STATEMENT OF DEPUTY INSPECTOR GENERAL DAVID CASE
OFFICE OF INSPECTOR GENERAL, DEPARTMENT OF VETERANS AFFAIRS
BEFORE THE
SUBCOMMITTEE ON TECHNOLOGY MODERNIZATION
U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON VETERANS' AFFAIRS
HEARING ON
PROTECTING OUR VETERANS: PATIENT SAFETY AND THE ELECTRONIC
HEALTH RECORD MODERNIZATION PROGRAM
July 27, 2022

Chairman Mrvan, Ranking Member Rosendale, and Subcommittee members, thank you for the opportunity to discuss the Office of Inspector General's (OIG's) oversight of the Department of Veterans Affairs' electronic health record modernization (EHRM) program and the new system's impact on patient safety. I am accompanied by Dr. Julie Kroviak, Principal Deputy Assistant Inspector General for our Office of Healthcare Inspections, who is a physician and a former medical director of a VA community-based outpatient clinic.

The OIG has maintained a keen focus on VA patient safety programs and efforts to develop the "culture of patient safety" and accountability across all VHA facilities. Although we recognize the laudable efforts by VA personnel to put patients first, our oversight reports detail failures related to leadership actions—and often inactions—that have exposed veterans to unnecessary risk and harm. While the OIG appreciates the enormity and complexity of converting the electronic health record (EHR) across the nation's largest integrated healthcare system, unremediated problems in the transition carry significant risks to quality health care and patient safety at the deployment sites. Leaders across the enterprise must be intensely focused on patient safety at every interaction to mitigate these risks. The success of this EHR implementation is dependent on VA's transparency, fully developed planning, and recognition and remediation of patient safety concerns—not only identified by our oversight work, but by their own experts and end users that navigate and rely on the functions of the EHR for everyday clinical decision-making.

Over the two-plus years that OIG staff have been repeatedly engaging with employees at the first deployment site—the Mann-Grandstaff VA Medical Center (VAMC) in Spokane, Washington—and other VA locations transitioning to the new EHR, we have seen VA personnel's unwavering commitment to patients while navigating unprecedented challenges during the COVID-19 pandemic. Their challenges have been exacerbated, however, by the persistent problems that the OIG and other entities have identified in numerous oversight reports published since April 2020.

The OIG published 14 reports addressing the EHRM program and system implementation between April 2020 and July 2022 with a total of 68 recommendations (see appendix A). They are meant to help VA improve deployment of the new system and support its use for the provision of prompt, quality health care for veterans. Satisfactorily completing the corrective actions associated with the OIG recommendations can reduce risks to patient safety and help advance high-caliber care as the new EHR system rolls out nationwide. Fully addressing OIG recommendations can also help minimize considerable cost escalations and delays in future site deployments. The OIG is extremely concerned about the six recommendations that have been open (not implemented or fully addressed) for longer than two years—with 24 total recommendations open for more than one year. While the OIG follows up with VA on open recommendations every 90 days, VA program officials can submit evidence of sustained progress or satisfaction of corrective actions at any time to facilitate closing recommendations as implemented.

Over the past year, the OIG has been examining how the new EHR has been affecting users and patients. Most recently, the OIG determined that the new EHR system directed thousands of medical orders to an "unknown queue" that was not evident to the clinical and administrative staff responsible for addressing them. The OIG also found that the Veterans Health Administration (VHA) determined the lack of knowledge and maintenance of the unknown queue created significant risk and caused harm to nearly 150 veterans. As recently as July 2022, hundreds of orders remained in the unknown queue across VA sites implementing the new system. The Deputy Secretary's response to the unknown queue report asserted that issues with the unknown queue have been resolved. However, VA stated that mitigation work continues, and Oracle Cerner leadership confirmed in Congressional testimony last week that further technology updates are required.[1]

Three OIG reports released in March 2022 identified EHR implementation issues related to medication management, care coordination, and the ticketing process used by staff to request help and resolve problems. A year after going live, the Mann-Grandstaff VAMC was also found to be lacking key metrics from the new EHR needed to manage medical facilities' organizational performance, patient safety trends, and timely access to quality care.

The OIG's focus on patient safety aspects of the EHRM program can be traced back to an April 2020 report about VA's readiness to "go live" at the Mann-Grandstaff VAMC. The report outlined the potential impact of VA's transition to the new EHR on patients and the many mitigations needed to handle the initially unavailable system capabilities.[2] The OIG found the facility was also not staffed adequately for the transition, and the work-around for the electronic prescription refill process presented

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[1] Cerner Corporation was acquired by Oracle Corporation on June 7, 2022, and is now called Oracle Cerner; however, this statement will refer to the entity as "Cerner," as it was referred to at the time of the reviews discussed in this statement.

