



DEPARTMENT OF VETERANS AFFAIRS  
**OFFICE OF INSPECTOR GENERAL**

*Office of Healthcare Inspections*

Training Deficiencies with  
VA's New Electronic Health  
Record System at the  
Mann-Grandstaff VA  
Medical Center in Spokane,  
Washington



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## Executive Summary

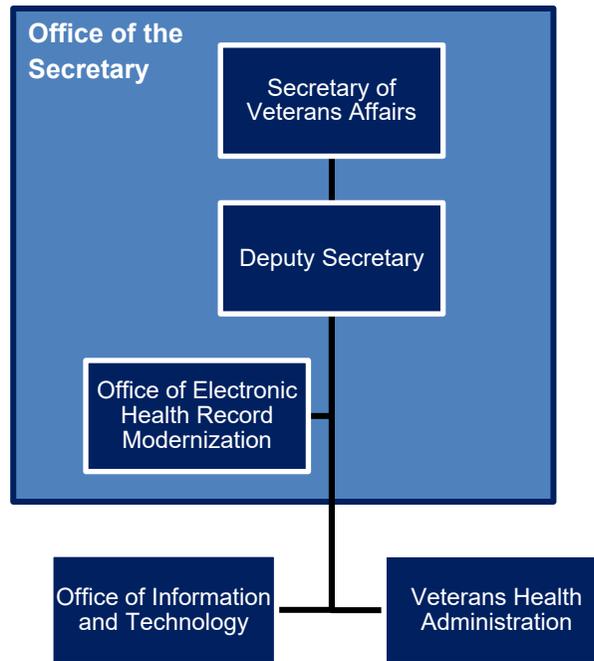
On May 17, 2018, then Acting VA Secretary Robert Wilkie announced that the Department of Veterans Affairs (VA) had signed a \$10 billion contract with Cerner Corporation (Cerner) to transition to a new electronic health record (new EHR) system. In addition to modernizing VA's electronic health record and financial records system, the new EHR would establish a common EHR platform across VA and the Department of Defense (DOD). In that the DOD's early EHR deployments faced multiple delays and setbacks, VA's transition would theoretically benefit from DOD's "lessons learned" as well as other roll out experiences and challenges. VA selected the Mann-Grandstaff VA Medical Center (facility) in Spokane, Washington, to serve as the first site to transition to the new EHR. All efforts related to preparing physical and technical infrastructure, as well as preparing healthcare end users to successfully navigate the new EHR, targeted March 28, 2020, as an initial go-live date. Six weeks prior to the intended go-live date, a VA spokesperson announced the new EHR's deployment would be postponed. Ultimately, October 24, 2020, served as the date when facility providers and administrators began using the new EHR for clinical and administrative work.

As with any operation of this magnitude, success is dependent on ensuring synchrony of multiple, complex moving parts. A governance structure that ensures collaboration and engagement of all relevant stakeholders is critical to achieving that success.

The VA Deputy Secretary (who is organizationally aligned within the Office of the VA Secretary) has responsibility for oversight of the Electronic Health Record Modernization effort. The VA Office of Electronic Health Record Modernization (VA OEHRM), that was established to oversee all tasks associated with the preparation, deployment, and maintenance of the new EHR, reports directly to the Deputy Secretary.<sup>1</sup> VA OEHRM coordinates efforts with two other organizational groups that fall outside the immediate Office of the Secretary—the Veterans Health Administration (VHA) and the VA Office of Information and Technology (see figure 1).

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<sup>1</sup> Department of Veterans Affairs, *VA Establishes Office of Electronic Health Record Modernization to Support Transition from Legacy Patient Data System*, accessed September 18, 2019, <https://www.va.gov/opa/pressrel/pressrelease.cfm?id=5084>; Department of Veterans Affairs, *2020 Functional Organizational Manual, Version 6*, accessed March 24, 2021, <https://www.va.gov/VA-Functional-Organization-Manual-2020-4.pdf>.



**Figure 1.** Relationship of VA organizations.

Source: *OIG analysis of organizational charts located in Department of Veterans Affairs 2020 Functional Organization Manual Version 6.*

Notably, VA has charged VA OEHRM, a group that does not actively deliver health care within VHA, with implementation of the new EHR.<sup>2</sup> The OIG did not find evidence in the current governance structure that VHA, which houses all the clinical and administrative staff who will rely on the new EHR to perform their duties, had a defined role in participating in decision-making or oversight activities related to the EHR modernization effort.

VA OEHRM's responsibilities include training for the new EHR. The Change Management team, a group within VA OEHRM (VA OEHRM Change Management), reviews and approves Cerner's development of training plans and materials that Cerner then executes and provides to VA employees. Per VA OEHRM's End-User Training Overview, the training experience occurs over a six-week period. Training begins with a short computer-based course with foundational information and then proceeds with three more levels of on-site, instructor-led training courses, with increased detail and specificity at each level. The plan includes Cerner adoption coaches and VA medical center staff trained as super users available to provide ongoing assistance with

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<sup>2</sup> On June 25, 2018, the then Acting VA Secretary, Peter M. O'Rourke, established VA OEHRM.

navigating the new EHR.<sup>3</sup> During this review, the OIG found that VA OEHRM failed in that the approved curriculum had significant deficiencies in training content, training delivery, and its ability to assess the efficacy of the training delivered.

Facility leaders reported that training did not provide opportunities to test proficiency in navigating a wide variety of clinical scenarios; instead, instruction focused on the multiple steps required to complete specific tasks. Facility leaders coined the term “button-ology” to describe applications training content, as its focus was on which button to press to get a desired system outcome. One facility staff training coordinator reported, “it was just people sitting down and learning to use the buttons and not having any context for what they were doing.”

The OIG found significant gaps in training for business and clinical workflows. Workflows describe how end users perform their jobs, such as the scheduling of consults or how a provider performs a physical exam. Facility staff reported an absence of workflow training content and associated reference materials that prevented them from not only understanding how to apply what little they had learned to their daily work, but also prevented a basic understanding of the meaning behind workflow processes. VA OEHRM’s Director of Change Management corroborated that the classroom workflow training was inadequate and told the OIG that VA OEHRM “change managed” to the technology but, “we missed more of the process and how that technology sits inside people’s like [*sic*] day-to day work and day-to-day lives. So, folks are struggling...rightfully so.”<sup>4</sup>

The OIG reviewed the delivery of training and identified four factors that may have negatively affected end users’ ability to use the new EHR at go-live:

- Insufficient time for training
- Limitations with the training domain
- Challenges with user role assignments
- Gaps in training support<sup>5</sup>

The OIG found that facility leaders and staff identified having insufficient time to cover complex training topics and that balancing training with their duties during the COVID-19 pandemic was especially challenging. While Cerner stated that the training domain was a close copy of the new

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<sup>3</sup> Cerner adoption coaches provide end users with virtual and on-site assistance for a temporary period after go-live. Super users are facility staff who receive additional training to provide peer-to-peer support during classroom instruction, facilitate training scenarios, and offer other facility staff “over-the-shoulder” assistance during and after go-live.

<sup>4</sup> Within the context of this report, the OIG refers to the VA OEHRM Executive Director for Change Management as the VA OEHRM Director of Change Management to avoid confusion with the VA OEHRM Executive Director.

<sup>5</sup> Cerner states that the training domain is a close copy of the new EHR’s live version that provides a virtual training environment; for example, a provider could learn the new EHR’s capabilities by entering various orders, documenting a primary care visit, or placing a consult.

EHR's live version, the OIG determined the new EHR available for practice by users did not closely match VA's version, which diminished facility staff's ability to operate the new EHR at go-live. The OIG found the challenging user role assignment process resulted in inaccurate role assignments that led schedulers to place end users in incorrect training.<sup>6</sup> Examples of OIG-identified gaps in training support included limited assistance and inability of Cerner classroom trainers to answer questions. Additionally, adoption coaches were unavailable or of limited utility; facility leaders and staff reported that they largely relied on super users for training support during the new EHR's implementation.

In an OIG survey administered after two to three months of using the new EHR, facility staff assessed their ability to use core functions of the EHR. Results indicated

- 62 percent of respondents Disagreed or Strongly Disagreed with the statement, "Relevant patient information is readily available within new VA EHR and/or JLV [Joint Legacy Viewer];"<sup>7</sup>
- 53 percent of respondents Disagreed or Strongly Disagreed with the statement, "I am able to share patient information within new VA EHR with other clinicians without difficulty;"
- 65 percent of respondents Disagreed or Strongly Disagreed with the statement, "I am able to navigate the different applications of the new EHR without difficulty;" and
- 55 percent of respondents Disagreed or Strongly Disagreed with the statement, "I am able to document patient care in the new VA EHR without difficulty."

Only 5 percent of survey responders reported in the affirmative to all four items. Overall, the survey results showed that after training and two to three months of new EHR use, only a small percent of facility users reported facile use with EHR core functions.

The VA OEHRM Director of Change Management acknowledged to the OIG deficiencies in training including

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<sup>6</sup> The role assignment process identifies the type of account for each EHR user and determines the type of training the employee receives.

<sup>7</sup> The JLV is a web application with an interface that provides an integrated, read-only view of EHR data from the VA, DOD, and community partners through the Veterans Health Information Exchange.

- Underestimating ingrained processes oriented around the legacy EHR,
- Failing to address users' expectations with how long it would take to feel confident using the new EHR, and
- Not training end users in the context of their teams and day-to-day functioning.

The VA OEHRM Director of Change Management reported ongoing efforts to address the VA OEHRM-identified training deficits. The OIG could not determine whether the VA OEHRM's planned efforts will ameliorate the training content and delivery problems identified as VA OEHRM was continuing to work on changes to training at the time of the OIG's inspection.

The OIG found that as part of its contract management, the VA OEHRM Change Management completed ongoing assessments of Cerner's work on training and identified frequent, recurring deficits in meeting project deadlines, staffing, management, and quality of products. Despite the extensive report of deficiencies with Cerner's work on training, VA OEHRM contracting officials scored Cerner's performance largely at the satisfactory level, the minimum rating to meet contractual requirements.

VA OEHRM leaders were aware of the Cerner training deficiencies. As a result of these problems, the VA OEHRM Director of Change Management, a Cerner counterpart, and a senior Cerner executive had frequent meetings that continued at the time of the OIG's inspection. Although VA OEHRM's Director of Change Management cited actions taken to address Cerner's inadequate performance with training, the OIG was not able to confirm whether those actions led to substantive changes in contractor performance given that Cerner continues to work on training through a no-cost extension to the contract.

The OIG found that while VA OEHRM Change Management attempted to evaluate training and the VA OEHRM Executive Director asserted having a "strong baseline" of metrics, the VA OEHRM plan did not include an actionable evaluation of training. The OIG determined that the available plan, which the VA OEHRM Director of Change Management described as in its "infancy," was not followed by VA OEHRM. The VA OEHRM Executive Director asserted in congressional testimony of "constantly conducting surveys to see whether we are, in fact, evaluating the right things." Five months post go-live, when asked about specifics of a plan, the VA OEHRM Director of Change Management told the OIG "in terms of having an actual, well-thought-out designed plan at this point, no we don't." As of March 2021, VA OEHRM's Office of Change Management is working on initiating a substantive plan to evaluate training within three to six months.

Disturbingly, leaders from VA OEHRM Change Management withheld some training evaluation data requested by the OIG and altered other data prior to sending to the OIG. The integrity and thoroughness of information provided by VA is required by law and is critical to the OIG's mission. The OIG has notified VA senior leaders of this issue and is further pursuing the matter.

Because the OIG was not provided complete information as requested, end user's training experience as outlined in the VA OEHRM training evaluation plan could not be fully evaluated.

During its inspection, the OIG identified other concerns regarding provider productivity, patient complaints, and low employee morale. The facility's ability to generate metrics of facility productivity using the new EHR was limited, but available data suggested a significant decrease. The OIG concluded that facility leaders and staff anticipated a decrease in provider productivity and identified that new EHR training factors played a role in decreased productivity. Facility leaders and patient advocates did not follow VHA policy to track and communicate trending complaints, which prevented identification of critical trends and follow up by facility leaders. Additionally, facility leaders and staff frequently reported feeling exhausted, struggling, and citing feelings of diminished morale following the new EHR's implementation.

In a related finding, the OIG identified two training issues faced by the facility that highlighted challenges with the previously mentioned EHR modernization governance structure. As noted above, VA OEHRM has the responsibility for overseeing the deployment of the EHR, including training, and coordinates its actions with VHA, the primary user of the new EHR. The OIG found that the Facility Director and Acting Under Secretary for Health notified VA OEHRM's Executive Director and Chief Medical Officer that they felt an operational readiness assessment was necessary months prior to the initial go-live.<sup>8</sup> In addition, also months prior to the initial go-live date, the OIG found that the Facility Director and Acting Under Secretary for Health reported significant concerns to VA OEHRM leadership regarding disturbing feedback from staff on the insufficient training curriculum. With both issues, VHA met resistance from VA OEHRM leaders or was not included in decision-making discussions with VA OEHRM leaders. The OIG is concerned that failure to include VHA leaders and end users of the new EHR in operational decisions can affect the success of implementation.

