Affairs, *Electronic Health Record: Comprehensive Lessons Learned, Progress Update, November 2021*, accessed December 1, 2021, <https://www.va.gov/opa/docs/EHRM-Comprehensive-Lessons-Learned-Progress-Update-FINAL-11-29-21.pdf>. “VA Advances Electronic Health Record Modernization.”

Appendix B: Prior OIG Reports

The following is a summary of facility or new EHR-related reports released by the OIG since 2020.

In a report issued November 10, 2021, the OIG conducted an audit of VHA and VA OEHRM's implementation of the patient scheduling component of the new EHR at two sites, the Chalmers P. Wylie VA Ambulatory Care Center in Columbus, Ohio, and the Mann-Grandstaff VA Medical Center in Spokane, Washington. The OIG made eight recommendations to address deficiencies with training and implementation of the new EHR's scheduling system.¹¹⁰ As of December 1, 2021, eight recommendations remained open.

The OIG also reviewed training for the facility's transition to the new EHR. In a report issued July 8, 2021, the OIG made 11 recommendations to address deficiencies related to EHR training content and delivery, the evaluation of training, Cerner's contractual performance for training, reviewing governance of the EHRM effort, establishment of a group with expertise in VHA operations and Cerner electronic health record use, tracking EHR patient complaints, and assessing employee morale.¹¹¹ As of December 1, 2021, 11 recommendations remained open.

The OIG conducted an audit of VA's development and reporting of cost estimates for IT upgrades needed to support the EHRM program. The OIG made six recommendations related to ensuring an independent cost estimate, reassessing the cost estimate for program-related IT infrastructure upgrades in accordance with VA-cost-estimating standards, development of procedures in alignment with VA cost estimate guidance, ensuring cost estimates for all IT infrastructure upgrades are disclosed in the program life-cycle cost estimated presented to Congress, formalizing agreements with Office of Information and Technology and VHA to identify expected funding contributions from each entity, and establishing procedures for updating life-cycle cost estimates and ensuring disclosure in congressionally mandated reports.¹¹² The report was issued July 7, 2021; as of December 1, 2021, six recommendations remained open.

The OIG conducted an audit of VA's development and reporting of costs estimates for physical infrastructure upgrades necessary to support the new EHRM program. The OIG made five recommendations related to ensuring an independent life-cycle cost estimate including physical and infrastructure costs, VHA development of a cost estimate for physical infrastructure

¹¹⁰ VA OIG, [New Patient Scheduling System Needs Improvement as VA Expands Its Implementation](#), Report No. 21-00434-233, November 10, 2021.

¹¹¹ VA OIG, [Training Deficiencies with VA's New Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington](#), Report No. 20-01930-183, July 8, 2021.

¹¹² VA OIG, [Unreliable Information Technology Infrastructure Cost Estimates for the Electronic Health Record Modernization Program](#), Report No. 20-03185-151, July 7, 2021.

upgrades in accordance with VA-cost-estimating standards, incorporation and updating of upgrade costs in facility assessments, and disclosure of costs to Congress.¹¹³ The report was issued May 25, 2021; as of December 1, 2021, five recommendations remained open.

In a facility-related report issued April 27, 2020, the OIG reviewed the new EHR's implementation to evaluate the potential impact of the transition on access to care, as well as the capabilities that would be initially available. The OIG made eight recommendations to address the impact of the transition to the new EHR.¹¹⁴ As of December 1, 2021, three recommendations remained open.

A separate report was issued the same day in which the OIG examined VA's physical and IT infrastructure to determine readiness to proceed with EHR implementation and to identify infrastructure challenges that could affect the overall system deployment schedule. The OIG made eight recommendations to address infrastructure-related deficiencies.¹¹⁵ As of December 1, 2021, three recommendations remained open.

On January 8, 2020, the OIG issued another facility-related report that addressed concerns with a departure of providers, inadequate staffing leading to intensive care unit closure, decreased operating room availability, and a temporary leadership appointment. The OIG found that facility leaders were aware of the concerns and had made management decisions to address them. The OIG did not find that the identified concerns were problematic. The OIG recommended that the Facility Director act to ensure that patients have timely access to care.¹¹⁶ As of February 23, 2021, no recommendations remained open.

¹¹³ 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.

¹¹⁴ VA OIG, [*Review of Access to Care and Capabilities during VA's Transition to a New Electronic Health Record System at the Mann-Grandstaff VA Medical Center, Spokane, Washington*](#), Report No. 19-09447-136, April 27, 2020.

¹¹⁵ VA OIG, [*Deficiencies in Infrastructure Readiness for Deploying VA's New Electronic Health Record System*](#), Report No. 19-08980-95, April 27, 2020.

¹¹⁶ VA OIG, [*Review of Staffing and Access Concerns at the Mann-Grandstaff VA Medical Center, Spokane, Washington*](#), Report No. 19-09017-64, January 8, 2020.

Appendix C: Deputy Secretary Memorandum

Department of Veterans Affairs Memorandum

Date: March 1, 2022

From: Deputy Secretary (001)

Subj: Healthcare Inspection—Care Coordination Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington (Project Number 21-0078-HI-1132) (VIEWS 5431282)

To: Assistant Inspector General for Healthcare Inspection (54)

1. Thank you for the opportunity to review the Department of Veterans Affairs (VA) Office of Inspector General (OIG) draft report “Care Coordination Deficiencies After the New Electronic Health Record Go-Live at Mann-Grandstaff VA Medical Center in Spokane, Washington.” The report contains one recommendation for the Deputy Secretary.
2. I concur with the recommendation in this report. I have included as an attachment to this memorandum an action plan jointly developed by the Electronic Health Record Modernization Integration Office (EHRM IO) and the Veterans Health Administration to address the recommendation.
3. Please contact the EHRM IO Program Executive Director with questions.