[2] VA OIG, *Review of Access to Care and Capabilities during VA's Transition to a New Electronic Health Record at the Mann-Grandstaff VA Medical Center Spokane Washington*, April 27, 2020.

significant concerns about affected patients' ability to fill critical medications. (These medication management concerns were later borne out in the OIG's April 2022 report, discussed below.) The 2020 report included eight recommendations, of which three—related to staffing and minimizing the need for continuous risk-mitigation strategies—remain open. The recommendations can be found in appendix B.

The OIG's Office of Healthcare Inspections has issued five reports in 2022, detailed below, examining the effects of the new system's implementation on patients and VA staff.

THE NEW EHR'S UNKNOWN QUEUE CAUSED MULTIPLE EVENTS OF PATIENT HARM (JULY 2022 REPORT)

This review assessed a safety concern with the new EHR that resulted in patient harm.[3] The OIG found that the new EHR allowed thousands of orders for medical care to go to a location, "the unknown queue," that was not clearly visible to providers. Insidiously, the providers were not made aware the orders went to this unintended location. In May 2021, after the Veterans Health Administration (VHA) identified EHR-related patient safety concerns, a VHA National Center for Patient Safety team went to the Mann-Grandstaff VAMC. In late 2021, the VHA team drafted a report where they ranked dozens of safety concerns based on severity, identifying the "unknown queue" as one of the most severe.

Information about harm to patients due to the new EHR system was presented to the VA deputy secretary in November 2021. In December 2021, the deputy secretary forwarded information about harms due to the unknown queue to the executive director of the Electronic Health Record Modernization Integration Office (EHRM IO).[4] Looking back to October 24, 2020, through May 8, 2022, VHA identified 1,134 total patient safety events related to the new EHR. VHA's analysis identified one catastrophic patient harm (death or major permanent loss of function) and two major patient harm cases (permanent lessening of bodily functioning), one of which was related to the unknown queue.[5]

The intent of the unknown queue is to capture orders entered by healthcare providers that the new EHR cannot deliver to the intended location. The design of the new EHR allowed providers to select locations from a drop-down menu that, depending on the specific clinical order, would not be recognized as a "match" by the system. This "mismatch" would ultimately send orders to an unknown queue and not to

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[3] VA OIG, *The New Electronic Health Record's Unknown Queue Caused Multiple Events of Patient Harm*, July 14, 2022.

[4] In 2021, VA transitioned EHRM program management from the Office of Electronic Health Record Modernization (OEHRM) to the EHRM IO. EHRM IO now has responsibility for all recommendations previously assigned to OEHRM.

[5] "Catastrophic harm is defined by VA as "death or major permanent loss of function (sensory, motor, physiologic, or intellectual) **not related to the natural course of the patient's illness or underlying condition** (i.e., acts of commission or omission)." Major harm is defined by VA as "permanent lessening of bodily functioning (sensory, motor, physiologic, or intellectual) **not related to the natural course of the patient's illness or underlying condition** (i.e., acts of commission or omission)." [bolding in original] VHA National Center for Patient Safety, *"Guidebook for Assessing Reported Adverse Events,"* ver.1, May 2020.

the requested service location to initiate the ordered care. Notably, the new EHR did not alert the healthcare providers that the order was not delivered to the intended location.
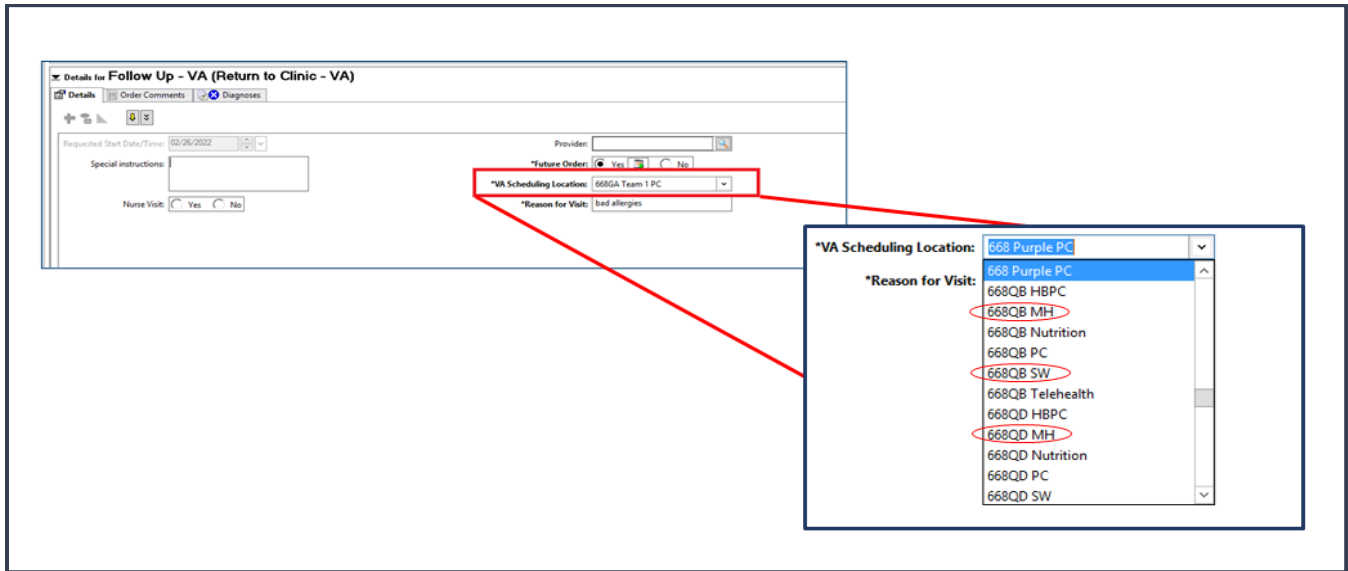
The circled items in the figure above illustrate how locations included in the drop-down list were not matched and, if chosen, would send the order to the unknown queue. Orders from care providers began populating the unknown queue immediately after the facility went live. VHA staff had to re-input the orders after discovering the issue, expending many hours of labor at this point and then during the subsequent VHA clinical reviews that assessed the harm patients may have suffered. Cerner did take steps with VA to mitigate the problem at Mann-Grandstaff VAMC by removing unmapped locations in September 2021. As of February 2022, an alert is sent if a provider creates an order with an unmapped location. However, prior to March 2022, VHA could not generate a report of unknown queue orders itself. Cerner acknowledged that the unknown queue's ongoing risk would require mitigation at future go-live sites, noting the need to continuously reinforce the guidance on managing the queue.

