US DEPARTMENT OF VETERANS AFFAIRS
OFFICE OF INSPECTOR GENERAL

Office of Audits and Evaluations

VETERANS HEALTH ADMINISTRATION

Scheduling Challenges Within the New Electronic Health Record May Affect Future Sites

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

DEPARTMENT OF VETERANS AFFAIRS
OFFICE OF INSPECTOR GENERAL
WASHINGTON, DC 20001

February 8, 2024[1]

MANAGEMENT ADVISORY MEMORANDUM

TO: Tanya Bradsher, Deputy Secretary
Veterans Affairs

CC: Dr. Shereef Elnahal, Under Secretary for Health, Veterans Health Administration
Dr. Neil C. Evans, Acting Program Executive Director, Electronic Health Record Modernization Integration Office

FROM: Larry Reinkemeyer, Assistant Inspector General
VA Office of Inspector General's Office of Audits and Evaluations (52)

SUBJECT: Scheduling Challenges Within the New Electronic Health Record May Affect Future Sites

The VA Office of Inspector General (OIG) is issuing this management advisory memorandum to address the concern that scheduling system challenges experienced during deployment of the new electronic health record (EHR) at smaller VA medical facilities could be exacerbated at larger, more complex medical centers. This concern is compounded by the EHR deployment at the Captain James A. Lovell Federal Health Care Center (Lovell FHCC) in Chicago, Illinois—a joint facility between VA and the Department of Defense (DoD), which is the next facility scheduled for implementation.[2] This memorandum is meant to convey the information necessary for VA to determine whether additional actions are warranted prior to or during future

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[1] This memorandum was sent to the Veterans Health Administration (VHA) and the Electronic Health Record Modernization Integration Office (EHRM-IO) on February 8, 2024, to provide the opportunity to review and comment. Comments were not required, and no comments were received before the publication of this memorandum.

[2] According to a March 8, 2024, email from the Under Secretary for Health, deployment of the EHR proceeded as planned at Lovell FHCC on March 9, 2024. However, this memorandum was drafted prior to the deployment at Lovell and the draft was shared with VHA on February 8, one month prior to the deployment.

deployments to mitigate these system functionality issues.[3] The OIG is taking no additional steps at this time.

Having a scheduling system that routes patients to the appropriate providers in a timely manner is critical for the Veterans Health Administration (VHA) to effectively serve the more than nine million veterans to whom it provides care every year.[4] The new EHR scheduling system was intended to enhance efficiency and user experience, minimize disruptions in the delivery of care, and standardize workflows that improve patient access. Standardization can streamline routine processes, such as requests for laboratory tests or imaging, which in turn improves the coordination of care. Furthermore, a standardized scheduling process with automatic control activities can reduce the risk of human error.[5] For the benefits of a standardized scheduling process with automatic controls to be realized, however, the system must function properly. Otherwise, the system may require manual entries and work-arounds that reduce productivity, at best, and compromise patient safety, at worst. For example, the VA OIG found in its review of an allegation that an EHR scheduling system error resulted in a scheduler failing to reschedule a missed mental health appointment, which may have contributed to the patient's disengagement from their mental health treatment and, ultimately, the patient's substance use relapse and death.[6]

In 2020, VA first deployed the new EHR system at the Chalmers P. Wylie VA Ambulatory Care Center in Columbus, Ohio, and the Mann–Grandstaff VA Medical Center in Spokane, Washington, with the goal of eventually implementing it across all VA facilities to replace a legacy system in use since the 1980s.[7] The new EHR is intended to be interoperable with DoD's health record system to create a seamless, comprehensive record of care for veterans.[8] The new EHR system includes an upgraded patient scheduling system.

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[3] This memorandum provides information that has been gleaned from OIG data analyses, review of IT trouble tickets, and interviews with EHRM-IO and facility staff. The OIG issues management advisory memoranda when exigent circumstances or areas of concern are identified by OIG hotline allegations or in the course of its oversight work, particularly when immediate action by VA can help reduce further risk of harm to veterans or significant financial losses. Memoranda are published unless otherwise prohibited from release or to safeguard protected information.

[4] "VA Strategic Plan" (web page), VA Office of Research and Development, accessed November 27, 2023, https://department.va.gov/wp-content/uploads/2022/09/va-strategic-plan-2022-2028.pdf.

[5] Government Accountability Office (GAO), *Standards for Internal Control in the Federal Government*, September 2014. According to these standards, automatic control activities tend to increase efficiency and decrease human error. Further, the standards stress the importance of limiting manual entry.

[6] VA OIG, *Scheduling Error of the New Electronic Health Record and Inadequate Mental Health Care at the VA Central Ohio Healthcare System in Columbus Contributed to a Patient Death*, Report No. 23-00382-100, March 21, 2024. The OIG found the patient's missed appointment, although updated to a no-show status, was not routed to a request queue, and, as a result, schedulers were not prompted to conduct rescheduling efforts.