VA and VHA leaders face enormous challenges in this mammoth endeavor. Effective training is just one of them, but it affects many of the other issues. Moreover, without proper training, the quality of health care could suffer. The OIG observed that facility employees demonstrated a commitment to this transition despite the significant shortcomings of training identified in this review, and they did so while concurrently prioritizing the care of veteran patients in the setting of a global pandemic. The success of this transformation is dependent on the continued dedication and resilience of VHA front-line staff. The lessons learned at this facility can serve as a valuable roadmap for future deployments.

The OIG made eight recommendations to the VA Deputy Secretary related to EHR training content and delivery, the evaluation of training, Cerner's contractual performance for training, and reviewing the governance of the electronic health record modernization effort. The OIG

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<sup>8</sup> The Acting Under Secretary for Health, Dr. Richard Stone, served as the VHA Executive in Charge prior to January 20, 2021.

made three recommendations to the Under Secretary for Health related to the establishment of a group with expertise in VHA operations and Cerner electronic health record use, tracking EHR patient complaints, and assessing employee morale.

## Comments

The OIG submitted the draft report to VA on April 27, 2021, and conducted an exit briefing on April 29, 2021. On May 4, 2021, the VISN Director and Medical Center Director acknowledged receipt and review of the report and recommendations (see appendixes G and H). The recommendations were directed only to the Office of the Deputy Secretary and the Office of the Under Secretary for Health and the OIG expected to receive a response from each of them. However, the OIG did not initially receive a response from either but instead received comments from VA OEHRM staff on May 7 and May 12, and a response from the VA OEHRM Executive Director to the recommendations on June 15, 2021. The OIG requested confirmation that the Acting Deputy Secretary and Acting Under Secretary for Health had reviewed and concurred with VA OEHRM's comments and response. On June 18, 2021, the Acting Deputy Secretary informed the OIG that these comments and response did not represent the views of the Acting Deputy Secretary or the Office of the Under Secretary for Health and submitted a revised response to the OIG on June 25, 2021 that included concurrences to all recommendations from the Acting Deputy Secretary and the Acting Under Secretary for Health as well as acceptable action plans (see appendixes E and F). The OIG will follow up on the planned actions through completion. The OIG considers the June 25, 2021, action plan to be the official and final VA response.



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## Abbreviations

DOD	Department of Defense
EHR	EHR
MHS GENESIS	Military Health System GENESIS
OEHRM	Office of Electronic Health Record Modernization
OIG	Office of Inspector General
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network
VistA	Veterans Health Information Systems and Technology Architecture



## Introduction

The VA Office of Inspector General (OIG) conducted an inspection to assess training for the VA's transition to a new electronic health record (new EHR) at the Mann-Grandstaff VA Medical Center (facility) in Spokane, Washington. October 24, 2020, served as the first go-live for the new EHR when facility staff began using the new EHR.<sup>1</sup> Nearly five months later, on March 19, 2021, the VA announced that an ongoing analysis of the facility's new EHR post-deployment activities had prompted a "strategic review" and "need for a schedule shift" of future go-live sites.<sup>2</sup>

VA's Office of Electronic Health Record Modernization (VA OEHRM), a group that does not actively deliver health care within the Veterans Health Administration (VHA), is charged with implementation of the new EHR, while healthcare-provider end users in VHA are charged with providing quality health care to patients using the new EHR. While VA OEHRM is the designated implementing body, in order to optimize configuration of the new EHR to support healthcare end users' delivery of safe patient care, the two groups should work in tandem to identify ways to customize the new EHR.

The OIG's review of new EHR training for the facility identified multiple, broad deficiencies related to

- Training content,
- Training delivery,
- VA OEHRM's attempt to evaluate training,
- VA OEHRM's management of Cerner's training work, and
- VA OEHRM's resistance to VHA-identified concerns.

While the OIG's review was specific to the facility employee training experience, the review addresses systemic concerns with VA OEHRM's delivery of training efforts. The OIG observed that facility employees consistently demonstrated a commitment to a successful transition of a new EHR while concurrently prioritizing the care of patients during a global pandemic. The OIG recognizes the enormous and challenging effort to convert EHR systems and acknowledges the significant work and commitment of VA staff to accomplish this task.

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<sup>1</sup> VA EHR Modernization, *VA Launches New Electronic Health Record System in Pacific Northwest in Mission to Modernize Care for Veterans*, accessed May 11, 2021, <https://www.ehrm.va.gov/news/article/read/va-launches-new-electronic-health-record-system-in-pacific-northwest>.

<sup>2</sup> VA Office of Public and Intergovernmental Affairs, *VA announces strategic review of Electronic Health Record Modernization program*, accessed May 11, 2021, <https://www.va.gov/opa/pressrel/pressrelease.cfm?id=5647>.

## Facility Background

The facility, part of Veterans Integrated Service Network (VISN) 20, comprises the facility and four community clinics located in Ponderay and Coeur d'Alene, Idaho; Libby, Montana; and Wenatchee, Washington. The facility operates 24 hospital beds, 34 community living center beds, and coordinates referrals and tertiary care with the VA Puget Sound Health Care System and the VA Portland Health Care System.<sup>3</sup> From October 1, 2019, through September 30, 2020, the facility served over 35,000 patients. The VHA classifies the facility as a Level 3, low complexity facility.<sup>4</sup>

## VA Electronic Health Record Modernization Project

In the 1980s, VA developed one of the earliest EHRs that became Veterans Health Information Systems and Technology Architecture (Vista) in 1996.<sup>5</sup> Vista is a comprehensive health information system and EHR that provides all capabilities required for VA clinical, business, and administrative processes, and serves an essential role in VA's healthcare delivery mission. By 2017, in order to maintain and improve Vista's operational capability, substantial investment was required to keep pace with advancements in healthcare technology and cybersecurity. Further, after many years of attempting to achieve EHR interoperability, VA and the Department of Defense (DOD) were unable to adopt the same EHR or create a congressionally-required interoperable medical record platform.

In February 2017, the DOD began deployment of its new EHR, known as Military Health System GENESIS (MHS GENESIS). At its core, MHS GENESIS is the commercial EHR developed by the Cerner Corporation (Cerner).<sup>6</sup> On June 1, 2017, former VA Secretary David Shulkin announced it to be in the public's interest to have a common EHR platform across VA and the DOD.<sup>7</sup> In this announcement, Secretary Shulkin determined that VA may issue a solicitation directly to Cerner for the acquisition of the EHR system, which the DOD had begun to deploy.

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<sup>3</sup> Veterans Health Administration, *Criteria and Standards for VA Community Living Centers*, August 13, 2008. VA community living centers, formerly known as nursing home care units, provide a skilled nursing environment for patients needing short and long stay services.

<sup>4</sup> The VHA Facility Complexity Model categorizes medical facilities by complexity level based on patient population, clinical services offered, educational and research missions, and complexity. Complexity Levels include 1a, 1b, 1c, 2, or 3. Level 1a facilities are considered the most complex. Level 3 facilities are the least complex. VHA Office of Productivity, Efficiency and Staffing.

<sup>5</sup> Office of Information and Technology, *History of IT at VA*, accessed January 31, 2020, <https://www.oit.va.gov/about/history.cfm>; Office of Information and Technology, *VA Monograph*, January 13, 2017, accessed January 11, 2020, [https://www.va.gov/VISTA\\_MONOGRAPH/VA\\_Monograph.pdf](https://www.va.gov/VISTA_MONOGRAPH/VA_Monograph.pdf).

<sup>6</sup> Cerner, *About Us*, accessed January 31, 2020, <https://www.cerner.com/ap/en/about>. Cerner Corporation works with healthcare facilities to develop EHRs that are based upon its *Millennium* and *HealthIntent* template platforms.

<sup>7</sup> Department of Veterans Affairs, Office of the Secretary, *Determination and Findings*, June 1, 2017.

On May 17, 2018, former Acting VA Secretary, Robert Wilkie announced that the VA had signed a \$10 billion contract with Cerner to transition to a new EHR system. Since the new VA-wide EHR would share the same commercial software platform and data hosting environment as the DOD EHR, VA would further benefit from the DOD's recent early deployment experience.<sup>8</sup> DOD began the rollout of MHS GENESIS in Spokane, Washington, on February 7, 2017, at Fairchild Air Force Base and continued that roll out at additional sites in the Pacific Northwest. The DOD's early EHR deployments faced multiple delays and setbacks that, according to VA OEHRM, were shared with VA to assist and guide its own deployment strategy. The lessons from DOD's experience highlighted the importance of training and emphasized a variety of strategies to improve the roll out process. These strategies included

- Using a mix of clinician and technician super users,
- Early assignment of super users,
- Access to a practice training environment,
- Additional “hands on” training time, and
- Increased focus on workflow training.

The VA Deputy Secretary, who serves as the second in command to the Secretary, has responsibility for the Electronic Health Record Modernization effort.<sup>9</sup> As the office established to oversee the modernization effort, VA OEHRM reports to the Deputy Secretary.<sup>10</sup>

VA OEHRM responsibilities include management of the preparation, deployment, and maintenance of the new EHR.<sup>11</sup> This means that VA OEHRM has responsibility for training, which includes teaching healthcare workers how to navigate the new EHR so that imaging studies, consults, appointments, communication with other providers, or other plans for care occur with the desired result. VA OEHRM leadership includes an Executive Director, Chief Medical Officer, and Chief Technology Integration Officer.<sup>12</sup> VA OEHRM coordinates its efforts with two organizations that fall outside of the Office of the Secretary—VHA and the Office of Information and Technology (see figure 1).

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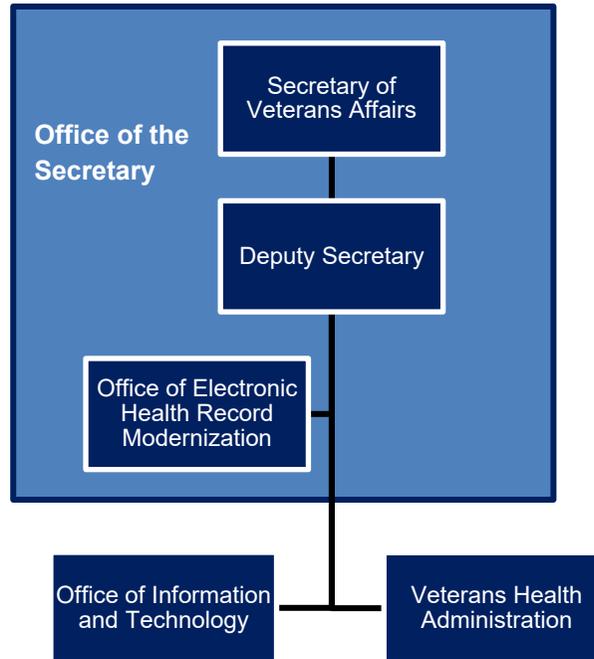
<sup>8</sup> The United States Senate confirmed Robert Wilkie as the Secretary of Veterans Affairs on July 23, 2018. Mr. Wilkie was the Acting Secretary from March 28 to May 29, 2018.

<sup>9</sup> Department of Veterans Affairs, *2020 Functional Organizational Manual, Version 6*, accessed March 24, 2021, <https://www.va.gov/VA-Functional-Organization-Manual-2020-4.pdf>.

<sup>10</sup> Department of Veterans Affairs, *VA Establishes Office of Electronic Health Record Modernization to Support Transition from Legacy Patient Data System*, accessed September 18, 2019, <https://www.va.gov/opa/pressrel/pressrelease.cfm?id=5084>.

<sup>11</sup> On June 25, 2018, the former Acting VA Secretary, Peter M. O'Rourke, established VA OEHRM.

<sup>12</sup> Office of Electronic Health Record Modernization, *Leadership*, accessed January 17, 2020, <https://www.ehrm.va.gov/about/bios>.



**Figure 1.** Relationship of VA organizations.

Source: *OIG analysis of organizational charts located in Department of Veterans Affairs 2020 Functional Organization Manual Version 6*

## VA OEHRM Change Management

VA OEHRM recognized the need for an emphasis on change management through the new EHR implementation.<sup>13</sup> Within VA OEHRM is the Change Management team (VA OEHRM Change Management) whose focus “is to facilitate a successful EHRM [Electronic Health Record Modernization] transformation by driving awareness and desire” of the user.<sup>14</sup> Four elements comprise VA OEHRM Change Management:<sup>15</sup>

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<sup>13</sup> Change management is a coordinated approach to shifting an enterprise from the current state to the desired future state. Association for Project Management. *What is change management?*, accessed January 23, 2020, <https://www.apm.org.uk/body-of-knowledge/delivery/scope-management/change-management>.

<sup>14</sup> “Electronic Health Record Modernization Task Order 5: 36C10B18N0005—EHRM Functional Baseline Design and Development 0002EC: Change Impact and Readiness Assessment,” Cerner/Department of Veterans Affairs, accessed October 24, 2019. (This is an internal VA document not publicly accessible.)