The OIG found that Cerner did not inform VA end users of the unknown queue or provide guidance to address the unknown queue in advance of going live with the new EHR. A Cerner vice president, who was identified by the company's general counsel as a subject matter expert on the unknown queue, similarly reported having no knowledge that VA was told about it before going live. Following the OIG's transmittal of the draft report to VA in June 2022, Cerner provided EHRM IO with documentation that asserted a VA leader approved the use of the unknown queue in January 2020. However, that VA leader and their supervisor told OIG staff they had no awareness of the unknown queue prior to going live.

The OIG also determined that the unknown queue created significant patient risks and caused harm to multiple patients. VHA itself assessed the risk as major severity, frequently occurring, and very difficult to detect, and initiated a clinical review in June 2021 to ensure orders were acted on and to assess

patients for harm. The clinical reviewers conducted 1,286 assessments and identified 148 adverse events (with an additional one later found by VHA to be a major harm, bringing the total to 149) for patients:

- Major harm: 2
- Moderate harm: 52
- Minor harm: 95

In one example of major harm, a provider entered a psychiatric care order for a patient experiencing homelessness and identified as at-risk for suicide. The new EHR sent the order to the unknown queue. The patient was not scheduled for follow-up care and later contacted the Veterans Crisis Line reporting a razor in hand and a plan to take their own life. The patient was hospitalized for psychiatric care.

The OIG has concerns with the effectiveness of the plan to mitigate the unknown queue's safety risk. Facility leaders reported using the mitigation process to monitor and manage the queue but shared that steps in the process could still lead to orders remaining in the queue. In June 2022, when the OIG met with VA leaders to discuss this report, VA said that work to address the unknown queue was considered complete and that, on average, there were 28 orders in the unknown queue report. However, on that day, the OIG generated a report showing 522 total orders across the six VA facilities using the new EHR. The OIG made two recommendations, found in appendix C, that are both open.

DEFICITS WITH METRICS FOLLOWING IMPLEMENTATION OF THE NEW EHR AT THE MANN-GRANDSTAFF VAMC (JUNE 2022 REPORT)

This report examines the availability and use of EHR performance metrics more than a year after VA's go-live date at the Mann-Grandstaff VAMC.[6] The OIG conducted this review because of the potential for vulnerabilities in data reporting and analysis following the new EHR deployment that are used to inform medical facility leaders' decisions. The OIG found that metrics no longer available due to the new EHR transition impaired the facility's ability to measure and act on issues of organizational performance, quality of care and patient safety, and access to health care.

After going live, Mann-Grandstaff VAMC staff used work-arounds to mitigate the metrics gap. The staff explained that doing so created a "tremendous" increase in additional workload, at times requiring numerous hours or days to prepare just one metrics report. Despite time-intensive workarounds and concerns with metrics accuracy, a facility leader shared that their service chiefs had been forced at times to "provide their best estimates" to inform decisions, such as facility staffing and patient discharges, because of the gaps in metrics. The OIG remains concerned that, despite the concerted efforts of facility staff to use work-arounds to manage gaps in the new EHR's metrics, the deficits may negatively affect facility performance and veterans' experiences.

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[6] VA OIG, *Deficits with Metrics Following Implementation of the New Electronic Health Record at the Mann-Grandstaff VA Medical Center in Spokane, Washington*, June 1, 2022.