[7] The EHR scheduling system was implemented at the Columbus facility in August 2020, but the full EHR system was not implemented at that site until April 2022.

[8] The VA and DoD EHR systems are based on the same Cerner Millennium platform. VA elected to use the same system as DoD to enhance interoperability and to benefit from DoD's lessons learned and DoD's investments.

In 2021, the OIG published a report noting the new scheduling system needed improvements to address system limitations and challenges experienced by scheduling staff.[9] Specifically, the OIG found that VA knew of but did not fully resolve significant limitations before and after implementing the system at the Columbus and Spokane facilities, leading to reduced effectiveness and increased risk of patient care delays. With limited guidance and inadequate training on how to respond to unresolved issues, schedulers developed work-arounds. VHA employees also worked with Oracle Health to try to correct issues using a ticketing process that was ineffectively managed, as the Electronic Health Record Modernization Integration Office (EHRM-IO) did not assess Oracle Health's compliance with contract terms for handling tickets.[10] The OIG report noted at the time that VA needed to take appropriate steps to resolve issues with the new scheduling system as soon as possible and made eight recommendations to address these findings.

EHRM-IO is responsible for overseeing the transition to the new EHR system at 170 VA medical facilities and over 1,000 outpatient sites as VA works toward the successful preparation, deployment, and maintenance of the new scheduling system. The EHR is currently in use at the five medical facilities listed in table 1, all either low or medium complexity, serving about 200,000 veterans combined.[11]

Table 1. EHR Scheduling System Deployments

Medical center	Location	VISN	Go-live date	Complexity level
VA Central Ohio Healthcare System	Columbus, OH	10	August 2020*	2-Medium
Mann–Grandstaff VA Medical Center	Spokane, WA	20	October 2020	2-Medium
Jonathan M. Wainwright Memorial VA Medical Center	Walla Walla, WA	20	March 2022	3-Low
Roseburg VA Health Care System	Roseburg, OR	20	June 2022	3-Low
VA Southern Oregon Rehabilitation Center and Clinics	White City, OR	20	June 2022	3-Low

Source: VA EHR Modernization web page. VISN stands for Veterans Integrated Service Network.[12]

* The EHR scheduling system was implemented at the Columbus facility in August 2020, but the full EHR system was not implemented at that site until April 2022.

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

[10] In June 2022, Oracle Health Government Services (Oracle Health) acquired Cerner and inherited VA's EHR project.

[11] The VHA Facility Complexity Model categorizes medical facilities based on patient population, clinical services offered, educational and research missions, and administrative complexity. There are five levels of complexity: 1a, 1b, 1c, 2, and 3, in descending order of complexity with level 1a the most complex and level 3 the least complex.

[12] VHA divides the United States into 18 Veterans Integrated Service Networks, regional systems that work together to meet local healthcare needs and provide greater access to care.

In October 2022, VA paused implementation and further deployment of the system until June 2023 to address technical and performance issues, including scheduling concerns.[13] VA then announced the reset of the EHR in April 2023, wherein VA continued to assess veteran and clinician experiences and redirect resources to prioritize improvements at the five sites where the new EHR has already been implemented. As part of the reset, VA is delaying additional deployments until it is confident in the system's functionality at existing sites. The one exception to the reset is the Lovell FHCC deployment in March 2024. At the time of the reset, VA stated, "To ensure that all Veterans and service members who visit this facility are covered by one EHR system, deployment activities for this facility, in partnership with DoD and the Federal Electronic Health Record Modernization Office, will continue as planned and leverage the improvements made during the reset."[14] According to the Acting Program Executive Director, EHRM-IO, upon completion of the go-live at Lovell FHCC, DoD will have deployed the EHR at all DoD medical treatment facilities.

Lovell FHCC will be the first large, complex VA facility to use the EHR, and the implementation presents an immediate challenge in connection with the scheduling system. Accordingly, this memorandum was prepared to assist VA in determining what actions are warranted in light of the concerns described herein.

Benefits of the EHR Scheduling System

The new EHR provides one scheduling system for patients, providers, and schedulers. As previously mentioned, this system was anticipated to increase scheduler efficiency and reduce scheduling errors. In some instances, it has achieved these goals, and some facilities currently using the system have experienced the benefits firsthand. For example, in the context of the OIG's previous report on the EHR scheduling system, scheduling staff in Spokane and Columbus shared that the VA Video Connect appointments are far easier to schedule and, in general, scheduling is more user-friendly.[15] Staff interviewed for that report shared that they also appreciated the ability to block schedules up to one year in advance, saving them valuable time.[16] Additionally, staff noted that being able to access the date and time of scheduling actions through the audit history of appointments is beneficial.[17] During this review, staff echoed some of the

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[13] VA, "VA extends delay of upcoming electronic health record deployments to June 2023 to address technical and other system performance issues," news release, October 13, 2022, https://digital.va.gov/ehr-modernization/news-releases/va-extends-delay-of-upcoming-electronic-health-record-deployments-to-june-2023-to-address-technical-and-other-system-performance-issues/.