<sup>15</sup> The information describing the four elements is based on document reviews and interviews with OEHRM staff.

- **Change Management Coordination** oversees change management activities provided by Cerner at VHA facilities in order to help end users understand the coming changes with the new EHR.<sup>16</sup>
- **Training Strategy** drives the training approaches used, to include development of training content and delivery of training to end users of the EHR.
- **VA Innovative Technology Advancement Lab** provides advanced training to increase EHR adoption, promotes standardization, and optimizes the use of advanced analytics.
- **Stakeholder Engagement/Site Communication** provides information for EHR users to foster their engagement.

In October 2020, the Director of Change Management had been in the position for approximately three years, with six staff comprising the Change Management office.<sup>17</sup>

## New EHR Implementation

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

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

On August 7, 2020, VA announced that VA OEHRM had resumed activities with the facility for an October go-live of the new EHR.<sup>18</sup> VA OEHRM leaders further stated that work not directly involving facility staff had continued during the COVID-19 pandemic delay. VA OEHRM worked during that period of time to complete infrastructure readiness requirements at the facility, as well as to complete the requisite 73 interfaces for go-live, including design, build,

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<sup>16</sup> End users are VA employees that access and use the new EHR system to perform tasks associated with their daily jobs.

<sup>17</sup> Within the context of this report, the OIG refers to the VA OEHRM Executive Director for Change Management as the VA OEHRM Director of Change Management to avoid confusion with the VA OEHRM Executive Director. October 2020 was the month the facility began use of the new EHR. By March 2021, the Change Management staff had grown to 10 total employees.

<sup>18</sup> Department of Veterans Affairs, *VA Responds to COVID-19 with Schedule Revisions to Electronic Health Record Implementation*, accessed October 22, 2020, <https://www.ehrm.va.gov/news/article/read/va-responds-to-covid-19-with-schedule-revisions-to-electronic-health-record-implementation>.

connectivity, and technical testing requirements.<sup>19</sup> On September 30, 2020, the VA OEHRM Executive Director reported in congressional testimony that all remaining key milestones would be completed in advance of go-live at the facility. On October 24, 2020, facility providers and administrators began using the new EHR for clinical and administrative work.

## EHR Training Strategy

Cerner developed a specific EHR training strategy that detailed the tools, timelines, techniques, and personnel proposed to train VHA employees on the new EHR.<sup>20</sup> The strategy included Cerner's development of training plans and materials that VA OEHRM would review and approve. Cerner staff would then manage and execute training delivery to VHA employees. The Cerner training content developed for the new EHR was based on standardized workflows, reflecting the work of VA National Councils, which were comprised of subject matter experts for VA, VHA, Cerner, and the DOD.<sup>21</sup> Specifically, Cerner staff then worked with VA National Councils to create the associated training materials. The VA OEHRM Change Management was tasked with oversight of all Cerner-developed training materials and work products.

Per VA OEHRM's End-User Training Overview, the training experience occurs over a six-week period. End users complete a short computer-based 100-level course that provides foundational information.<sup>22</sup> End users then participate in instructor-led, classroom-based, 200- and 300-level courses. The instructor-led training offers end users the opportunity to practice using EHR with workflows for fictional patients. At the completion of 200- and 300-level courses, end users must pass a proficiency check to ensure competence of key learning objectives.

End users must also complete 400-level self-paced activities designed to provide additional learning opportunities. During the first half of the 400-level courses, end users participate in scenario-based training.<sup>23</sup> The second half includes a "sign-on fair" and a "favorites fair" at which time, end users log into the new EHR to establish their individual user preferences. A proficiency check is also required at the 400-level to obtain access to the new EHR.

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<sup>19</sup> Merriam-Webster, *Interface*, accessed March 24, 2021, <https://www.merriam-webster.com/dictionary/interface>. An interface is where systems meet and interact to create a resulting action. The VA OEHRM Director of Change Management opined that, in hindsight, the lack of VA OEHRM contact during this period was a significant factor, which hindered Change Management's ability to prepare facility staff for the upcoming change.

<sup>20</sup> The Cerner-developed training strategy that was provided to the OIG is dated August 2020, four months and 14 days after the original go-live date for the facility.

<sup>21</sup> Workflows describe business or clinical steps from beginning to end, including key tasks and the roles of the individual who perform the tasks. Chief Medical Officer, VA OEHRM, *Memorandum for Understanding Regarding Electronic Health Record Council Participation, Q4 FY19 Revision*, November 22, 2019. The VA National Councils provided subject matter expertise to guide the creation of new EHR workflows.

<sup>22</sup> The EHR training strategy included a learning model with four levels of training sessions, labeled akin to collegiate-courses, from 100- through 400 level courses.

<sup>23</sup> Scenario-based training utilizes VA enterprise workflows or processes to provide realistic training experiences.

Cerner created the corresponding training materials for each of the four content levels. Per the EHR training strategy, VA National Councils reviewed and approved the instructor-led content and materials to ensure the inclusion of validated workflow content into the materials. VA OEHRM then reviewed and approved the training materials. VA OEHRM reviewed and ensured all training content aligned with training objectives and that the workflow and functionality was appropriate to the audience.

According to VA OEHRM, at go-live, Cerner adoption coaches and VHA medical center staff who are trained as super users provide ongoing assistance with navigating the new EHR.<sup>24</sup> Additionally, VHA medical center end users can refer to participant handouts, job aids, quick reference guides, and tip sheets on a facility intranet site.

## Prior OIG Reports

In a facility-related report that was issued April 27, 2020, the OIG reviewed the new EHR system's implementation at the facility to evaluate the potential impact of the transition on access to care, as well as the capabilities that would be initially available. The OIG made eight recommendations to address the impact of the transition to the new EHR system.<sup>25</sup> As of June 29, 2021, six recommendations related to addressing productivity, new EHR mitigation strategies, timely medication refills, and managing community care consults remained open.

In another facility-related report that was issued April 27, 2020, the OIG examined VA's physical and IT infrastructure to determine readiness to proceed with EHR implementation and to identify infrastructure challenges that could impact the overall system deployment schedule. The OIG made eight recommendations to address infrastructure-related deficiencies.<sup>26</sup> As of June 29, 2021, five recommendations remain open.

In a facility-related report that was issued January 8, 2020, the OIG addressed concerns with a departure of providers, inadequate staffing leading to intensive care unit closure, decreased operating room availability, and a temporary leadership appointment. The OIG found that facility leaders were aware of the concerns and had made management decisions to address them. The OIG did not find that the identified concerns were problematic. The OIG made two

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<sup>24</sup> Adoption coaches are Cerner staff available in person and virtually to answer questions and help with issue resolution during and after go-live.

<sup>25</sup> VA Office of Inspector General, *Review of Access to Care and Capabilities during VA's Transition to a New Electronic Health Record System at the Mann-Grandstaff VA Medical Center, Spokane, Washington*, Report No. 19-09447-136, April 27, 2020, <https://www.va.gov/oig/pubs/VAOIG-19-09447-136.pdf>.

<sup>26</sup> VA Office of Inspector General, *Deficiencies in Infrastructure Readiness for Deploying VA's New Electronic Health Record System*, Report No. 19-08980-95, April 27, 2020, <https://www.va.gov/oig/pubs/VAOIG-19-08980-95.pdf>.

recommendations related to patients having timely access to care and sterile processing services.<sup>27</sup> As of February 23, 2021, no recommendations remained open.

## Rationale for Inspection

Former Secretary Wilkie identified the replacement of the VA EHR as one of VA's top priorities, stating that, "[t]he Electronic Health Record has the potential to change the way our veterans are treated, but also change the way we do business, to make the delivery of our services more efficient, make it more timely."<sup>28</sup> Remarking on the importance of a successful transition of the EHR, a facility leader reported, "I think failure in Cerner [the new EHR] represents a risk to the further existence of VHA as a healthcare system. I truly do."<sup>29</sup>

The OIG recognized the importance of an inspection that addressed training for the new EHR given the issues DOD found with training connected to the roll out of MHS GENESIS. In particular, the DOD found numerous deficiencies with its new EHR training:<sup>30</sup>

- Undocumented and inconsistent workarounds
- Poor computer-based training
- Lack of documentation
- "Badly" assigned user roles
- Instructors' lack of both clinical experience and familiarity with the new EHR
- Insufficient training to overcome EHR usability problems
- Insufficient resources for content development and continued training

The focus of this OIG inspection was training for the new EHR at the facility, including

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<sup>27</sup> VA Office of Inspector General, *Review of Staffing and Access Concerns at the Mann-Grandstaff VA Medical Center*, Spokane, Washington, Report No. 19-09017-64, January 8, 2020.

<sup>28</sup> Department of Veterans Affairs, *Department of Veteran Affairs FY 2018-2024 Strategic Plan*, refreshed May 31, 2019.

<sup>29</sup> Within the context of this report, the OIG identified "facility leader" in a broad context for confidentiality purposes. The term, facility leader, is used to include the following roles: department chiefs, supervisors, super users, and EHR modernization leads.

<sup>30</sup> Defense Information Systems Agency, *Testing*, accessed May 21, 2021, <https://storefront.disa.mil/kinetic/disa/service-catalog/#/forms/testing>. The Department of Defense's Joint Interoperability Test Command tests and certifies the armed forces' information technology systems and equipment. They completed analyses of training for the new EHR in April 2018 and July 2020 which identified many concerns. The OIG reviewed the Initial and Follow-on Operational Test and Evaluations.

- Training content,
- Training delivery, and
- Assessment of training.<sup>31</sup>

During its inspection, the OIG identified concerns related to governance challenges with VHA and VA OEHRM. Other concerns included

- Decreased provider productivity,
- Low employee morale, and
- Patient complaint tracking.

## Scope and Methodology

The OIG initiated the inspection on February 27, 2020.<sup>32</sup> The inspection included examination of data and documents from June 2018 through April 2021.

Interviews by the OIG included VA OEHRM leaders: Director, VA Electronic Health Record Modernization Program Control; Executive Director, Change Management; Director, Change Management Coordination; Director, Training Strategy; Stakeholder Engagement Officer; and the VA Innovative Technology Advancement Lab Officer. The OIG also interviewed facility leaders and staff knowledgeable about new EHR implementation.

Relevant VA OEHRM, VHA, and facility policies were reviewed by the OIG. Other documents reviewed were specifically related to the planning, preparation, and implementation of training for the new EHR and included council agendas, SharePoint sites, decision memorandums, contract documents, presentations, briefings, and evaluations. The OIG also conducted a review of over 6,800 email discussions. In the course of the OIG's work, VA OEHRM staff withheld requested data from the OIG and altered other data prior to sending to the OIG. The integrity and thoroughness of information provided by VA is required by law and critical to the OIG's mission. As a result, the OIG has informed VA leaders and is in the process of further examining the issue.

The OIG evaluated planning, preparation, implementation, and assessment of facility employee training on the new EHR. As part of its evaluation, the OIG administered a survey to facility EHR users two to three months after go-live. The OIG invited 1,799 facility staff to participate in

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<sup>31</sup> The OIG reviewed both VA OEHRM's evaluations of Cerner's contracted delivery of training and VA OEHRM's efforts to evaluate training.

<sup>32</sup> From April 1, 2020, through November 30, 2020, the OIG did not engage the facility directly for work related to this review due to the pause of new EHR implementation at the facility.

the survey through email and assess their ability to use core functions of the EHR.<sup>33</sup> A total of 809 staff completed the survey, which is a response rate of 45 percent.

Throughout its work on this inspection, the OIG recognized the hard work of all involved and the challenges associated with implementing the new EHR for the largest integrated healthcare system in the United States.<sup>34</sup>

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

Oversight authority to review the programs and operations of VA medical facilities is authorized by the Inspector General Act of 1978, Pub. L. No. 95-452, 92 Stat. 1105, as amended (codified at 5 U.S.C. App. 3). The OIG reviews available evidence to determine whether reported concerns or allegations are valid within a specified scope and methodology of a healthcare inspection and, if so, to make recommendations to VA leaders on patient care issues. Findings and recommendations do not define a standard of care or establish legal liability.

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

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<sup>33</sup> The OIG acknowledges that survey responses reflect employee opinions regarding their use of the new EHR.

<sup>34</sup> Veterans Health Administration. *About VHA*, accessed January 23, 2020, <https://www.va.gov/health/aboutvha.asp>.

## Inspection Results

Training is critical to realizing the full potential of an EHR.<sup>35</sup> The aim of VA OEHRM's training strategy includes an emphasis on VA-focused learning that considers "the identified roles, associated skills, and knowledge base of staff, and aligns with council-approved design and workflow decisions." VHA requires mandatory training for end users who need access to the EHR to perform their job, and the completion of that training is a requirement for receiving credentials to access the EHR system.<sup>36</sup>

### 1. Training Content

The VA OEHRM-approved training strategy states that "The primary goal of [EHR modernization] training is to effectively train identified VA staff on the Cerner EHR system applications and workflows, so that they can successfully perform job functions while delivering the highest quality patient care and maintaining financial process integrity." In this context, applications refer to the software programs end users operate to perform tasks in the new EHR. The term workflows describes business or clinical steps from beginning to end, including key tasks and the roles of the individuals who perform the tasks.