The OIG identified multiple factors contributing to the significant gap in metrics available in the new EHR system. Challenges with the new EHR's metrics included the following factors:

- Cerner failed to deliver metrics reports.

- New EHR metrics could not be assessed prior to going live.

- New EHR metrics' usefulness was impaired.

- There was inadequate training regarding new EHR metrics.

VHA-generated metrics using new EHR data also created the following challenges:

- VHA resources were insufficient.

- The metrics were not validated and were therefore unavailable.

- VHA changed which metrics the facility was required to use.

Deficiencies related to the new EHR's metrics and challenges with VHA-generated metrics using new EHR data impaired the facility's access to and use of metrics. The OIG is concerned that further deployment of the new EHR in VHA without addressing the gap in metrics available to the facility will affect the Mann-Grandstaff VAMC and future sites' ability to use these measures effectively. The two recommendations, found in appendix D, are both open.

A trilogy of reports also released in 2022 responded to many complaints submitted to the OIG hotline and requests from congressional offices following the new EHR's deployment at the Mann-Grandstaff VAMC. OIG healthcare inspections staff began work on two efforts to address several priority concerns—medication management and patient care coordination. During this work, the OIG team identified further challenges with the "trouble" or "help" ticketing process for system users to submit concerns, and the OIG team determined that some previously identified deficiencies were still unresolved. Consequently, the healthcare oversight team started a third effort to examine why problems were not addressed and to highlight the underlying causal factors. When VA responded to the three reports in early March 2022—nearly 18 months after going live in October 2020—VA actions to resolve issues were limited. The OIG identified 37 issues that were unresolved after the OIG completed its inspection in June 2021, but only eight were resolved by March 2022, as indicated in the below tables.

MEDICATION MANAGEMENT DEFICIENCIES AFTER THE NEW EHR GO-LIVE AT THE MANN-GRANDSTAFF VAMC (MARCH 2022 REPORT)

The first in the trilogy of healthcare inspections focused on medication management for patients subject to the new EHR at the initial operating site.[7] This includes tracking and managing lists of medication, ordering, and promptly getting them to patients. Ensuring VA patients receive the correct medications in a timely manner is critical, particularly as many patients are older with numerous medical conditions treated with multiple medications. EHRs can improve clinical decision-making and minimize human error, but the risk of harm increases when systems have poor usability, workflows, or data inputs.

The problems with medication management and prescriptions within the new EHR became apparent shortly after going live. A facility staff member reported a daily average of 100 patients showed up at the Mann-Grandstaff VAMC for help with prescriptions even during the pandemic—five times more than before going live.

The OIG grouped the various complaints regarding medication management into three categories: data migration, medication orders, and medication reconciliation.

Data Migration

For this report, data migration focused on transferring patient information from VA's legacy EHR to the new system. Identified deficient areas were related to patient contact information, patient medication lists, and formulary lists that included medications unavailable at the facility and supplies.

- **Patient Contact Information:** Prior to going live, VA migrated contact information and clinical data for approximately 88,000 veterans to the new EHR. The OIG found that outdated DoD data overwrote VHA's patient contact information, such as name, address, telephone number, and email address when data were migrated to the new EHR. Consequently, VA patients were delayed in receiving medications through the mail order pharmacy system.

- **Medication Lists:** The OIG substantiated that medication lists, migrated as "free text" per VHA's request, contained inaccuracies. Because medication lists did not import properly, care providers used work-arounds, including manual reentry to generate accurate medication lists. Staff described this process as "overwhelming" and time-consuming.

- **Medication Formulary:** The new EHR's formulary included many medications not available at Mann-Grandstaff or on VA's national formulary. Consequently, care providers unknowingly selected nonformulary or unavailable supplies. These selections increased risks for errors, potentially raised costs for VA, and added work for care providers and pharmacy staff. The figure below shows the new EHR's available options for a single medication commonly used to control blood pressure

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[7] VA OIG, *Medication Management Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*, March 17, 2022.

or heart rate. It shows how one medication can have dozens of entries of drug formulations and strength options, frustrating providers and increasing the risk of error.

Medication Orders

The OIG substantiated 10 of 12 allegations related to the mismanagement of medication orders. The identified problems affect every aspect of the process from orders failing to process to patients' recurring future medication orders being automatically discontinued without notice to providers. Staff could not track prescription orders for patients. The OIG also received varied accounts on the functionality of the new EHR's Prescription Drug Monitoring Program (PDMP) process. The PDMP is a state-controlled substance monitoring program. The PDMP provides an important check on drug diversion and substance misuse. The common theme among these accounts, however, was that the multiple-step work-arounds staff developed to address deficiencies increased risks for human error.