[14] VHA email "VA announces reset of Electronic Health Record project," April 21, 2023, Office of Public and Intergovernmental Affairs.

[15] VA OIG, *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation.*

[16] VA OIG, *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation.*

[17] VA OIG, *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation.*

same sentiments as those previously published and added that it has been beneficial for clinicians to be able to view patient notes from non-VA hospitals that use the EHR.

Although other reports and this memorandum call attention to the problems experienced during the transition to the EHR scheduling system, VHA staff anticipate that positive outcomes are still achievable if facilities take the time to learn from previous deployments, applying lessons learned to either alleviate challenges or better manage them, thereby decreasing the impact to staff and patients. Understanding the challenges that remain after the EHR scheduling system has been deployed can help future facilities begin implementation with appropriate information and expectations.

Increases in Appointment Scheduling under the New EHR and Additional Staffing and Overtime

The team compared VHA scheduling data for five facilities to determine whether there were any changes in the number of appointments scheduled before and after the deployment of the new EHR. For each facility, the team compared the two complete quarters of data available before the facility's conversion with data from the last two quarters of fiscal year (FY) 2023. The analysis, as displayed in table 2, shows the number of scheduled appointments at Walla Walla, Washington, and Roseburg, Oregon, decreased after the deployment of the EHR, but they increased at Columbus, Ohio; Spokane, Washington; and White City, Oregon.

Table 2. Comparison of the Number of Appointments Scheduled Pre- and Post-EHR Deployment

Medical center location	Number of appointments scheduled two complete quarters prior to deployments*	Number of appointments scheduled in the last two quarters of FY 2023 (April–September 2023)	Change
Columbus, OH	255,818	355,923	39.13%
Spokane, WA	141,782	200,582	41.47%
Walla Walla, WA	117,221	107,438	-8.35%
Roseburg, OR	167,378	144,458	-13.69%
White City, OR	83,976	99,837	18.89%
Total	**766,175**	**908,238**	**18.54%**

Source: OIG's analysis of appointment data from VHA's Corporate Data Warehouse.
 *See table 1 for each facility's deployment date.

Similarly, the team also compared staffing and overtime data for the five medical facilities for the same period (two quarters before each facility's deployment of the EHR and the last two quarters of FY 2023). The data showed that the same three facilities—Columbus, Spokane,

and White City—had all increased the number of staff assigned to scheduling as well as overtime use. In contrast, Walla Walla and Roseburg both experienced decreases in the number of appointments scheduled post-EHR deployment and had less stable staffing and overtime use patterns. Walla Walla significantly increased its use of overtime while its staffing decreased, and Roseburg increased its staffing slightly but significantly decreased its overtime use. Table 3 provides scheduling staff and overtime changes for each of the five facilities since EHR deployment.

Table 3. Scheduling Staff and Overtime Changes since EHR Deployment

Medical center location	Staffing levels			Overtime hours		
	Before deployment	After deployment	Change	Before deployment	After deployment	Change
Columbus, OH	150	233	55%	1,336	2,895	117%
Spokane, WA	144	168	17%	1,932	2,395	24%
Walla Walla, WA	114	103	-9%	416	631	52%
Roseburg, OR	139	147	5%	783	189	-76%*
White City, OR	84	108	29%	356	463	30%

Source: OIG analysis of staffing and overtime data from the VHA Support Service Center's Personnel and Accounting Integrated Data system before and after system deployment.
Note: The team calculated the average number of full-time equivalent medical support assistants (occupation code 0679) for the two complete quarters prior to deployment and the last two quarters of FY 2023. Thus, percentages reflect this average.
*The team did not ascertain the reason for Roseburg's significant decrease in overtime hours.

Notably, the three medical facilities using EHR the longest (Columbus since August 2020, Spokane since October 2020, and Walla Walla since March 2022) continued to rely heavily on overtime to schedule appointments in FY 2023, with schedulers at these three facilities accumulating almost 13,300 overtime hours for all of FY 2023. The team thus concluded that the increase in appointment scheduling after EHR deployment was likely attributable to increases in staffing and overtime. In short, following implementation of the EHR, medical facilities may need to increase their staffing levels, as well as use of overtime, if VHA expects appointments to meet or exceed pre-deployment levels.

Accordingly, VA's deployment of the EHR at the Lovell FHCC in March 2024 may create significant challenges, especially given the facility already reported a scheduler shortage in March 2023.[18] The results of the team's review suggest that future sites need to be prepared to address known scheduler shortages before deployment and potentially increase hiring and

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[18] VA OIG, *OIG Determination of Veterans Health Administration's Severe Occupational Staffing Shortages Fiscal Year 2023*, Report No. 23-00659-186, August 22, 2023. Staffing data were collected as of March 2023 for this report.

overtime for appointment scheduling. Large facilities that handle higher patient or appointment volumes should especially be aware of staffing needs to mitigate the additional time and impact of manual work-arounds needed to deploy the EHR.