The OIG reviewed the training content and materials associated with both the system applications and the new EHR workflows. The OIG found that both were insufficient.

As described by one facility leader,

It [training] may have trained us to complete the limited functionality that existed in this [EHR], but if training is meant to show us how we can use this [EHR] as a tool to get our work done, then it was terrible.

### Applications Training

The OIG found that applications training in the classroom and through supplemental materials were both insufficient. In the OIG survey administered two to three months after go-live, answers reflecting respondents' views as to the insufficiency of that training on application-related tasks indicated that<sup>37</sup>

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<sup>35</sup> Office of the Secretary for the U.S. Department of Health and Human Services, Office of the National Coordinator for Health Information Technology, *How should I train my staff?*, accessed February 3, 2021, <https://www.healthit.gov/faq/how-should-i-train-my-staff>.

<sup>36</sup> Department of Veterans Affairs, Veterans Health Administration (VHA), *EHRM Implementation Preparation Guide*, accessed September 30, 2020. (This is an internal VA document not publicly accessible.)

<sup>37</sup> OIG-specific survey results and methodology are presented later in the report.

- 62 percent of respondents Disagreed or Strongly Disagreed with the statement, “Relevant patient information is readily available within new VA EHR and/or JLV [Joint Legacy Viewer],” and<sup>38</sup>
- 53 percent of respondents Disagreed or Strongly Disagreed with the statement, “I am able to share patient information within new VA EHR with other clinicians without difficulty.”

### *Classroom Training*

Cerner introduces user role training in the 200-level curricula. These instructor-led courses, taught over four hours, are designed to provide an interactive “foundational-level solution knowledge” overview of the new EHR. Content is covered in 5 to 50 minute sections, with task topics ranging from an overview of the patient record to the placement of a patient referral.

The OIG reviewed the 200-level training classroom handouts and interviewed VA OEHRM leaders as well as facility leaders and staff.<sup>39</sup> The OIG found that facility leaders coined the term “button-ology” to describe this type of training content, as its focus was on which button to press to get a desired system outcome. One facility leader reported to the OIG that the training was “superficial in the sense of a lot of ‘here’s how you order this, here’s how you order that.’” Similarly, a facility staff training coordinator noted “it was just people sitting down and learning to use the buttons and not having any context for what they were doing.” While this foundational coursework may be a necessary component of new EHR training, it is insufficient to effectively demonstrate how the EHR is used in a clinical and administrative context without additional training.

### *Supplemental Materials*

The VA OEHRM Change Management Director of Training Strategy acknowledged to the OIG that not all content was included in formal training course materials and some topics required more time and information than could be included within the classroom setting. The OIG learned that to provide this beyond-the-classroom training, VA OEHRM and Cerner worked together to create more than 200 various job aids, quick reference guides, tip sheets, and other resources that were either emailed directly to end users or placed on a facility EHR modernization intranet site.

For example, the Cerner Message Center was a function of the new EHR that facility staff used to collaboratively communicate about patients, including review of patient test results and

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<sup>38</sup> The JLV is a web application with an interface that provides an integrated, read-only view of EHR data from the VA, Department of Defense, and community partners through the Veterans Health Information Exchange.

<sup>39</sup> In response to an OIG document request for training materials, the OIG received the participant handouts associated with the 200-, 300-, and 400-level courses. Participant handouts are a type of training material that provides the information an end user needs to complete a course.

prescription requests. Despite its utility, Message Center was only discussed generally during classroom training; Cerner produced a reference guide to teach staff how to use Message Center. Despite the significance of the material covered within these supplemental training materials, the VA OEHRM Director of Change Management stated the supplemental materials were not a mandatory element of course curricula, but created to fill identified training gaps. The OIG determined that because these supplemental materials were optional resources, no means existed to ensure end users' review or proficiency.

In sum, the OIG concluded that classroom training and the corresponding supplemental materials were insufficient to train end users on how to operate the new EHR due to a focus on "button-ology" and the reliance on end users to review optional supplemental materials.

## Workflows Training

The OIG found that classroom workflows training was insufficient. The OIG survey of facility staff addressed two workflow-related tasks, with<sup>40</sup>

- 65 percent of respondents Disagreed or Strongly Disagreed with the statement, "I am able to navigate the different applications of the new VA EHR without difficulty," and
- 55 percent of respondents Disagreed or Strongly Disagreed with the statement, "I am able to document patient care in the new VA EHR without difficulty."

Workflow training focuses on process changes and results in the understanding of how an end user's unique role fits into the overall process of patient care. New workflows result in changes to how end users perform their jobs, such as the scheduling of consults or how a provider performs a physical examination.<sup>41</sup> Workflows connect clinical activities and are "essential to the effective and safe delivery of patient care."<sup>42</sup>

The new EHR introduced more than 900 novel workflows to facility end users. Per the EHR training strategy, Cerner was to ensure that these workflow and process changes were incorporated into training.

## Classroom Training

The OIG found that the 300-level classroom training had significant workflow training gaps. The new EHR training strategy states that the Cerner-designed instructor-led 300-level course curricula must include workflow training. Despite the focus of the 300-level courses on

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<sup>40</sup> OIG-specific-survey results and methodology are presented later in the report.

<sup>41</sup> EHR Intelligence, *4 EHR Best Practices for Improving Clinical Workflows*, accessed March 6, 2021, <https://ehrintelligence.com/news/4-ehr-best-practices-for-improving-clinical-workflows>.

<sup>42</sup> Zheng, Kai, Ratwani, Raj M., Adler-Milstein, Julia, "Studying Workflow and Workarounds in Electronic Health Record-Supported Work to Improve Health System Performance," *Annals of Internal Medicine* 172, (Supplement, 2020): 116-122.

workflow, facility staff reported an absence of workflow training content and associated materials. A facility leader expressed frustration that

The training needs to be a little bit more substantive ... people training providers and staff should understand enough of what the work is, that they cannot just do the buttonology but really, you know, teach some workflows to a depth where people can actually use it in their day-to-day and actually feel confident. That definitely did not happen.

Facility leaders and staff further told the OIG that the workflows classroom training did not

- Prepare them for go-live,
- Teach them how to apply what they learned to their work,
- Train them on how to use the new EHR, or
- Explain the meaning behind the process of which buttons to push.

The VA OEHRM Director of Change Management corroborated that the classroom workflow training was inadequate and told the OIG

That we change managed to the technology and not so much sort of [*sic*] ... we changed managed to the people, but we missed more of the process and how that technology sits inside people's like [*sic*] day-to day work and day-to-day lives. So, folks are struggling ... rightfully so.

The OIG concluded that the 300-level classroom training did not meet EHR training strategy requirements of workflow training based upon VA OEHRM and facility staff reports of the absence of workflow content.

## 2. Training Delivery

The OIG reviewed Cerner- and VA OEHRM-developed training documents and materials to evaluate the delivery of training and identified four factors that may have negatively affected end users' ability to use the new EHR at go-live: insufficient time for training, limitations with the training domain, challenges with user role assignments, and gaps in training support.

### Training Timeline

The OIG found that facility leaders and staff identified that they had insufficient time to cover complex training topics and that balancing training with their duties during the COVID-19

pandemic was especially challenging. The allocation of time dedicated for staff training is a critical step of an EHR implementation process.<sup>43</sup>

### *Insufficient Time for Training*

Facility leaders expressed concerns that the dedicated training time did not adequately cover complex training topics. VA OERHM established a two-month period prior to go-live for super user training, consisting of 24–40 training hours depending on assigned roles. For end users to complete training courses, VA OEHRM designated an approximately seven-week time period prior to go-live, equivalent to 12–28 hours.

The OIG was informed that the Cerner Learning Team trained 135 facility super users approximately 10 weeks prior to the October 2020 go-live and around 1,165 facility end users eight weeks prior to go-live, within VA OEHRM timeframes.<sup>44</sup> Nevertheless, the OIG found that facility leaders and staff perceived the amount of new EHR training hours as insufficient due to the increased complexity of the new EHR as compared to the previous EHR and the poor quality of training content. Interviewee comments below reflect these perceptions:

- “I think the training could have been expanded by quite a bit because the system is so much more complex than what we're currently using.”
- “From the training that I received from Cerner, I had a high anxiety level, I didn't feel that I could call up a patient, discuss whatever I needed to and then document what I had discussed with the patient within Cerner itself.”
- “I mean it may have been sufficient if the training were of higher quality.”

### *Scheduling Training and Duties*

Facility staff reported challenges with attending training due to difficulties balancing training with ongoing clinical duties and impacts from COVID-19.

VA OEHRM materials described training schedules for instructor-led training that provided multiple sessions throughout the day and evening, Monday through Saturdays, to support end users' schedules. Facility managers were responsible for working with end users to adjust daily schedules in order to attend training. A facility leader who scheduled end users described VA OEHRM's scheduling instructions as chaotic and confusing, which caused end users to present for classes for which they were not scheduled. A facility employee told the OIG of repeatedly

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<sup>43</sup> California HealthCare Foundation, *Training Strategies: Electronic Health Record Deployment Techniques*, accessed March 9, 2021, <https://www.chcf.org/wp-content/uploads/2017/12/PDF-TrainingStrategiesEHRDeployment.pdf>.

<sup>44</sup> The Cerner Learning Team consists of Cerner staff responsible for the execution and oversight of the transition to the EHR training strategy.

being scheduled for training on days off, resulting in an inability to complete two courses more than a month after go-live in October 2020.

A facility leader reported that “we didn’t stop services during COVID, we just transferred everything to virtual care and so we scheduled out for three or four months so by the time the training schedule came out we had to try and rearrange but not cancel anybody.” Facility leaders also reported that end users and trainers experienced COVID-19 infection and exposure that resulted in canceled training and complicated scheduling for make-up training. A primary care end user further commented “a lot of other people...were literally crying” over problems with completing training and managing patient care.

While the OIG could not determine the extent of the impact concerning facility leaders and staff reports of insufficient training time and challenges with balancing training and clinical duties; increased training time and improved scheduling instructions and procedures would likely benefit end users during new EHR implementation.

## Training Domain

The OIG found that facility leaders and staff reported limitations with the training domain that negatively affected staff ability to use the new EHR at go-live. Cerner states that the training domain is a close copy of the new EHR’s live version that “provides a virtual training environment that clinicians, local Information Technology staff, Biomed staff, and other non-clinical system users can use to learn and practice [new EHR] applications before and after go-live.”<sup>45</sup> However, VA OEHRM materials described the training domain as a “limited use version of the live EHR system used by trainers, super users, and end users during 200 through 400 level training courses.” VA OEHRM also stated that the training domain “is to be used only during training in the structured classroom environment” and that “the train[ing] domain will not be accessible outside of the training.”<sup>46</sup>

### *Training Domain Functionality*

Facility leaders reported that incomplete functionalities within the training domain affected end users’ ability to operate the system at go-live.

The OIG learned that Cerner finalized the training domain in May 2020 in anticipation of go-live in October 2020 and changes to the new EHR made after this date were not reflected in the training domain. The OIG found that VA OEHRM materials noted a variety of functionalities not available in the training domain that were available at go-live, including additional

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<sup>45</sup> Cerner, *Electronic Health Record Modernization Task Order 1: 36C10B18N0001 – Project Management 2003CA: Training Strategy*, August 11, 2020. (This is an internal VA document not publicly accessible.)

<sup>46</sup> VA Office of Electronic Health Record Modernization, *Train Domain*, accessed December 10, 2020. (This is an internal VA document not publicly accessible.)

workflows and user roles. A VA OEHRM Change Management leader confirmed completion of some EHR functionalities after the training domain was finalized, requiring the use of supplemental materials during training.

A facility leader described the functionality differences between the training domain and the new EHR as a “big gap” that contributed to a lack of staff training on workflows. Facility leaders reported training domain limitations affected end users’ ability to learn and practice new EHR workflows, leading one facility leader to have “severe concerns that it was not going to enable me to do my job.” Facility leaders also reported issues with the functioning of the training domain and that Cerner Learning Team reassured end users that inoperable elements of the training domain would work at go-live. When questioned if those functions actually worked at go-live, a facility nurse manager reported “I couldn’t tell you. I don’t even remember the clicks they had us go through.”

### *Training Domain Availability*

Facility leaders and staff reported that there was an absence of the training domain’s availability outside of the classroom that contributed to their knowledge deficit.

VA OEHRM documents stated the training domain was not a “sandbox” or “play” environment to be used outside the training environment; access was restricted to the completion of approved agendas and scenarios only during scheduled classroom activities.

The OIG learned that facility leaders and staff identified that limited time to practice in the training domain left them inadequately prepared to use the new EHR. A facility leader identified the lack of a sandbox to practice outside of training, coupled with the length of time between training and go-live, as inadequate for many staff. A facility leader also described the use of the training domain as a new experience for staff and the process as “different from the way we have done that before,” noting that training previously took place in the live EHR using fictitious patients. A facility staff nurse stated, “Twelve hours spread out over I think it was like a four to five week time...isn’t a whole lot when you don’t get time to play with it...at go-live, we were all like we don’t know what note to click.”