Summary of Medication Order Allegations about the New EHR and Findings

Medication Orders	Allegations	OIG Determination	Status
Future Order Discontinuance	The new EHR discontinued future medication orders.	Substantiated	Unresolved
	Discontinued future medication orders required providers to write "stat" or place immediate orders, causing medication delays for patients.	Substantiated	Unresolved
	Discontinued future medication orders led absent providers to arrange for colleagues to write orders for recurring medications, creating inefficiencies and increasing risks for orders being missed and possible patient safety issues.	Substantiated	Unresolved
Unauthorized Orders Placed	Registered nurses could order medications without provider approval.	Substantiated	Unresolved
Outpatient Orders Not Processed	Pharmacy staff did not process outpatient orders.	Not Substantiated	Not Applicable
	Some outpatient orders failed to process and appeared missing to nonpharmacy staff.	Substantiated	Unresolved
Lack of Notification of	Prescribing providers and pharmacists were not notified about future recurring injectable orders that were discontinued or outpatient orders that did not process.	Substantiated	Unresolved
Confusing Alerts	Medication alerts were confusing, and providers did not receive training on interpreting them.	Substantiated	Unresolved
Prescription Status Unclear	Providers were unable to assess the status of a filled prescription order.	Substantiated	Unresolved
Lack of Tracking Mailed Controlled Substances	Pharmacy staff were unable to consistently track mailed controlled substance prescriptions.	Not Substantiated	Not Applicable
	Nonpharmacy staff could not consistently track mailed controlled substance prescriptions.	Substantiated	Unresolved
PDMP	After completing a PDMP query, providers' notes were not automatically populated in alignment with VHA policy, requiring additional work for providers.	Substantiated	Unresolved

Medication Reconciliation

The OIG substantiated that inaccurate medication lists in the new EHR challenged staff conducting reconciliations. This critical process identifies and resolves any medication discrepancies found in an EHR with the information supplied by the patient or caregiver. Accurate medication lists guide providers' treatment decisions, and inaccuracies could have significant health consequences for a patient. Staff familiar with the new EHR said medication reconciliation is a complex, time-consuming, multistep process requiring an in-depth understanding of the new system. The OIG observed that poor training led to a knowledge gap that contributed to errors and helped explain varying user experiences.

Summary of Medication Reconciliation Allegations and Findings

Medication Reconciliation	Allegations	OIG Determination	Status
Medication List Discontinuity	Staff had to update medication lists at every visit because prior medication information revisions did not carry over.	Substantiated	Unresolved
	Medications disappeared from reconciled medication lists, and lists were inaccurate after reconciliation.	Substantiated	Unresolved
	Staff manually entered medication lists post-reconciliation, which increased risk for error and safety concerns.	Substantiated	Unresolved
	Medication reconciliation required a significant amount of time to complete per patient.	Substantiated	Unresolved
Medication List Inaccuracies	Discontinued and expired medications were not viewable during reconciliation, creating a patient safety issue.	Substantiated	Unresolved
	Medications administered in a clinic did not appear on medication lists, creating a patient safety issue.	Substantiated	Unresolved
Medication Lists Unsuited for Patient Use	Medication lists were not patient-friendly.	Substantiated	Unresolved

The two recommendations can be found in appendix E of this statement. VA concurred with the first recommendation, which requires extensive software modifications that VA has indicated will take over a year from now to implement. The second recommendation called for the deputy secretary to ensure medication management issues related to the new EHR identified after the inspection be reported to the OIG for further analysis. VA did not concur with this recommendation, citing the difficulty of a continuous, open reporting requirement to the OIG. This is not an open-ended recommendation, however, and would be closed after VA demonstrates an effective and sustainable process to identify and address patient safety issues. VA already must provide this information to the OIG regardless of whether VA concurs with the recommendation, and the OIG will continue this oversight work.

CARE COORDINATION DEFICIENCIES AFTER THE NEW EHR GO-LIVE AT THE MANN-GRANDSTAFF VAMC (MARCH 2022 REPORT)

The second report in the trilogy addressed a list of allegations categorized as care coordination concerns.[8] Care coordination involves numerous EHR functions that facilitate how care is synchronized both among healthcare providers and directly with the patient.

The OIG further sorted the allegations into eight categories. Each had multiple deficiencies:

1. **Patient Record Flags:** Patient record flags denoting patients at high risk for suicide and disruptive behavior in the legacy EHR failed to activate for some Mann-Grandstaff VAMC patients. Some identified concerns about patient record flag functionality in the new EHR stemmed from system design, while others related to deficits in training on the new EHR's workflow. The flags are not as obvious in the new system as they were in the legacy EHR. In some new EHR views, staff had to navigate multiple steps to find information about the flag and relevant precautions. Of the six substantiated allegations, only two remained unresolved: the visibility of the flag and national-level data sharing of active record flags for patients at high risk for suicide.

2. **Data Migration:** As previously discussed, deficiencies were found in the migration of patient information, such as incorrect patient names, patients' gender, and contact information. VA reported that discussions continued between VA and DoD regarding updates to enterprise system–level business rules needed to improve interoperability and ensure accurate data migration.