Scheduling System Limitations Identified during This Review

As the five facilities already using the EHR adapt to the system, new concerns continue to arise. Through interviews with staff from the five facilities and the team's review of 1,712 trouble tickets related to possible scheduling problems as of the end of FY 2023, the team learned of two additional EHR scheduling issues that had not been identified in previous reports:

- The displaced appointment queue does not always function properly, which may result in appointments not being rescheduled.

- It is difficult for providers and schedulers to share information.[19]

The Displaced Appointment Queue Does Not Always Function Properly, Which May Result in Appointments Not Being Rescheduled

Providers within a medical facility have what is known as a "scheduling grid" built for them in the EHR scheduling system. The grid reflects their work schedule and shows their available appointment slots, including the appointment type. According to schedulers, they can enter appointments into available slots on a provider's scheduling grid up to one year in advance. If there is a change in a provider's tour of duty or availability, such as for personal or medical leave, the scheduler places a block on the provider's scheduling grid. The block prevents new appointments from being added to the provider's scheduling grid for the affected periods of time and causes the existing appointments to be automatically moved off the grid onto a displaced appointment queue. Scheduling staff are then expected to reschedule the appointments in the queue.[20]

EHRM-IO and some of the interviewed schedulers considered the displaced appointment queue an advantageous feature of the EHR because the queue contains a list of the displaced appointments that need to be rescheduled. However, some schedulers also gave a caveat, adding that the displaced appointment queue feature did not always function properly. In particular, they

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[19] The team initially used keywords provided by EHRM-IO to identify possible scheduling issues. However, this initial search identified 30,430 trouble tickets and included many tickets unrelated to scheduling. To refine its trouble ticket review, the team identified and applied additional keywords based on interviews conducted with schedulers. After searching the universe of 30,430 tickets for these additional keywords, the team identified a total of 1,712 trouble tickets related to possible scheduling problems for review.

[20] "Cerner Wiki Glossary" (web page), Oracle, accessed January 11, 2024. https://wiki.cerner.com/display/public/help/Glossary. A queue is defined as a list of items awaiting action, either by an end user or by a computer.

reported that the EHR does not always route appointments to the displaced appointment queue, and properly routed appointments sometimes disappeared from the queue. As a result, the schedulers could not always rely on the displaced queue to tell them what appointments needed to be rescheduled.

EHRM-IO staff stated they were aware of the defects in the operation of the displaced appointment queue and informed the team that two system updates, scheduled for issuance in February and April 2024, would address these defects. Further, EHRM-IO staff reported providing guidance to schedulers at affected medical facilities, informing them of the need to reschedule patients before placing the blocks on a provider's scheduling grid—similar to how the legacy system functions—to ensure affected appointments were rescheduled. An EHRM-IO staff stated, "The queues are meant to be a safety net, especially the displaced queue; if [the schedulers] are following the right business rules, then nothing would fall to the displaced queue." However, the team noted that even if medical facilities applied these business rules, such as rescheduling patients before placing blocks on the scheduling grid, the defects in the operation of the displaced appointment queue persisted. Therefore, in inevitable instances where schedulers accidentally fail to or are unable to reschedule appointments before the blocks are placed on the providers' scheduling grids, the displaced appointment queue is an unreliable safety net until effective updates are implemented.[21]

The team's analysis of the trouble tickets disclosed that staff at four of the five medical facilities (except White City) submitted 28 tickets because appointments either did not reach the displaced appointment queue or disappeared from the queue before they could be rescheduled. The first ticket regarding this issue was submitted in July 2021, and the issue continued to be reported by four facilities through at least August 2023. A ticket submitted in February 2023 reported that, following a scheduling grid change for a primary care provider, none of the displaced appointments were routed to the queue. The staff member submitting the ticket also explained that the last time this issue occurred, they lost almost 200 appointments for a single provider, and the ticket explained that this is a potential safety issue if schedulers cannot see which veterans have displaced appointments from the scheduling grids. Another scheduler the OIG interviewed reported that some veterans showed up for their appointments when schedulers were unaware their appointments were in the displaced appointment queue and needed to be rescheduled.

The OIG could not definitively identify how many patients at the five medical centers were affected by problems in the operation of the displaced appointment queue.[22] However, whatever the scope of the issue, it will be amplified when the EHR deploys at large facilities, like

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[21] Schedulers will cancel the appointment if they are unable to reach the patient after making two contact attempts.

[22] No available data identify or track the number of affected patients that should have been moved to the displaced appointment queue but were not.

Lovell FHCC, where higher staffing levels will likely mean more schedule changes and appointment rescheduling.