(Original signed by:)

Donald M. Remy

Attachment

Deputy Secretary Response

Department of Veterans Affairs
Deputy Secretary Response to the VA OIG Draft Report
Care Coordination Deficiencies After the New Electronic Health Record Go-Live at
Mann-Grandstaff VA Medical Center in Spokane, Washington
Project #21-00781-HI-1132

Recommendation

The Deputy Secretary ensures that substantiated and unresolved allegations noted in this report are reviewed and addressed.

VA Response: Concur with comment.

Target Date for Completion: May 10, 2022

Comments

The Department of Veterans Affairs (VA) will review and address all substantiated and unresolved allegations cited in this report. The Electronic Health Record Modernization Integration Office (EHRM IO) and the Veterans Health Administration (VHA) are engaged in a “Get Well” plan to evaluate all identified problem sets and develop action plans for any unresolved issues. Since the timeframe identified in the report (January 2021 to June 2021), EHRM IO and VHA have already coordinated to address 5 of the 16 substantiated and unresolved allegations cited in this report:

- Issue: Delays in Primary Care Appointments.
Allegation: New EHR issues caused delays in scheduling primary care appointments.
Resolution: VA conducted an optimization and advancement series that provided additional training to improve appointment scheduling.
- Issue: Appointment Reminders—Insufficient Information.
Allegation: Appointment reminders were inadequate and did not provide locations for appointments.
Resolution: Multiple incremental changes to improve this functionality have been implemented since go-live.
- Issue: Appointment Reminders—Insufficient Telehealth Designation.
Allegation: Appointment reminders did not specify when appointments were telephone visits rather than in-person appointments, resulting in patients presenting in person for telephone appointments.
Resolution: Multiple incremental changes to improve this functionality have been implemented since go-live.

Issue: Lost or Not Addressed Referrals.

Allegation: Referrals were being lost or not addressed because of difficulties in the referral management processes in the new EHR.

Resolution: Lost referrals were resolved with the “Refer To” location field requirement, which was implemented in August 2021 with Block 5.

Issue: Referrals within the Same Service.

Allegation: Deficits in the new EHR resulted in difficulties placing referrals between different programs in the same service, which could affect care coordination and result in lapses in care.

Resolution: Lost referrals were resolved with the “Refer To” location field requirement, which was implemented in August 2021 with Block 5.

VA seeks additional information from the Office of the Inspector General (OIG) investigators regarding two of the substantiated allegations (Laboratory Orders—Workflow Errors and Laboratory Orders—Delayed Results) prior to responding. VA will work with OIG to clarify these issues in order to achieve and communicate an effective resolution for each.

Appendix D: Under Secretary for Health Memorandum

Department of Veterans Affairs Memorandum

Date: February 14, 2022

From: Deputy Under Secretary for Health, Performing the Delegable Duties of the Under Secretary for Health (10)

Subj: OIG Draft Report, Healthcare Inspection—Care Coordination Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington (2021-00781-HI-1132) (VIEWS 5431282)

To: Office of the Assistant Inspector General for Healthcare Inspections (54)

1. Thank you for the opportunity to review and comment on the Office of Inspector General draft report Care Coordination Deficiencies after the New Electronic Health Record Go-Live at Mann-Grandstaff VA Medical Center in Spokane, Washington. The Veterans Health Administration concurs with the action plan developed by the Office of Electronic Health Record Modernization and is committed to supporting it.
2. Comments regarding the contents of this memorandum may be directed to the GAO OIG Accountability Liaison Office at VHA10BGOALACTION@va.gov.

(Original signed by:)

Steven L. Lieberman, M.D.

Appendix E: VISN Director Memorandum

Department of Veterans Affairs Memorandum

Date: February 1, 2022

From: Director, VA Northwest Network (10N20)

Subj: Healthcare Inspection—Care Coordination Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington

To: Under Secretary for Health (10)

1. VISN 20 acknowledges receipt of the report and appreciates the review completed by the VA Office of Inspector General.
2. In review of the report, we note that there were no recommendations for the Mann-Grandstaff VA Medical Center or VISN 20 Office. VISN 20 remains committed to a safe implementation of the new electronic health record (EHR) and will support actions to effectively address the recommendations.
3. VISN 20 appreciates the ongoing dedication of the Mann-Grandstaff VA Medical Center staff to Veterans throughout the activation of the new EHR.

(Original signed by:)

Teresa D. Boyd, DO

Appendix F: Facility Director Memorandum

Department of Veterans Affairs Memorandum

Date: February 1, 2022

From: Medical Center Director, Mann-Grandstaff VAMC (668/00)

Subj: Healthcare Inspection—Care Coordination Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington

To: Director, Northwest Network (10N20)

1. The Mann-Grandstaff VA Medical Center acknowledges receipt of the report and appreciates the review completed by the VA Office of Inspector General.
2. In review of the report, we note that there were no recommendations for the Mann-Grandstaff VA Medical Center.
3. Mann-Grandstaff VA Medical Center remains committed to a safe implementation of the new electronic health record (EHR) and will support actions to effectively address the recommendations.

(Original signed by:)

Robert J. Fischer, MD
Medical Center Director

OIG Contact and Staff Acknowledgments

Contact	For more information about this report, please contact the Office of Inspector General at (202) 461-4720.
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