3. **Scheduling Process:** Initial allegations received by the OIG cited delays in scheduling and inadequate appointment information and reminders in the new EHR. Reminders to veterans and caregivers did not always specify if appointments were by telephone rather than in-person, resulting in some patients traveling to the facility for telephone appointments. The OIG was also alerted to problems with the new self-scheduling tool that resulted in Washington State patients inadvertently self-scheduling appointments at the Columbus clinic. Of the five related substantiated allegations, four remained unresolved, particularly related to delays in scheduling primary care appointments, the type of appointment, and the information contained on appointment reminders.

4. **VA Video Connect:** This VHA telehealth service technology enables veterans to meet virtually with VA healthcare providers from anywhere, using encrypted video. The OIG substantiated some allegations that appointments failed due to broken links, incorrect time zones, and links being sent to outdated email addresses. VA needed to completely resolve only the last allegation, as some veterans were still having to contact DoD to have their contact information updated.

5. **Referral Management:** Deficiencies in implementing the Ambulatory Referral Management function decreased care providers' ability to manage patients' referrals in the provider's own clinical service, particularly in the behavioral health department, and with other outpatient services in VHA.

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[8] VA OIG, *Care Coordination Deficiencies after the New Electronic Health Record Go-Live at the Mann-Grandstaff VA Medical Center in Spokane, Washington*, March 17, 2022.

These breakdowns could lead to delays and affect patient experiences at VHA more generally. For example, providers had no easy way to determine if a referral had been acted on. Certain aspects of system configuration, workflow errors, interoperability deficits, and insufficient training contributed to staffs' difficulties with handling referrals. The three substantiated issues remained unresolved.

6. **Laboratory Orders:** The OIG was alerted to "disappearing" laboratory orders that never reached lab personnel. The system configurations and training deficits were factors in these failures. Like the prior blood pressure medicine example, ordering providers were shown a confusing array of options. Additionally, staff were challenged in tracking the orders, and many results were delayed in being returned. These issues created more opportunities for human error as staff used work-arounds to get results that informed care delivery. These three substantiated issues were unresolved.

7. **Patient Portal and Secure Messaging:** When the new EHR went live, many patients could not access the portal, affecting access to tools that supported coordination of care, such as secure messaging and online prescription refills. VA staff reported that system changes completed by OIT resolved some causes of this disruption, while other resolutions were in progress.

8. **Documentation Processes:** While the OIG did not substantiate all allegations received related to documentation process problems, staff reported experiencing challenges in using some of the new EHR capabilities. Insufficient training and misperceptions about certain functionalities appeared to be the sources of the difficulties. VA started using a new method, the financial identification number (FIN), to document workload associated with care provided between visits, which historically VHA had not recorded. This required numerous steps for providers and created confusion. Another example involves a configuration issue in which not all International Classification of Disease 10 diagnostic codes were available in the new EHR, affecting providers' ability to code patient diagnoses. Of the three substantiated allegations, the FIN and diagnostic codes, were unresolved.

For this report, the OIG made one recommendation that the deputy secretary ensure the report's substantiated and unresolved allegations are reviewed and addressed (see appendix F); it remains open.

TICKET PROCESS CONCERNS AND UNDERLYING FACTORS CONTRIBUTING TO MEDICATION MANAGEMENT AND CARE COORDINATION DEFICIENCIES (MARCH 2022 REPORT)

The OIG issued this third report in the trilogy to provide an analysis of the persistent issues with the ticket process used for reporting problems and requesting assistance at the Mann-Grandstaff VAMC, including identifying the underlying causal factors.[9] From the October 2020 go-live date through March 31, 2021, new EHR end users placed over 38,700 tickets. OIG staff gained access to the EHR help ticket system for analysis and identified key terms for each allegation and checked and cross-checked 4,094 tickets that were related to the issues discussed in the two reports.

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[9] 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*, March 17, 2022.

Ticket Process Challenges

The OIG team reviewed ticket comments to understand facility staffs' frustration with getting fixes and changes. VA and VHA leaders also identified potential patient safety and related concerns with the new EHR ticketing process. Although VA initiated a strategic review to address these concerns, there were limited process changes. The ticket process challenges the OIG found include the following:

- **Cerner's service desk support staff were not able to view and replicate reported issues.** While Cerner had a mirror version of the DoD EHR, a mirror version of the Mann-Grandstaff VAMC's EHR was not built. OEHRM staff were frustrated that when Cerner service desk support staff could not reproduce a reported issue they closed the ticket, potentially delaying the problem's resolution.[10]

- **The same Cerner staff closed tickets before resolving the issues.** Closing tickets without resolving the concerns could result in patient safety issues as well as the propagation of similar issues at future implementation sites. Facility staff also reported feeling a lack of support.