Some of the schedulers the team interviewed reported that they did not receive guidance or business rules from EHRM-IO on the use of the displaced appointment queue. Instead, these schedulers reported relying on local guidance to work around the problems. Consequently, schedulers at some medical facilities used the displaced appointment queue but took screenshots of all affected appointments in case the appointments did not show up in the queue or disappeared from the queue. Others reverted to the manual practices they used under the legacy system, attempting to reschedule patients before blocks were placed on the providers' scheduling grids and the system sent the affected appointments to the displaced appointment queue. In sum, the five medical centers employed inconsistent work-arounds that, to varying degrees, relied on manual processes to ensure the proper identification and rescheduling of EHR appointments displaced by changes in the providers' work schedules.

Past OIG and VA reports detailing similar problems in other EHR queues have required immediate action. In July 2022, the VA OIG issued a report on the unknown queue in EHR.[23] Additionally, VA's March 2023 Sprint Report found that requests to reschedule "no show" and canceled appointments were not being properly populated on the reschedule appointment queue, and a 2024 VA OIG report found a similar problem contributed to a patient death.[24] As previously noted, EHRM-IO indicates it has taken action to address the displaced appointment queue issues through software updates in February and April 2024.[25] EHR scheduling could be more efficient if these software updates ensure the proper and reliable operation of the displaced appointment queue function. However, EHRM-IO needs to verify that the problems have been mitigated following the software updates and, accordingly, provide sites that have deployed the EHR and future sites, such as Lovell FHCC, with clear and consistent guidance on the use of the displaced appointment queue to ensure appointments are properly rescheduled and patient care is not affected.

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[23] VA OIG, *The New Electronic Health Record's Unknown Queue Caused Multiple Events of Patient Harm*, Report No. 22-01137-204, July 14, 2022.

[24] VA, *EHRM Sprint Report*, March 2023, conducted by VA during its "assess and address" period to diagnose and fix problems before future deployments planned for June 2023. VA subsequently announced the reset in April 2023. The VA OIG's report, *Scheduling Error of the New Electronic Health Record and Inadequate Mental Health Care at the VA Central Ohio Healthcare System in Columbus Contributed to a Patient Death*, found a patient's missed appointment, although updated to a no-show status, was not routed to a request queue, and, as a result, schedulers were not prompted to conduct rescheduling efforts.

[25] The team completed its work and provided the draft memorandum to VA for review prior to the February 2024 software update. The team did not verify the completion of the update or determine if it addressed the displaced appointment queue issues.

It Is Difficult for Providers and Schedulers to Share Information

The EHR, unlike the legacy system, does not allow clinical staff to view all patient-related information in the patient's medical records, including scheduling notes. Medical facility staff are given access to the different EHR applications based on their roles and responsibilities. Schedulers are given access to the Revenue Cycle Management (RevCycle) application to perform their appointment-scheduling duties and PowerChart to document necessary notes in the patients' medical records.[26] Providers, on the other hand, receive access only to the PowerChart application to view and annotate patients' clinical health records. Therefore, providers cannot see schedulers' notes, such as the reason an appointment was canceled, and are not privy to this information unless the scheduler also adds a note in the PowerChart application.

The five medical facilities reviewed have addressed this limitation in three different ways, as shown in table 4.

Table 4. Facility Work-Arounds to Allow for the Exchange of Information

Methodology	Used by	Drawbacks
Clinical staff must inquire with schedulers about patients' appointments.	Roseburg, OR	Schedulers must spend time reviewing their notes to answer clinical staff inquiries.
Schedulers communicate appointment information through other applications like Microsoft Teams and the EHR message center.	Columbus, OH, and Spokane, WA	This process increases the number of messages clinical staff must read.
Schedulers document notes in both PowerChart and RevCycle applications.	White City, OR, and Walla Walla, WA	This approach doubles the work for schedulers to document in both applications.

Source: The OIG team's interview with schedulers at the five medical facilities using the EHR scheduling system.
Note: The OIG team did not assess whether the work-arounds complied with VHA approved scheduling workflow processes and policy.

At each of the five medical facilities, schedulers had to complete additional time-consuming tasks to share information with providers. Some schedulers expressed dissatisfaction with this system limitation. As one scheduler at White City stated, "In a day, we are losing double work time doing redundant things." For context, White City had about 370 "no show" and canceled appointments in FY 2023.[27] Having to duplicate documentation of scheduling actions in both

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[26] "Cerner Wiki Glossary" (website), Oracle, accessed January 18, 2024. https://wiki.cerner.com/display/public/help/Glossary. PowerChart is defined as "the desktop Cerner Millennium solution used by enterprise clinicians to place orders, view a patient's electronic health record, and add chart documentation." Revenue Cycle is defined as "an Oracle 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)."

[27] Estimate is based on White City VSSC Appointment–No Show and Cancellation Summary Report for FY 2023.