### *VA OEHRM’s Analysis of Training Domain Limitations*

The OIG learned from VA OEHRM’s Director of Change Management that Cerner recommended restricted access to the training domain and that VA OEHRM agreed with the restriction.<sup>47</sup> The Director of Change Management added that it was clear to VA OEHRM from the beginning that the training domain was for classroom use. The Director of Change

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<sup>47</sup> The training domain was restricted to classroom use as a user outside the classroom could affect training by using a patient record in the test system that was being used by a class.

Management further shared with the OIG that there was another version of the EHR available for practice, but that access was not widely distributed.<sup>48</sup>

VA OEHRM's Director of Change Management viewed the training domain as very similar to the new EHR and that lack of training domain access was not a significant factor in staff training and use of the new EHR except for "the big thing that was not in was referral management, but that's the thing that strikes me as the place where we have the biggest gap [in training]."

The Director of Change Management opined that Change Management not having contact with the facility for five months due to the COVID-19 pandemic had the biggest impact on training, not an inaccessible training domain to practice.

I mean, maybe could have a sandbox have helped, but I think people were so focused on the ramp up to go-live while we were still having all of the experiences with [COVID-19] and in their workplace and in their lives. Might some people have taken advantage of a sandbox? They might have, but I don't think it necessarily was a significant contributing factor had we had it we would have had a massively different experience. But if we would have been able to have contact with people for five months that would have made a difference.

The VA OEHRM Director of Change Management acknowledged that facility staff understood they were going to be able to practice with the EHR and that "it was a miss from a communication standpoint."

The OIG found that training domain functional gaps and the lack of a training domain available for staff to practice working in the EHR had a negative impact on facility staff's use of the new EHR. The OIG did not concur with the VA OEHRM Director of Change Management's assessment that training domain limitations were inconsequential given facility leaders and staff reports of the need for a training domain that was available and mirrored the live EHR.

## **User Role Assignment Process**

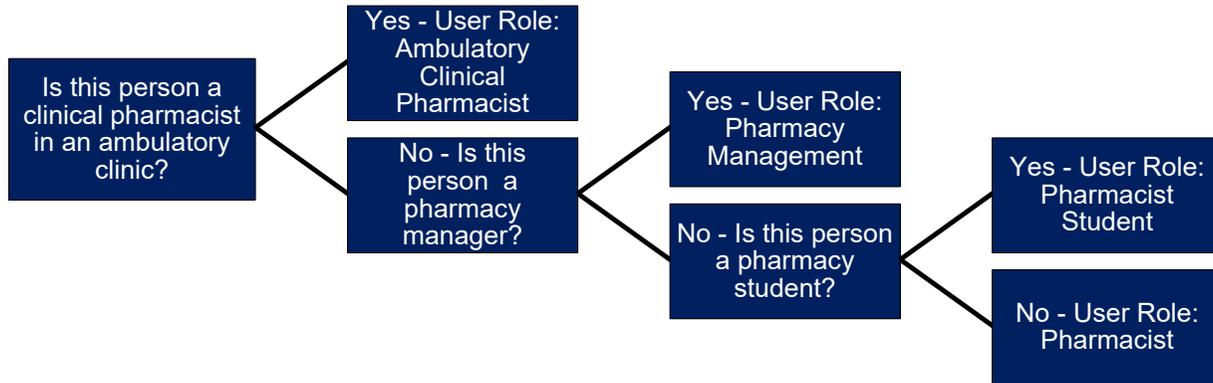
The legacy VistA EHR system assigns permissions that can be modified for each user's needs. The new EHR is not permissions-based and provides access through Cerner defined user roles. The correct assignment of user roles is a key component of training, as the user's assigned role determines the type of training the employee receives. Per the Office of the National Coordinator

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<sup>48</sup> The VA OEHRM Director of Change Management reported that Cerner did not have a contractual obligation to deliver a "sandbox" training environment in which users might practice with the new EHR. Additionally, the version available for practice was not specific to VA.

for Health Information Technology, this role-based training method is an “effective training strategy” that aligns training with employee roles and responsibilities.<sup>49</sup>

The EHR training strategy required VA to provide Cerner with role-based data, including job descriptions, job titles, and human resources information, in order to classify facility staff positions into over 300 VHA-specific user roles. Cerner then developed user role trees that determined the new EHR user role based on specialty area, patient care responsibilities, and managerial duties (see figure 2).<sup>50</sup>



**Figure 2.** Example of an EHR user role tree.  
Source: Adapted from Cerner EHR role tree example.<sup>51</sup>

The OIG found the challenging user role assignment process resulted in inaccurate role assignments that led schedulers to place end users in incorrect training.

A facility leader reported meeting with Cerner staff and facility supervisors to review and validate user role assignments through the user role trees prior to the initially scheduled March 2020 go-live and again in July 2020. Despite those meetings, facility leaders and staff reported difficulty with assigning roles due to

- Lack of familiarity with the new EHR user roles,
- Need for some end users to have multiple user roles assignments,<sup>52</sup>
- Abbreviated time period to assign staff into user roles,

<sup>49</sup> Office of the Secretary for the U.S. Department of Health and Human Services, Office of the National Coordinator for Health Information Technology, *How should I train my staff?*, accessed February 3, 2021, <https://www.healthit.gov/faq/how-should-i-train-my-staff>.

<sup>50</sup> The user role tree was a graphic model of decisions that helped to assign the correct user role to end users.

<sup>51</sup> VA Office of Electronic Health Record Modernization, “*User Role Assignment Standard Operating Procedure*,” Version 1.0, October 15, 2020. (This is an internal VA document not publicly accessible.)

<sup>52</sup> Staff with varied duties may require multiple roles in the new EHR such as an outpatient care nurse who also performs wound care.

- Changes in staffing,
- Complicated assignment processes, and
- VA OEHRM documents lacking sufficient content to determine accurate assignments.

One facility leader told the OIG mistakes were made assigning user roles due to inadequate instructions provided:

We had to fill out this massive spreadsheet called the User Role Assignment Spreadsheet. We were not given adequate instructions to do so. And, everything keys off of this spreadsheet. And, we did the best we could, and then later on found out that we made mistakes in our assignments. Then we were asked to fill out training schedules, which we did, three times. And then we were finally tasked with sitting down with a staff member to review what was in our training schedules that we sent in, again, and they [Cerner] still got it wrong.

The OIG determined that the VA OEHRM Director of Change Management validated facility leaders and staff concerns about the user role assignment process describing it as “very painful in the beginning” and noted VA OEHRM deficiencies with training staff on user roles.

The OIG concluded that user role assignment process inadequacies led to both incorrect user role assignments and subsequent incorrect training assignments.

## **Training Support**

The OIG found that facility leaders and staff largely relied on super users for training support during the new EHR’s implementation.

In February 2020, the VA OEHRM Chief Medical Officer informed the Facility Director that, “The level of Cerner and [EHR modernization] support during go-live and the weeks afterward will be unprecedented in VHA.” The OIG learned of three methods of training support for end users:

- Cerner classroom trainers
- Cerner adoption coaches
- Super users

Cerner classroom trainers provided end user training support within 200-, 300-, and 400-level classroom training.<sup>53</sup> These trainers received assistance from a subset of facility end users, known as super users, who received additional training to provide peer-to-peer support during

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<sup>53</sup> This included both in-person and virtual classroom activities.

classroom instruction and to facilitate training scenarios.<sup>54</sup> Super users also provided end users “over-the-shoulder” assistance during and after go-live. Cerner adoption coaches were also required to “provide real-time virtual and on-site support before, during and after go-live to ensure that trained end users feel comfortable and confident using the Department of Veterans Affairs (VA) new EHR.”<sup>55</sup>

### *Cerner Classroom Trainers*

Facility leaders and staff identified concerns with Cerner classroom trainers that included

- Lack of clinical knowledge,
- Lack of EHR knowledge, and
- Inability to address questions.

A facility leader commented on Cerner training staff’s lack of clinical knowledge:

I do think that the trainer tried to make it applicable but not having a clinical background, I’m not sure he was able to really understand what was missing.

A facility leader stated

The Cerner people we were working with were not [outpatient care] providers, had not been, did not really understand [outpatient care] in VA and so we just figured we’re going to figure it out because that is what we do in the VA. Right?<sup>56</sup>

Other statements by staff indicated that Cerner trainers knew specific functions of the new EHR such as

The orders parts, the workflow parts, they knew the dark menu and the light menu and how to search a patient. We covered that lots and lots of times, but able to really kind of sit down in their day-to-day and go through their workflow, they were very confused.

One facility leader reported that it was like calling technical support, “yeah, they can help you if it stays right on script, but if it goes off script even a teeny bit, nothing.” Another facility leader was less critical:

As far as the technical aspects, the instructor was well informed about the technical use of the product, as far as how things function, where to find things,

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<sup>54</sup> Requirements for super user certification included attendance at various super user focused events and passing training competencies. Super users also learned a variety of content within and outside their user role to aid end users.

<sup>55</sup> VA OEHRM, *Adoption Coaches Overview*.

<sup>56</sup> Facility department omitted for confidentiality.

how to add, how to subtract, how to modify things in the medical record, how to complete a specific task, those general concepts were well done.

However, that same facility leader added that “there were several times when [an] instructor would respond with something as simple as ‘I don’t know that’ or ‘I haven’t been trained in that part’ or other things that were not within the script.”

Facility staff repeatedly referred to Cerner trainers deferring questions, stating, “let’s put that in the parking lot.” A facility leader summarized concerns with the inability to address questions and deferring issues to the parking lot:

I mean figuratively....I want to know where that parking lot is....It became actually this running joke among staff in training because people were raising practice-based questions....like here is a situation I encounter in my work regularly, and not only were they not receiving an answer during the training itself, but they were not receiving follow up....I would say I think there are probably countless examples where real relevant issues were raised during training....I don’t care if the staff person doesn’t get an immediate answer if the problem gets fixed, but as soon as go-live happened it became clear that nothing had happened to our feedback.

The OIG found that facility staff reported Cerner classroom trainers provided limited assistance with basic functions of the new EHR and struggled to address questions with practice-based work as staff questions were frequently deferred without resolution.

### *Cerner Adoption Coaches*

Per VA OEHRM, Cerner adoption coaches support a successful EHR implementation by providing end users with virtual and on-site assistance “around-the-clock” for 90 days after go-live. VA OEHRM characterizes adoption coaches as

- “Experts in standard functionality for clinic settings,”
- Providing “support [for] end users with varied technical skills,”
- There to “promote a positive attitude toward VA’s new EHR,” and
- “Accessible in the units for go-live during normal operating hours.”

In testimony to Congress on September 30, 2020, VA OEHRM’s Chief Medical Officer stated, “We actually will have adoption coaches there for the 90 days after go-live to be able to support folks so that even if they felt unsure after their training they would still have that--the ample support for quite a while.” The VA OEHRM Executive Director emphasized that statement during the same hearing,

The go-live date is a point in time, is a single date. The transition continues. Cerner is not walking away from us. They will be there, you know, as social distancing allows, shoulder-to-shoulder. We've got just an incredible amount of expertise available to the clinicians even after that 24 October date that is going to help hone and facilitate understanding even after go-live date for up to six weeks. So, I don't want you to think we're walking away on the 24<sup>th</sup> [the date of go-live], please.

Contrary to the VA OEHRM assertions, facility leaders repeatedly shared with the OIG both a lack of availability of adoption coaches as well their lack of knowledge to address end user issues. A facility leader reported

Then they leave us with people they call adoption coaches and these adoption coaches were, again, non-[specific department] trained people and many of my staff refer to them as just warm bodies showing that they are here to help us but they really don't know the details.

Another facility leader stated that adoption coach availability was "hit and miss:"

Sometimes you could find one and sometimes not. Clearly a lack of enough support from Cerner, particularly the first few weeks, just not enough of them. This is definitely a complicated product and the use of it is not intuitive, like [the prior VA EHR] is very basic, very intuitive, and functional so after a little bit of training most people can figure it out. That is not the case with Cerner, there [are] a lot of buttons to push and a lot of pushing different buttons in the wrong sequence is not going to get you where you want to go, so it's not intuitive so you need help to learn to figure out how to get things done.

The OIG also learned through a facility leader that COVID-19 concerns led to a curtailment of adoption coaches in the facility:

I think they really reined them in when there was kind of an exposure and an outbreak—a small outbreak—at our facility. I believe they reined in their adoption coaches quite a bit in a lot of areas....a lot of our end users I kept hearing: yeah I can't find anyone, I don't know how to get help....I can't find an adoption coach anywhere.

According to statements from facility leaders, Cerner adoption coaches did not meet expectations for support during go-live.