- **Ticket status was not communicated to end users.** As part of VA's agreement with Cerner, end users were to be notified and given the opportunity to review whether the proposed or implemented resolution addressed the reported issue before Cerner closed the ticket. Mann-Grandstaff VAMC staff reported during 2021 that Cerner's service desk staff were unhelpful or rude. The OIG found that these challenges contributed to tickets not being fully resolved and low staff morale.

- **Mann-Grandstaff VAMC staff sometimes created work-arounds instead of placing tickets.** Due to ticket process challenges, staff across clinical service lines at the Mann-Grandstaff VAMC began creating work-arounds to accomplish necessary tasks, which can increase patient safety risks, result in inefficiencies, and bypass security or safeguard measures.

This report validated deficient ticket processes identified earlier in VA's "Electronic Health Record Comprehensive Lessons Learned" report released in July 2021.[11] While VA had identified proposed measures to monitor these process changes, their report stated that the measures had not been finalized and were under review.

Underlying Factors of Substantiated Allegations in Companion Inspections

The inspection team reviewed the substantiated allegations regarding medication management and care coordination and identified five underlying factors:

1. **EHR Usability Problems.** Poor usability has been linked to increased patient safety risks, inefficiencies, and care provider frustration and stress. Among other issues, the OIG found that the

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[10] In the response VA gave to the OIG shortly before publication, VA wrote that Cerner service desk support staff had given access to the EHR's production version. The OIG is reviewing VA's evidence as part of the follow-up process to determine if that is the case.

[11] VA, *Electronic Health Record Modernization Comprehensive Lessons Learned Report*, November 2021. The report was initially released in July 2021 and updated in November 2021.

user interface was not optimized for workflows, inefficient navigation hampered staff, patient data were in different sections of the EHR, and restrictive definitions of user roles assignments that defined employees' capabilities in the system limited the information staff could see.

2. **Training Deficits.** The OIG found insufficient training content, support, and an approach to training that did not provide staff with the underlying reasons for the actions they should take.

3. **Interoperability Challenges.** Staff must have access to information needed to perform their work from within and across VHA. This was hampered by the data migration issues previously discussed, the failure of information to transfer to the Consolidated Mail Outpatient Pharmacy, and information not properly transferring to national-level VHA databases.

4. **Fixes and Refinement Needs.** The OIG identified that some substantiated allegations were unresolved and required fixes after going live, as well as refinements to address errors in system workflows and changes to components of the new EHR. For example, staff were initially unable to view patients' service-connected conditions noted by the Veterans Benefits Administration from the new EHR, which led to an inability to document these conditions for healthcare delivery purposes.

5. **Problem Resolution Process Challenges.** Successful EHR implementation requires effective pathways for resolving identified problems, and as discussed in this trilogy of reports, the ticket process for resolving questions and concerns had several deficiencies.

For this report, the OIG made three recommendations, found in appendix G, and all are open.

CONCLUSION

The Subcommittee and VA have dedicated tremendous resources to deploying the new EHR system. The OIG is committed to providing thorough and practical recommendations to help VA deploy the new EHR efficiently and in a manner that improves both veterans' care and staff's experiences. No initiative better reflects the intersection of the many challenges VA faces than the effort to modernize the EHR. Implementing a modern platform that interacts with the network of providers and services within and external to VA and functions as a support tool for clinical and administrative staff to deliver safe and effective health care is the goal. Failure to acknowledge when a system presents obstacles to that goal and failure to immediately address those obstacles will expose patients to risk. Those failures also erode trust by the staff dedicated to delivering care, and by the veterans who have been promised that care. The OIG will continue to monitor EHRM efforts to help recommend improvements needed to fulfill that promise and make the most effective use of taxpayer dollars.

Chairman Mrvan, this concludes my statement. I would be happy to answer any questions you or other members may have.

APPENDIX A – OTHER OIG REPORTS ABOUT EHRM

1. *Deficiencies in Infrastructure Readiness for Deploying VA's New EHR System*, April 27, 2020
2. *Training Deficiencies with VA's New EHR System at the Mann-Grandstaff VAMC*, July 8, 2021
3. *Deficiencies in Reporting Reliable Physical Infrastructure Cost Estimates for the EHRM Program*, May 25, 2021
4. *Unreliable Information Technology Infrastructure Cost Estimates for the EHRM Program*, July 7, 2021
5. *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation*, November 10, 2021
6. *The EHRM Program Did Not Fully Meet the Standards for a High Quality, Reliable Schedule*, April 25, 2022
7. *Joint Audit of the DoD and VA Efforts to Achieve EHR Interoperability*, May 5, 2022
8. *Senior Staff Gave Inaccurate Information to OIG Reviewers of EHR Training*, July 14, 2022

APPENDIX B - ACTIONS TAKEN BY VA IN RESPONSE TO OIG RECOMMENDATIONS FROM *REVIEW OF ACCESS TO CARE AND CAPABILITIES DURING VA'S TRANSITION TO A NEW EHR SYSTEM AT THE MANN-GRANDSTAFF VAMC* – APRIL 27, 2020

1. The under secretary for health (USH), in conjunction with OEHRM evaluates the impact of the new EHR implementation on productivity and provides operational guidance and required resources to facilities prior to go-live.
Status: Open
VA's targeted completion date: Initial response at IOC go-live; revised versions at subsequent go-live dates.