PowerChart and RevCycle for appointments not only doubles the work for schedulers but also increases the risk of errors. If Lovell FHCC used the same methodology, it could potentially duplicate documentation for approximately 115,200 "no show" and canceled appointments based on FY 2023 data.[28]

EHRM-IO does not believe providers need to access RevCycle. Going forward, it would benefit schedulers if clearer guidance to manage and address this issue was provided, so facilities can establish a uniform process that minimizes inefficiencies in the scheduling process. Furthermore, the inconsistencies in the work-arounds do not support the EHR's goal to standardize scheduling processes.

Previously Documented Scheduling Inefficiencies and Errors

As noted earlier, the OIG has reported on EHR challenges in the past, including those related to scheduling. These published reports document some of the problems that contributed to scheduling inefficiencies and, at times, increased the risk of scheduling errors. To assess the current operational status of the scheduling system, the team reviewed trouble tickets to identify potential ongoing scheduling problems at the five sites that deployed the EHR. From published reports, the trouble ticket review, and interviews with EHRM-IO and facility staff, the team determined the following previously identified issues are still burdening the scheduling process:

- Concerns about inaccurate patient information
- Difficulties changing appointment type
- An inability to automatically mail appointment reminder letters

The OIG Reported Concerns about Inaccurate Patient Information

VA OIG reports published in 2021 and 2022 found that migration errors during EHR deployment at the Columbus and Spokane facilities caused outdated patient demographic information, such as names and addresses, from the DoD's Defense Enrollment Eligibility Reporting System (DEERS) to override the more current, accurate patient data in VHA's legacy system.[29] In response, EHRM-IO assured the OIG that VA and DoD were discussing needed updates to enterprise-wide business rules to improve interoperability between VA and DoD systems and ensure accurate data migration. The OIG voiced concerns in the 2022 report that EHRM-IO had

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[28] The estimated 115,200 is based on the number of "no show" and canceled appointments the Lovell FHCC reported on VHA's VSSC Appointment–No Show and Cancellation Summary Report for FY 2023. This estimate assumes that the number of future "no shows" and appointment cancellations at the Lovell FHCC will at least approximate the same number the facility reported in FY 2023.

[29] VA OIG, *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation*; VA OIG, *Care Coordination Deficiencies after the New Electronic Health Record Go-Live at the Mann–Grandstaff VA Medical Center in Spokane, Washington*, Report No. 21-00781-109, March 17, 2022.

only provided a partial solution to the data migration problem, requiring VA patients with continuing DoD affiliations to contact DoD to update their information in DEERS.[30] If unresolved, the OIG considered the problems associated with inaccurate DEERS information to be of significant concern for VA's plan to implement the EHR at other VA sites.

EHRM-IO staff acknowledged that medical facilities have had issues with inaccurate patient information, such as patient mailing addresses, being imported from DEERS since the initial deployment of the EHR. However, EHRM-IO stated these issues were fixed with the software update issued in February 2023. This update made VA's Veteran Enrollment System the source for patient data, instead of DEERS, although veterans still must update some information, such as name or gender, directly with DoD. Some schedulers seemed unaware of this system update or at least unaware that the system update still required the veteran to update the information with DoD in some cases. Due to the schedulers' apparent lack of awareness of the February 2023 software update, some schedulers were still spending additional time verifying patient information to ensure that DEERS did not override more current information. Medical facility staff from all five facilities also have submitted 24 trouble tickets about outdated patient information in the EHR since the software update.

EHRM-IO stated that it sends details about software updates to a point of contact at each facility, who disseminates them to the appropriate staff. However, they further stated that they were unsure why schedulers were not aware of the change in the source of the patient data because they should have received or read the information about the update. To understand the level of communication, the team reviewed documentation provided for this software update, which included a PowerPoint presentation and a Microsoft Word document. The documentation covered several platform upgrades, new or enhanced interfaces, and software fixes spanning several areas including Millennium, Microsoft Edge, pharmacy, dental, radiology, patient record flags, and telehealth management. The review team noted the PowerPoint presentation and Word document disseminated to the facilities did not discuss the fix to the VA patient contact information until almost the end of both documents (slides 36 and 37 out of 41 in the PowerPoint presentation and page 12 out of 14 in the Word document).[31]

Schedulers Have Difficulty Changing the Appointment Type

A 2021 VA OIG report found that VHA and EHRM-IO had not resolved many of the system and process weaknesses identified during pre-implementation assessments and workshops.[32] One of

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

[31] Other EHR system updates found in these documents include quicker loading of medication history; ability to share radiology images with community providers without using CDs; and pop-up windows for patients with patient record flags to alert laboratory and radiology staff.