## *Super Users*

The EHR training strategy recommends the selection of one super user for every 15 end users at VHA medical centers during EHR implementation.<sup>57</sup> The OIG determined that facility supervisors and the Cerner Learning Team met the EHR training strategy guidance and trained 135 super users prior to go-live. Although facility leaders told the OIG that additional clinical super users would have been helpful at go-live, the OIG found that the EHR training strategy did not provide specific guidance on the types of staff that should be selected for super user training. The OIG also learned that facility leaders and staff described super users as “lifesaver[s]” who identified errors in Cerner-produced content guides and created their own versions to correctly educate staff within their areas.

The OIG identified that facility leaders and staff reported training support assistance gaps from Cerner classroom trainers and adoption coaches. However, facility super users were effective at bridging these gaps.

## **Analysis of Training Content and Delivery**

The OIG identified significant deficiencies in new EHR training content and delivery. To assess the impact of the deficiencies, the OIG administered a survey to EHR users at the facility two to three months following go-live.<sup>58</sup> The OIG also spoke with the VA OEHRM Director of Change Management regarding VA OEHRM-identified training content and delivery concerns.

### *OIG Survey of Facility EHR Users*

The OIG’s survey results identified that facility staff acknowledged significant difficulties with core functions of the EHR after training and more than two months of new EHR use. Four survey questions provided facility EHR users the opportunity to report their proficiency level with core applications and workflows functions of the new EHR (see figure 3). The self-assessment items included the ability to

- Share patient information with other clinicians,
- Document patient care,

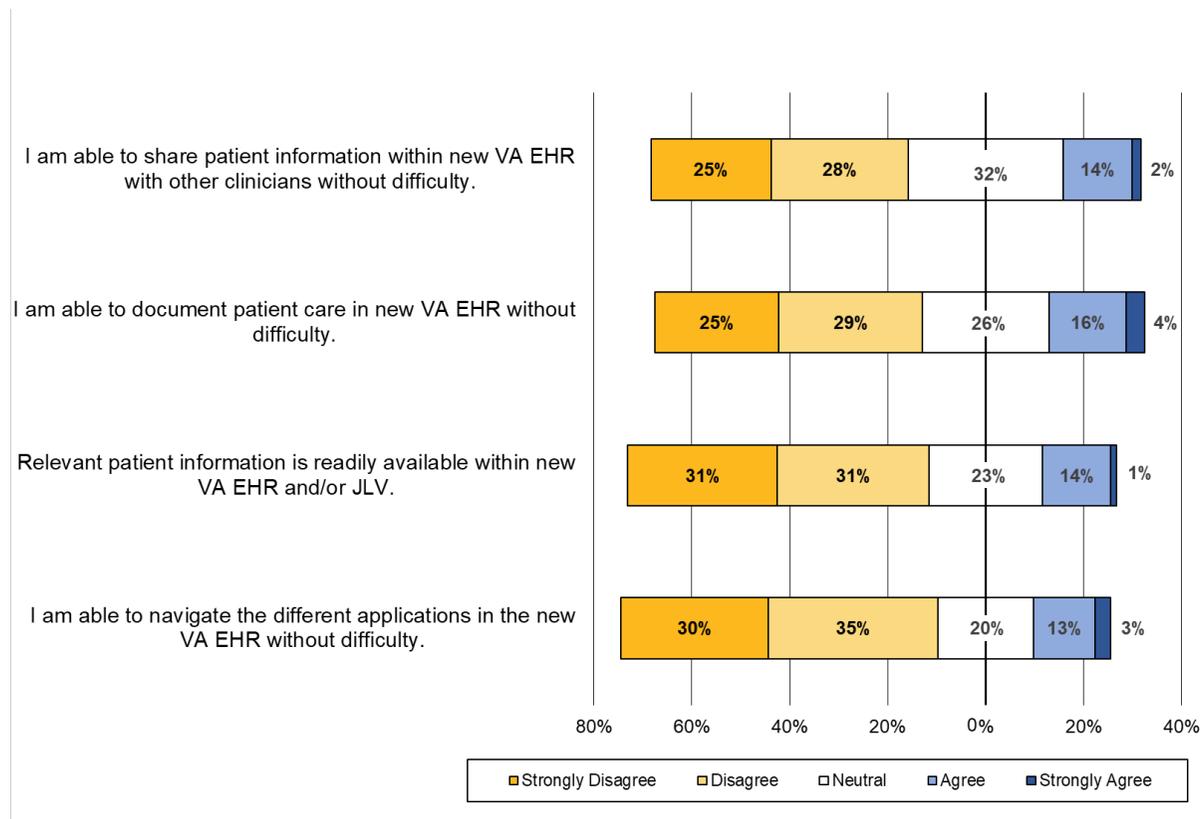
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<sup>57</sup> The facility required approximately 78 super users for its approximately 1,165 end users.

<sup>58</sup> The survey was available to facility staff from December 22, 2020, through January 25, 2021. The OIG invited 1,799 facility staff through email to participate in the survey. A total of 809 staff responded, which is a response rate of 45 percent. Of the 809 respondents, 722 reported that they used or required access to the VA EHR to perform the duties of their positions. The OIG adapted the four questions from a survey of Department of Defense MHS GENESIS users as part of the Follow-on Operational Test and Evaluation completed by the Department of Defense’s Joint Interoperability Test Command in July 2020.

- Access relevant patient information, and
- Navigate within the new EHR.

Results indicated that only 5 percent of respondents reported Agree or Strongly Agree to all four items. Additionally, only a small percentage (1 to 4 percent) reported Strongly Agree for each of the four questions. The overall survey results showed that after new EHR training, and two to three months of new EHR use, only a small percentage of facility EHR users reported a facile ability with core functions.



**Figure 3.** Facility staff responses to an OIG survey on EHR use.

Source: OIG analysis of the survey results

### VA OEHRM Analysis of Training and Content

The VA OEHRM Director of Change Management reported frequent trips back to the facility after go-live in order to have firsthand experience and feedback from new EHR users. The VA OEHRM Director of Change Management acknowledged deficiencies in training to the OIG including

- An underestimation of ingrained processes oriented around the legacy EHR,
- Not addressing users' expectations with the length of time to be confident with the new EHR, and
- Not training users how to use the new EHR in the context of their teams and day-to-day functioning,

The VA OEHRM Director of Change Management stated that Cerner had a process for identifying potential problems with training, referred to as change impact analysis, but that Cerner's process had limitations. The VA OEHRM Director of Change Management shared plans to address training deficiencies with the daily processes of users with the OIG:

So what we've been calling it is end to end processing... There's the BPR, the business process reengineering process, of actually doing process maps and mapping out workflows, and people who are modelers that you know how to do all that stuff you know you have [*sic*], which we think is the right way to go. To map that out both for current state and for future state and to do the gap analysis between that—that is one piece, a necessary piece... necessary but not sufficient [*sic*]... That's where we will be working with Cerner and with our VHA colleagues in terms of developing, you know, scenarios and simulations. Again, ways for people to practice.

The OIG identified significant deficiencies in training content that were reflected in OIG survey results of EHR users' challenges with implementation of the new EHR. Additionally, the VA OEHRM Director of Change Management acknowledged significant deficits in training but reported ongoing efforts to address this problem. The OIG could not determine whether the VA OEHRM's planned efforts will ameliorate the training content and delivery problems identified.

### **3. Assessment of Training**

The OIG reviewed both VA OEHRM's evaluations of Cerner's contracted delivery of training and VA OEHRM's efforts to evaluate training.

#### **Cerner's Delivery of Training**

The OIG found that VA OEHRM Change Management completed ongoing assessments of Cerner's work on training and identified significant deficits. VA OEHRM's Director of Change Management reported serving as the accountable official of Cerner's contractual obligations for training and change management. On a routine basis, the VA OEHRM Director of Change Management provided qualitative feedback of the contractor's performance for the contract's performance-based service assessments and found multiple problems with Cerner's training

work.<sup>59</sup> The OIG reviewed VA OEHRM's documentation of contractor performance of training and change management work from September 2018 through September 2020 and determined that VA OEHRM Change Management identified multiple, recurrent contractor deficits in several areas:

- Meeting project deadlines
- Staffing
- Management
- Quality of products<sup>60</sup>

### *Meeting Project Deadlines*

The VA OEHRM Change Management team identified “an ongoing pattern of [Cerner] continuing to struggle overall to meet established timelines.” Cerner's lack of timeliness affected the VA OEHRM Office of Change Management's work as noted in a review period beginning in November 2019:

The contractor continues to shift the training content development timeline reducing the amount of time available for government review and approval. Making it unlikely that requested changes will be implemented in time for the first offerings of the courses.

For additional comments from VA OEHRM Change Management related to meeting project deadlines concerns, see [appendix A](#).

### *Staffing*

VA OEHRM Change Management's evaluation of Cerner's staffing found it negatively affected training. Identified issues which “continue[d] to be an issue even after concerns have been raised” include a review from August 2020:

While staffing levels have improved in key positions, several program work products were delayed, incomplete, or insufficient. It is unclear if the concerns with quality of the product are related to a staffing shortfall or other contributing factors. To note, these delays are unrelated to COVID 19 impacts... These circumstances should be preventable given the right mix of staffing and/or expertise.

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<sup>59</sup> The performance-based service assessment is used to assess contractor performance.

<sup>60</sup> The OIG included evaluation samples from September 2018 through September 2020 to illustrate the ongoing, recurrent nature of concerns with Cerner performance.

Despite these identified issues with staffing, an assessment entry concluded, “However, as a firm fixed price contract, the VA does not have input into [sic] staffing.”

For additional comments from VA OEHRM Change Management related to staffing concerns, see [appendix B](#).

### *Management*

VA OEHRM Change Management identified challenges with Cerner’s management of training content development and delivery including poor communication, non-compliance with requirements, and delays. From a review period beginning February 2019, it was noted that

The contractor has been requested repeatedly to provide all materials that will be presented to the deployment sites to OEHRM VA program leads for review prior to use at the sites. The contractor has not complied with this requirement resulting in inaccurate information being provided to the sites.

### *Quality of Products*

VA OEHRM Change Management raised multiple concerns with the quality of the training product Cerner delivered. An example from March 2020 identified quality concerns that affected change management and training efforts:

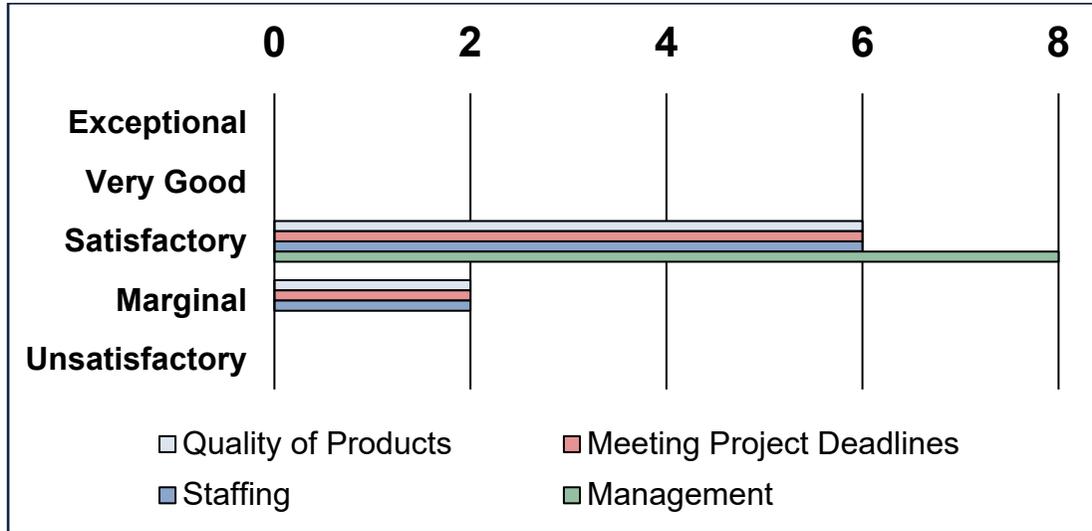
Multiple disciplines have expressed concern over the quality of training materials related to the content not matching their needs. This is a recurring theme that points to either lack of staffing and/or expertise in ensuring materials are tailored to the VA user. There is insufficient response to questions regarding the data/evidence supporting recommendations for content and curriculum recommendations. This includes an inability to articulate historical data that justifies/supports the current approach to training.

For additional comments from VA OEHRM Change Management related to management and quality of product concerns, see [appendixes C](#) and [D](#).

### *OIG’s Analysis of Contractor’s Work on Training and Change Management*

VA OEHRM conducted a recurring quarterly assessment to evaluate Cerner’s performance. The OIG reviewed the VA OEHRM’s Director of Change Management’s comments through the eight fiscal quarters between September 2018 and September 2020. VA OEHRM assessed four elements over eight fiscal quarters (for a total of 32 assessments). Despite the report of deficiencies, Cerner scored as satisfactory on 26 elements and marginal on the remaining six

elements.<sup>61</sup> During this two-year period, Cerner did not perform above satisfactory, the minimum rating to meet contractual requirements (see figure 4).



**Figure 4.** VA OEHRM's assessment of Cerner's training performance for the eight quarters of fiscal years 2019-2020.

Source: OIG analysis of documents provided by VA OEHRM assessments.