2. The USH, in conjunction with OEHRM, identifies the impact of the mitigation strategies on user and patient experience at go-live and takes action, as needed.
Status: Open
VA's targeted completion date: Initial response at IOC go-live; revised versions at subsequent go-live dates.

3. The executive director, OEHRM, in conjunction with the USH, ensures that clear guidance is given to facility staff on what EHR capabilities will be available at go-live.
Status: Closed January 13, 2021.

4. The USH, in conjunction with OEHRM, reevaluates the EHRM deployment timeline to minimize the number of required mitigation strategies at go-live.
Status: Open
VA's targeted completion date: May 2020.

5. The veterans integrated service network (VISN) director collaborates with facility leaders to implement VA-provided operational guidance and supports required resources needed throughout the transition to the new EHR system.
Status: Closed July 31, 2021

6. The VISN director ensures that positions required for the transition to the new EHR system are staffed and trained prior to go-live.
Status: Closed October 16, 2020

7. The Mann-Grandstaff VAMC Director ensures that community care consults are managed through go-live to ensure accuracy, completeness, and to avoid the need for manual reentry after go-live.
Status: Closed September 22, 2021.

8. The Mann-Grandstaff VAMC Director ensures that patients receive medication refills in a timely manner throughout the transition to the new EHR system.
Status: Closed September 22, 2021.

APPENDIX C - ACTIONS TAKEN BY VA IN RESPONSE TO OIG RECOMMENDATIONS FROM *THE NEW EHR'S UNKNOWN QUEUE CAUSED MULTIPLE EVENTS OF PATIENT HARM* – JULY 14, 2022

1. The deputy secretary reviews the process that led to Cerner's failure to provide VA substantive information of the unknown queue and takes action as indicated.
Status: Open.
VA's targeted completion date: October 2022.

2. The deputy secretary evaluates the unknown queue technology and mitigation process and takes action as indicated.
Status: Open.
VA's targeted completion date: October 2022.

APPENDIX D - ACTIONS TAKEN BY VA IN RESPONSE TO OIG RECOMMENDATIONS FROM *DEFICITS WITH METRICS FOLLOWING IMPLEMENTATION OF THE NEW EHR AT THE MANN-GRANDSTAFF VAMC* – JUNE 1, 2022

1. The deputy secretary completes an evaluation of gaps in new EHR metrics and takes action as warranted.
Status: Open.
VA's targeted completion date: October 2022.

2. The deputy secretary completes an evaluation of factors affecting the availability of metrics and takes action as warranted.
Status: Open.
VA's targeted completion date: October 2022.

APPENDIX E - ACTIONS TAKEN BY VA IN RESPONSE TO OIG RECOMMENDATIONS FROM *MEDICATION MANAGEMENT DEFICIENCIES AFTER THE NEW EHR GO-LIVE AT THE MANN-GRANDSTAFF VAMC* – MARCH 17, 2022

1. The deputy secretary ensures that substantiated and unresolved allegations discussed in this report are reviewed and addressed.
Status: Open.
VA's targeted completion date: May 2022.

2. The deputy secretary ensures medication management issues related to the new EHR that are identified subsequent to this inspection be reported to the OIG for further analysis.
Status: Open.
VA's targeted completion date: None as VA non-concurred with the recommendation.

APPENDIX F - ACTIONS TAKEN BY VA IN RESPONSE TO OIG RECOMMENDATIONS FROM *CARE COORDINATION DEFICIENCIES AFTER THE NEW EHR GO-LIVE AT THE MANN-GRANDSTAFF VAMC* – MARCH 17, 2022

1. The deputy secretary ensures that substantiated and unresolved allegations noted in this report are reviewed and addressed.
Status: Open.
VA's targeted completion date: May 2022.

APPENDIX G - ACTIONS TAKEN BY VA IN RESPONSE TO OIG RECOMMENDATIONS FROM *TICKET PROCESS CONCERNS AND UNDERLYING FACTORS CONTRIBUTING TO DEFICIENCIES AFTER THE NEW EHR GO-LIVE AT THE MANN-GRANDSTAFF VAMC* – MARCH 17, 2022

1. The deputy secretary completes an evaluation of the new EHR problem resolution processes and takes action as warranted.
Status: Open.
VA's targeted completion date: March 2022.

2. The deputy secretary completes an evaluation of the underlying factors of substantiated allegations identified in this report and takes action as warranted.
Status: Open.
VA's targeted completion date: May 2022.

3. The deputy secretary ensures the EHRM deployment schedule reflects resolution of the allegations and concerns discussed in this report.
Status: Open.
VA's targeted completion date: March 2022.