[32] VA OIG, *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation.*

these system weaknesses was the EHR's inability to change the appointment type (face-to-face, VA Video Connect, or telehealth) for an existing appointment. When providers place an order in the EHR, they must select the type of appointment before the scheduler can make it. If the appointment type needs to be changed (for example from face-to-face to telehealth), the original appointment must be canceled. Then, the scheduler must wait to receive a new order from the provider that identifies the new appointment type before the scheduler can manually create the new appointment with the change. This process inevitably leads to more burdensome, time-consuming work for schedulers and providers.

At the time of the 2021 OIG report, EHRM-IO acknowledged that schedulers could not easily update the appointment type unless a new order was created. Although EHRM-IO knew of the issue before the system was implemented in Columbus, it could not be changed.[33] In response to the OIG's recommendation for VA to provide guidance to schedulers to consistently address system limitations until the system problems are resolved, VHA stated it would investigate a workflow change to reduce the administrative burden when appointment types must be changed. The recommendation was closed in October 2022 when VHA submitted a plan to address this issue through a system update and finalized guidance for mitigation strategies that schedulers could use in the meantime.

However, schedulers from all five reviewed facilities confirmed that they still need to cancel existing appointments and manually create new ones when there are changes in the type of appointment. In addition to increasing schedulers' workload, some schedulers reported veterans' appointments were delayed because the veterans lost their original appointment slots while the schedulers waited for the new orders to reschedule the appointments. Staff from VHA's Office of Integrated Veteran Care (IVC) and EHRM-IO reported that they had clarified guidance for schedulers stating there was no need to wait for new orders before rescheduling appointments. However, some schedulers still appeared unaware of the clarified guidance at the time of the OIG's current review. Although the team identified only a few trouble tickets related to changes in appointment type during its review of the tickets, one interviewed scheduler commented that he stopped submitting tickets to Oracle Health because they say either they cannot fix the issue, or it is not their problem.

EHRM-IO stated that the system can change appointment type without having to cancel the existing appointment when a new appointment must be created, but it is having issues generating the meeting link for the providers and patients when the patients' appointments need to be changed from face-to-face or telephone appointments to video appointments. Thus, EHRM-IO does not plan to activate this feature until this issue with generating a meeting link is resolved. EHRM-IO acknowledged that this effort is a priority due to the additional workload the current process creates for schedulers.

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[33] VA OIG, *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation*.

Going forward, the inability to easily change appointment types in the EHR could have a much more significant impact on the time required to schedule appointments at larger medical facilities, such as Lovell FHCC, which serve a much larger veteran population and must manage a significantly larger number of appointments compared to the initial five medical facilities that implemented the EHR, except for Columbus.[34]

The New EHR Cannot Automatically Mail Appointment Reminder Letters

Another system weakness the OIG identified in a 2021 report was that the EHR, unlike the legacy system, could not automatically send appointment reminder letters to patients for upcoming appointments.[35] The OIG's report noted that some veterans were accustomed to and relied on these letters to remember their appointments and that these letters reduced "no shows" and missed appointments that delayed patient care. A health system specialist indicated that EHRM-IO had planned to request that Oracle Health make appointment letter reminders available to schedulers in the new system, but this issue had not been resolved at the time the OIG issued the 2021 report. As a result, the OIG recommended VA provide schedulers guidance to address system limitations until this problem was resolved.[36] EHRM-IO responded to the recommendation by stating that facilities could use letter, telephone, or text message reminders to address veteran communication preferences. The recommendation was closed in October 2022.[37]

There is no VA policy requirement that appointment reminder letters be sent. There is value, however, in taking that step, and EHRM-IO has acknowledged this functionality is still needed because many veterans who live in rural areas do not have reliable internet access or the ability to receive virtual reminders, and some facilities still prefer to bulk mail appointment reminders. In November 2023, EHRM-IO had planned to release an interface that would allow schedulers to automatically print appointment reminders. However, at the end of December 2023, EHRM-IO informed the review team that this interface would not be ready before EHR deployment at Lovell FHCC.

Without this interface, the five facilities using the EHR have undertaken different solutions to address this system limitation. Interviewed schedulers at Columbus, Spokane, and Walla Walla reported that they have stopped sending reminder letters unless patients specifically request them. They stated that they rely on other methods such as autogenerated text messages and

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[34] For example, schedulers at White City had to manage about 195,000 appointments during FY 2023, while schedulers at Lovell managed about 504,000 appointments—more than double the patient volume—during the same period.

[35] VA OIG, *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation.*

[36] VA OIG, *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation.*

[37] VA OIG, *New Patient Scheduling System Needs Improvement as VA Expands Its Implementation.*

emails, phone calls, or the My HealtheVet online messaging system.[38] Interviewed schedulers at Roseburg and White City reported they were continuing to manually print and mail appointment reminder letters to patients although it is not required. Consequently, if all White City's schedulers continued to manually print and mail reminder letters after the deployment of the EHR, they could potentially have printed and mailed nearly 195,000 appointment reminder letters in FY 2023.