The VA OEHRM Director of Change Management reported that dissatisfaction with Cerner's deficiencies "wasn't a secret" and that VA OEHRM leadership "was certainly aware." In March 2021, the VA OEHRM Director of Change Management shared that as a result of identified problems, a Cerner counterpart and a senior Cerner executive continued frequent check-in meetings to hear concerns and that Cerner is "working hard to shore up those areas that they know that they've been deficient in both the CM [Change Management] and the training space." The VA OEHRM Director of Change Management added that, "it took several dings both in deliverables and QASPs [quality assurance surveillance plans], and [identified] risks" in order "to get their [Cerner's] attention and to start to see improvements."

While VA OEHRM's Director of Change Management repeatedly identified deficiencies in Cerner's performance affecting the execution of training delivery from September 2018 through September 2020, the OIG was not able to determine the impact of Cerner's noted performance deficiencies on training at the facility as there was no evidence that VA OEHRM Change

<sup>61</sup> The new EHR contract's Quality Assurance Surveillance Plan provides guidance for the five possible ratings used in performance-based service assessments (exceptional, very good, satisfactory, marginal, and unsatisfactory). A satisfactory rating is given when the contractor meets contractual requirements and should include only minor problems or a larger problem the contractor recovered from without impacting the contract. A marginal rating is given when performance does not meet some contractual requirements and the contractor is notified of the contractual deficiency.

Management had assessed that impact. Additionally, although VA OEHRM's Director of Change Management cited actions taken to address Cerner's inadequate performance with training, the OIG was not able to confirm whether those actions led to substantive changes in contractor performance given that Cerner continues to work on training through a no-cost extension to the contract.

## VA OEHRM's Evaluation of Training

The OIG found that VA OEHRM Change Management took action to evaluate training, however, the OIG identified significant deficits with that effort. The OIG requested all documents from VA OEHRM that detailed plans for the evaluation of training. In response, VA OEHRM provided the OIG with a one-page table, which comprised VA OEHRM's plan for evaluating training through three assessment stages. In March 2021, nearly five months after go-live at the facility, the VA OEHRM Director of Change Management characterized the training evaluation plan provided to the OIG as "immature" and "in its infancy."

In testimony to Congress on September 30, 2020, the VA OEHRM Executive Director stated, "When we wrote the contract, we had what's called a quality assurance surveillance plan that's part of the contract. Within that...there's metrics that will be used to evaluate the performance, the user experience."<sup>62</sup> Contrary to the assertions made, the VA OEHRM Director of Change Management told the OIG that there was no expected formal training evaluation plan from Cerner, which was a VA OEHRM oversight.<sup>63</sup>

The VA OEHRM Executive Director further testified before Congress

The [OEHRM Chief Medical Officer] team and the Change Management team, they're constantly conducting surveys to see whether we are, in fact, evaluating the right things... We're trying to assess what metrics, what quality/value metrics may be further tied in that to give the veteran—it's about customer service...and actually end user adoption. So, sir, an evolving element, but we think we have a strong baseline set today.

The VA OEHRM Director of Change Management provided detail to the OIG that countered the VA OEHRM Executive Director's assertion of a strong baseline. The VA OEHRM Director of Change Management stated that while, "we have metrics, we've got a whole bunch of those...in terms of having an actual, well-thought-out designed plan at this point, no we don't."

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<sup>62</sup> House Committee on Veterans' Affairs, Subcommittee on Technology Modernization, *Examining VA's Ongoing Efforts in the Electronic Health Record Modernization Program, September 30, 2020*, accessed March 6, 2021, <https://veterans.house.gov/events/hearings/examing-vas-ongoing-efforts-in-the-electronic-health-record-modernization-program>.

<sup>63</sup> The Director of Change Management shared that the VA innovative technology advancement lab program did include an evaluation plan in the contract.

The OIG requested “any and all data” from VA OEHRM’s training evaluation plan. Rather than providing all data, VA OEHRM staff withheld some data from the OIG and altered other data prior to sending to the OIG.<sup>64</sup> The OIG questioned the VA OEHRM Director of Change Management and another VA OEHRM leader regarding changes to the data. The VA OEHRM Director of Change Management described that they recalculated some results for OIG review “just for cleanliness.” The OIG concluded that VA OEHRM leaders

- Removed and altered data prior to submission to the OIG, and
- Provided incomplete and insufficient results of VA OEHRM’s assessment of training.<sup>65</sup>

### *First Evaluation Stage*

The VA OEHRM evaluation plan’s initial stage of assessment proposed gathering proficiency check performance data by individual, training program, and VA role, and post training surveys immediately after training.

VA OEHRM provided the OIG the results of proficiency checks but did not provide a categorized list of proficiency results identified through an end user’s training program or role as stated in the evaluation plan. Proficiency check data VA OEHRM provided to the OIG showed that

- “89% of proficiency checks were passed with a score of 80% or higher, in three attempts or less,” and
- The “average score on proficiency checks was 89.77% with an average of 1.88 attempts.”

However, the OIG found that an earlier version of proficiency check results drafted by VA OEHRM staff for the OIG’s request, but not forwarded, detailed much lower proficiency check results:

- “44% of proficiency checks were passed with a score of 80% or higher in three attempts or less;” “27% passed on 1st attempt, 12% passed on 2nd attempt, 5% passed on 3rd attempt”
- “Average score on all proficiency checks (pass or fail) was 69%”

The OIG found in VA OEHRM correspondence that a VA OEHRM Change Management leader reviewed the initial version of the data being prepared for the OIG and “asked the [VA OEHRM

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<sup>64</sup> Integrity is critical to OIG oversight. As a result, the OIG has informed VA leaders and is in the process of further examining the issue.

<sup>65</sup> The OIG did not make a recommendation pertaining to the removal and revision of data finding as the matter has been referred for further review.

Change Management] team to go back and remove the outliers, take another look at how the 5800+ is distributed across all users and take a new stab at it.”

Information regarding the removed data was not shared with the OIG staff and after the outlier data were removed and the new calculations completed for the OIG, a VA OEHRM Change Management leader asked the VA OEHRM Director of Change Management “Do we need to add a bullet discussing the outliers or led [*sic*] it ride and defend it if they ask? I’m assuming the latter but wanted to double-check.” In response, the VA OEHRM Director of Change Management replied, “I’m good with [the changes], thanks.”

When asked to clarify the difference between the proficiency check results sent to the OIG and the earlier version, the VA OEHRM Director of Change Management maintained

Analysis was done on the data set taking out the outliers and we took out the outliers in particular because we did not know what was the source of the issue whether it was the proficiency check itself, whether it was the system whether it was the end user.

VA OEHRM did not provide the specific methodology for how the proficiency check results were changed from 44 percent to 89 percent. A VA OEHRM Change Management leader reported that the analysis was initially handwritten and did not think those papers had been retained.

The OIG also determined that the VA OEHRM Director of Change Management directed deletion of additional drafted results, which raised further concerns with proficiency check results. Deleted sections included

- “Program Trends: Most users in the Case Management program (97%) and approximately 50% of users in Registration and Scheduling programs required multiple attempts to pass proficiency checks.”
- “Role-based trends: Administrative Officers and Technicians serving as Super Users for Clinical Services experienced difficulty with proficiency checks for courses designed for licensed professionals. This is assumed to be related to the proficiency checks being based on clinically based patient care scenarios. This trend will be monitored at upcoming sites and trainers will be alerted to watch for this circumstance.”

Facility leaders reported that facility staff were routinely dropped from the training system while attempting proficiency checks. One facility leader reported having to complete a proficiency check approximately ten times before able to submit it. The OIG was not provided evidence that VA OEHRM addressed the difficulties in completing proficiency checks or the potential impact on proficiency test data validity from learners repeatedly taking the proficiency checks.

Based on VA OEHRM staff's revision and deletion of proficiency check results prepared for the OIG and OIG's identification of training system problems with proficiency checks, the OIG determined that VA OEHRM's proficiency check results could not be utilized.

VA OEHRM also provided the OIG with a summary of training survey results for in-person and virtual instructor-led training but did not provide documentation regarding the evaluation of survey results.<sup>66</sup> Three issues precluded the OIG's interpretation of survey results provided by VA OEHRM:

- VA OEHRM did not provide methodology for data collection and analysis.
- VA OEHRM initially prepared detailed survey results for the OIG, but then withheld those detailed results and provided only summary survey information.
- The VA OEHRM Director of Change Management ordered changes to survey results provided to the OIG, which obfuscated results.<sup>67</sup>

The training plan deliverable from this initial evaluation stage also included maintenance training recommendations. Although the OIG requested documentation, VA OEHRM Change Management was unable to provide the OIG with maintenance training recommendations generated from the first evaluation stage. The OIG concluded that the VA OEHRM initial stage of assessment was incomplete and did not result in any recommendations.

### *Second Evaluation Stage*

VA OEHRM's plan for second stage assessment outlined several actions at one to 30 days after training:

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<sup>66</sup> Virtual training, instruction through video conferencing, occurred due to COVID-19.

<sup>67</sup> The VA OEHRM Director of Change Management directed multiple edits to survey results requested by the OIG. Examples are provided below:

- "Reword, without using the word Frustration with. Something like Participants expressed difficulty with ...,"
- "What does this mean? Let's not use frustration."
- Deleting, "Participants wanted more role specific training."

The OIG completed a further analysis of survey results and identified 47 occurrences in which respondents used forms of the word "frustration."

- Frequency, duration, and topic of help desk call data organized by individual, training program, and VA role
- Number of questions and topic of questions from trainer feedback organized by individual, training program, and VA role
- Super user and adoption coach feedback from weekly data calls

The OIG requested documentation of each element. For the first item, VA OEHRM did not provide results consistent with the training plan. The OIG received help desk call data by location, but the data did not include the planned elements of individual, training program, or VA role. Referencing this incomplete data provided to the OIG, the VA OEHRM document included the statement, “As part of the formal lessons learned process currently underway, this process will be enhanced to include more detailed categorization.”

For the second item, VA OEHRM provided the OIG with a document that reported the frequency of topics addressed through Cerner adoption coach feedback but did not include the topic or information on the individual, training program, and VA role as stated in the evaluation plan. The VA OEHRM document commented on the incomplete data provided and stated, “As part of the formal lessons learned process currently underway, the opportunity to consider enhancements to this approach exists.”

For the third item, VA OEHRM did not provide feedback from weekly data calls as planned but, shared with the OIG a daily log of adoption coach items reviewed during daily meetings from October 24, 2020, through November 5, 2020. As noted with the other two items, VA OEHRM documentation included a statement that “As part of the formal lessons learned process currently underway, the opportunity to consider enhancements to this approach exists.”

While the training plan deliverable from the second evaluation stage proposed the inclusion of maintenance training recommendations, further coaching recommendations, and system change recommendations, VA OEHRM Change Management could not provide the OIG with any recommendations generated from this second evaluation stage. The OIG concluded that no recommendations were generated.

### *Third Evaluation Stage*

VA OEHRM’s plan for the third assessment discussed elements for review at 30 to 90 days after training:

- EHRM data points corrected over 90 days
- Help desk call topic data compared to 30-day EHRM support desk call types

- Online collaboration application topic data evaluation after 30 days
- Super user and adoption coach feedback biweekly data call with questions and answers recorded in a provided template

As of January 15, 2021 (83 days after go-live), the OIG received no requested documentation of VA OEHRM's findings or conclusions from the third evaluation stage.

### *OIG's Analysis of VA OEHRM's Evaluation of Training*

Multiple models have been established to evaluate training.<sup>68</sup> A VA OEHRM Change Management leader reported that the Kirkpatrick model is the industry-accepted standard and, while not explicitly named in EHR training strategy documents, the Kirkpatrick model served as the basis for wording in EHR training strategy documents. The Kirkpatrick model to evaluate training is composed of four levels:

- The **Reaction** level seeks to address the learner's reported satisfaction with training. There is little correlation with the learner's reaction to training and two of the Kirkpatrick training levels—learning and behavior change.<sup>69</sup>
- The **Learning** level measures knowledge following training but may not be a strong method of measuring skills or predicting performance post training.<sup>70</sup>
- The **Behavior Change** level of assessment evaluates how the learner has applied what was learned during training to the workplace.<sup>71</sup>
- The model's fourth level, the **Results** level, evaluates the effect of training on the organization.<sup>72</sup>

The OIG reviewed VA OEHRM's execution of its training evaluation plan using the Kirkpatrick model. As shown in table 1, VA OEHRM's evaluation plan included elements from the reaction, learning, and behavior levels of training evaluation. At the time of the OIG's review, no elements from these three levels of training evaluation yielded recommendations. Notably, no elements of

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<sup>68</sup> Harshit Topno, "Evaluation of Training and Development: An Analysis of Various Models," *IOSR Journal of Business and Management* 5, no. 2 (2012): 16-22.