The manual printing and mailing of appointment reminder letters to patients is generally a time-consuming process, not without its own challenges, that reduces the time schedulers can dedicate to managing patient appointments.[39] The burden this manual process places on schedulers could be significant at large facilities. For example, when the Lovell FHCC deploys the EHR in March 2024, it plans to have staff manually print and mail individual appointment reminders due to concerns its older patients will have a difficult time adapting to other types of reminders. The additional time Lovell FHCC schedulers will spend on this manual process, instead of managing appointments, is significant given the facility served almost 75,000 patients and provided about 504,000 appointments in FY 2023.[40]

VA should make every effort to expedite the release of the interface to address this system issue before more facilities implement the EHR. VA should also consider whether the solution should be implemented uniformly at the facilities.

Better Preparation Needed for Future EHR Scheduling System Deployments

Before the EHR is deployed at a facility, Oracle Health provides facility staff with general training on how to use the system. However, many schedulers indicated the training was not sufficient to prepare them to use the EHR scheduling system for their daily duties. Furthermore, during a 2023 congressional hearing, Roseburg's associate director testified that, as a general matter, the training the facility received initially from Oracle Health was not what was expected and "did not adequately prepare staff to be able to function effectively and efficiently."[41]

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[38] My HealtheVet is VA's online personal health record for veterans, active-duty service members, their dependents, and caregivers.

[39] The team also found that facilities that continued to send reminder letters sometimes encountered problems in manually preparing the letters using the EHR. The team's review of the trouble tickets disclosed that EHR-generated reminder letters sometimes printed the mailing addresses in places that would not be visible through the window of the mailing envelope, included extra information, or contained incorrect mailing addresses.

[40] "About Lovell Federal Health Care Center" (web page), Lovell Federal health care–VA, accessed December 29, 2023, https://www.va.gov/lovell-federal-health-care-va/about-us/; VHA's Corporate Data Warehouse.

[41] *Hearing on VA Electronic Health Record Modernization: Get Well Soon?*, *Before the House Committee on Veterans' Affairs*, 118th Cong. (September 14, 2023).

Hence, some facilities developed their own, local EHR training post-deployment after they had worked in the system and found work-arounds.

For instance, Columbus used training material provided by the national program office and Oracle Health to develop a more in-depth local program to train new and current staff to more efficiently use the new system. Similarly, Roseburg developed training material referred to as the binder. Both trainings focus on using the scheduling system for a scheduler's day-to-day activities. For example, they provide guidance on asking veterans to verify their demographic information, how to access PowerChart through RevCycle, and how to use the message center in PowerChart.

According to interviewed schedulers, Columbus shared the "MSA [Medical Support Assistant] School" program with their VISN leaders, and it has become a best practice for the facility. Roseburg provided Walla Walla, Spokane, and Columbus access to the binder. However, it did not appear that staff at White City, the most recent facility to implement the EHR, were aware of these training resources. White City staff stated that at one point, they sought assistance from the Spokane facility on how to use the new system but were told by Oracle Health that they could no longer request support from another facility because Oracle Health should provide all the training and troubleshooting.

IVC staff stated that they were aware that some facilities developed their own supplemental training. However, they do not view the work-around processes in these resources as best practices because some of the facilities' locally developed work-arounds do not adhere to VA's approved scheduling workflow process. As such, they do not disseminate local material to other facilities. Instead, IVC created a workgroup around April 2023 to create standard operating procedures for scheduling and have involved end users from the five medical facilities in drafting any policies. IVC has not yet issued guidance on how to address all the specific issues identified in this memorandum, which may have contributed to facilities employing different processes to mitigate the scheduling system's limitations.

Standard operating procedures that provide approved workflow best practices would be beneficial to all facilities that deploy the EHR, but especially those that are unable to accommodate needed scheduling staff increases before deployment.

Conclusion

EHR's scheduling system limitations have caused additional work and redundancies, increasing the risk for scheduling errors.[42] Consequently, medical facilities may need to assess staffing levels and overtime usage before EHR deployment. The impact of these limitations will continue

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[42] Some of these system issues were identified in 2021 during the VA OIG's review of the system pre-implementation at Columbus and Spokane, but EHRM-IO failed to ensure these issues were adequately resolved before continuing implementation at the three other sites.

at future deployment sites unless they are resolved. They will also only become more pronounced at larger, more complex facilities that provide more services and care for more patients.

Properly preparing staff at future go-live facilities may reduce employee resistance and burnout. This approach may also facilitate successful adoption of the system through mitigation strategies.

Requested Action

The OIG requests VA inform the OIG what actions, if any, are taken to evaluate staffing levels and overtime use before future deployments, address scheduling system limitations identified during this review, further remediate previously identified scheduling inefficiencies and errors, and issue standardized EHR appointment scheduling guidance and operating procedures for the identified issues.

VA Management Comments

The OIG provided VA with a draft of this memorandum for review on February 8, 2024, and no comments on the memorandum were received.

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