<sup>69</sup> VA OEHRM administered a satisfaction survey following training, and before go-live, which corresponded with the Kirkpatrick Reaction level of training evaluation. The OIG administered a survey of facility EHR users two to three months following go-live in which users assessed ability to use core functions of the EHR that corresponded with the Kirkpatrick Behavior Change level of training evaluation. P. Tamkin, J. Yarnall, and M. Kerrin, *Kirkpatrick and Beyond: A review of models of training evaluation*. (Brighton, UK: The Institute for Employment Studies, 2002), xi-xii.

<sup>70</sup> P. Tamkin, J. Yarnall, and M. Kerrin.

<sup>71</sup> P. Tamkin, J. Yarnall, and M. Kerrin; Harshit Topno.

<sup>72</sup> Harshit Topno.

VA OEHRM's training evaluation plan corresponded with measurement of training's effect on the organization, the Results level of the Kirkpatrick model.

**Table 1. OIG Analysis of VA OEHRM's Training Evaluation**

VA OEHRM Evaluation Element	VA OEHRM Plan Stage	Kirkpatrick Level	OIG Analysis
Proficiency check performance data by individual, training program, and VA Role	First	Learning	Data validity concern
Post training surveys	First	Reaction	Data validity concern
Frequency, duration and topic of help desk and call data organized by individual, training program, and VA role	Second	Behavior	Not assessed as planned
Number of questions and topic of questions from EHRM Coach feedback organized by individual, training program, and VA role	Second	Behavior	Not assessed as planned
Super user and adoption coach feedback from weekly data calls	Second	Behavior	Not assessed as planned
EHRM data points corrected over 90 days	Third	Undetermined	Not yet assessed
Help desk call topic data compared to 30-day EHRM Support desk call types	Third	Behavior	Not yet assessed
Teams Channel topic data evaluation after 30 days	Third	Behavior	Not yet assessed
Super user and Adoption Coach feedback biweekly data call	Third	Behavior	Not assessed as planned

*Source: OIG Analysis of VA OEHRM's training evaluation as compared to the Kirkpatrick phases.*

VA OEHRM Change Management leaders reported that Cerner has two tools (Lights On and Advance) that can be used to assess use of the EHR.<sup>73</sup> VA OEHRM Change Management leaders told the OIG that while it takes about 30 days for data to be populated in Advance, the intent was to use these Cerner tools to monitor individual EHR performance and complete targeted follow-up training. These analytic tools appear to be consistent with the Behavior level of the Kirkpatrick model, measuring how learners apply training to the workplace. However, the VA

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<sup>73</sup> Cerner. *Lights on Network*, accessed March 5, 2021, <https://www.cerner.com/solutions/lights-on-network>; Cerner. *Adoption Coaching*, accessed March 5, 2021, <https://www.cerner.com/solutions/coaching>. Cerner literature states that Lights On features include peer comparisons with benchmarking, alerting and monitoring. Cerner literature states Advance and Lights On data can be used to target specific providers to address adoption, efficiency, and other organizational goals.

OEHRM training evaluation plan did not include use of these analytic tools, VA OEHRM did not provide the OIG information indicating results of these tools' use, and a facility leader reported that VA OEHRM did not provide any indication that there were plans to work with the facility on use of these analytic tools.

The VA OEHRM Director of Change Management reported that, as of March 2021, Change Management was engaged in actions to address a training evaluation plan to include

- Working to bring on contractor support to develop a training evaluation plan,
- Partnering with VHA research colleagues, and
- Involving “Cerner in the conversation.”

The VA OEHRM Director of Change Management stated in March 2021 that developing a training evaluation plan “is a big priority area for us over the next three to six months.”

Given the deficits in both planning and execution of training evaluation by VA OEHRM, the OIG found an absence of evidence that VA OEHRM has an actionable means of measuring results of training. Further, given VA OEHRM's past performance and the current status of planning efforts, the OIG could not determine whether VA OEHRM will initiate a substantive plan within the estimated three to six month time frame for evaluating training (prior to September 2021).

#### **4. Related Concern: Governance Challenges**

The OIG identified two training issues faced by the facility, which highlighted EHR modernization governance challenges. As an organization in the Office of the Secretary working under the Deputy Secretary, VA OEHRM has the responsibility for overseeing the deployment of the EHR, including training. VA OEHRM coordinates its actions with VHA.<sup>74</sup> The OIG found that a decision regarding an operational readiness assessment and the management of training problems reflected VA OEHRM decision-making that failed to address VHA concerns.

#### **Operational Readiness Assessment**

In preparation for the actual transition to the new EHR, a mock go-live date was planned for February 2020. The Facility Director was concerned that the mock go-live would “not [be] a comprehensive operational assessment of the system in a real-world environment” and notified VA OEHRM's Executive Director and Chief Medical Officer of his concerns in a December 2019 memo. He further recommended that facility staff complete at least three weeks of a

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<sup>74</sup> Department of Veterans Affairs, *2020 Functional Organizational Manual*, Version 6, accessed March 24, 2021, <https://www.va.gov/VA-Functional-Organization-Manual-2020-4.pdf>.

scenario-based readiness assessment to identify functional shortcomings that may represent “unsurmountable obstacles to go-live.”

The former VA Deputy Secretary convened a meeting on January 8, 2020, with VA OEHRM, and VA and VHA leaders. The Acting Under Secretary for Health followed up with an email to the former VA Deputy Secretary on January 9, 2020, which stated that, based on the meeting the night before, the planned late January testing of the new EHR would not fully assess its capabilities.<sup>75</sup> The Acting Under Secretary for Health further commented that VHA had asked for a full operational assessment for several months and that he endorsed the Facility Director’s request that a full operational assessment of the new EHR occur before go-live. The Acting Under Secretary for Health identified manual workarounds in several areas that were more significant than anticipated and “key functionality [was] in question.”<sup>76</sup> The Acting Under Secretary for Health saw the assessment as “a necessity for patient safety.”

Despite the view of the Acting Under Secretary for Health that the operational readiness assessment was a necessity for patient safety, the assessment did not occur prior to the planned March 2020 go-live. The Facility Director reported the desire to complete the assessment with staff who had been new EHR-trained to ensure there were no significant gaps in training or function. However, VA OEHRM placed the operational readiness assessment in the go-live schedule before facility staff were trained, which led to the Facility Director’s decision to not complete the assessment as it would not be a useful activity without staff having been trained.

## Training Concerns

On the afternoon of February 3, 2020, the Facility Director met with more than 30 super users and received feedback regarding new EHR training. The Facility Director was “blown away” by the negativity from “essentially all” of the super users regarding the training. The Facility Director understood that some facility service chiefs opted their staff out of the super user training that week due to their belief that it was “an utter waste of time.” The Facility Director described the unanimous consensus that the training curriculum was “poor at best,” represented a “fatal flaw,” and warranted a high level decision about whether to delay go-live. Also on February 3, 2020, an EHR modernization Clinical Council co-chair wrote to senior VA OEHRM leaders that super user training at the facility, “left most attendees feeling demoralized,

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<sup>75</sup> Acting Under Secretary for Health, Dr. Richard Stone, served as the VHA Executive in Charge prior to January 20, 2021. Within the context of this report, the OIG uses Dr. Stone’s current title when discussing pre- or post-January 20, 2021 events.

<sup>76</sup> Workarounds are informal practices healthcare providers use to handle exceptions to regular workflow forced by an EHR. They are considered potential risks to patient safety, efficiency, and effective care. V. Blijleven, K. Koelemeijer, M. Wetzels, and M. Jaspers, “Workarounds Emerging from Electronic Health Record System Usage: Consequences for Patient Safety, Effectiveness of Care, and Efficiency of Care,” *Journal of Medical Internet Research Human Factors* 4, no. 4 (October 2017): e27.

distrustful of Cerner/OEHRM, and less prepared to help other users with Millennium [Cerner's name for the EHR program] than before the training.”

On February 5, 2020, VA OEHRM's Chief Medical Officer and the Facility Director met with 50 super users to receive feedback on training. Despite meeting with 50 super users to receive training feedback, the Chief Medical Officer referenced VA OEHRM's post training survey results of 22 super users that completed training stating, “While not everyone took the survey, the respondents who did participate gave generally high marks in all categories.”<sup>77</sup> Based on the survey data and qualitative data from the VA OEHRM Change Management staff that observed training, the VA OEHRM Chief Medical Officer found that facility super users were satisfied with training overall and that results were commensurate with those of super users from the commercial sector. In response to their differing opinions, the VA OEHRM Chief Medical Officer communicated to the Facility Director that, “If we do not have confidence that we can work together in a spirit of trust at the go-live to address issues, then no matter what we have done ahead of time will not be sufficient to be successful.”

The VA OEHRM Chief Medical Officer discussed the super users' feedback with the VA OEHRM Executive Director, and both concluded that the training issues “do not necessitate a delay in end user training and go-live.”<sup>78</sup>

The Facility Director contacted the Acting Under Secretary for Health the next day, on February 6, 2020, and stated “we are 36 business days away from initial operating capability (go-live)...and I have significant concerns with readiness based on training alone.” The Facility Director strongly recommended at least a 90-day delay of go-live. Four days later, the VA announced the new EHR's deployment would be postponed.

As with any operation of this magnitude, success is dependent on ensuring synchrony of multiple, complex moving parts. A governance structure that ensures collaboration and engagement of all relevant stakeholders is critical to achieving that success. The OIG found that there was lack of process to address VHA leaders' identification of significant concerns with training and go-live and VA OEHRM leaders' resistance and push for go-live at the facility. The OIG is concerned that failure to include VHA leaders and end users of the new EHR in operational decisions can affect the success of implementation.

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<sup>77</sup> The VA OEHRM Chief Medical Officer relied on survey results of the 22 super users that completed the post training survey. Those 22 super users represented 27% of the total 81 super users that completed training.

<sup>78</sup> Despite senior VA OEHRM leaders' cited analysis of training as the reason to move forward with go-live, the OIG found that the VA OEHRM Director of Change Management and another VA OEHRM leader noted in the performance assessment that Cerner was “unable to adequately provide data about training attendance and completion during the super user training, data reporting was delayed and unable to be validated using VA system reports. This resulted in inadequate reporting to leadership and a lack of confidence in the reported information.”

## 5. Other Concerns Upon Review of Training

During the OIG review of training for the new EHR, the OIG found that facility staff experienced decreased provider productivity and that facility patient advocates did not receive direction or training to consistently track, trend, and report patient complaints about the new EHR. Additionally, the OIG found facility leaders and staff reported a significant decline in employee morale.

### Decreased Provider Productivity

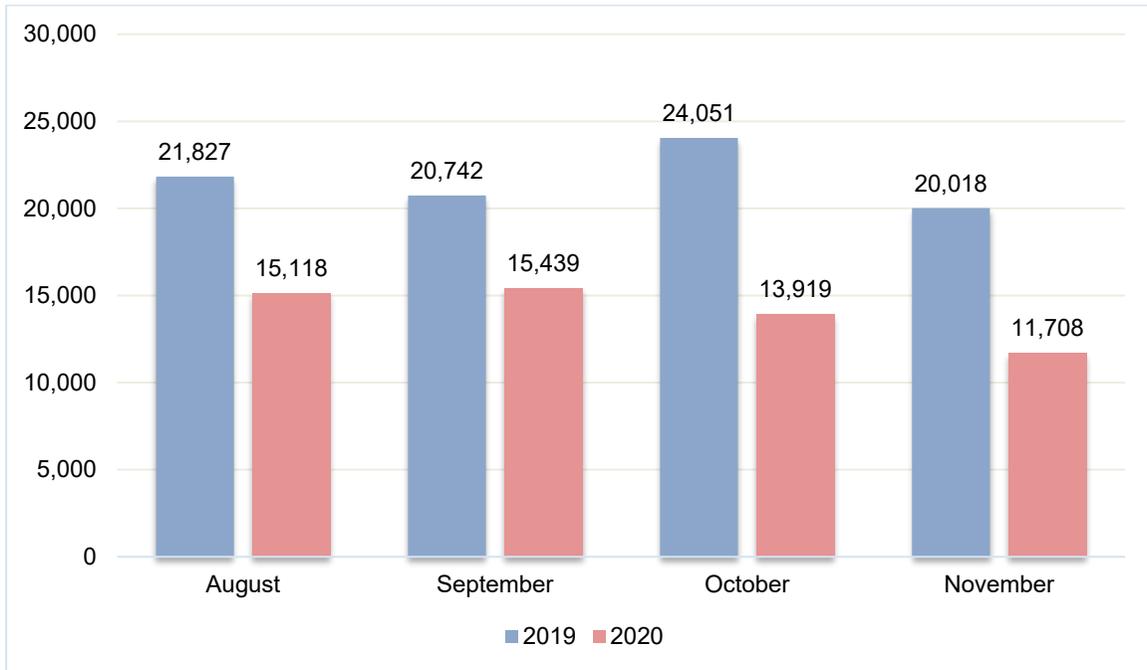
In its April 2020 facility-related report, the OIG found a VHA leader reported to VHA and facility leaders an “anticipation of 30% [provider] productivity reduction for [a] nine-month period due to training requirements” of the new EHR.<sup>79</sup> Productivity is a measurement of a provider’s work, calculated in a variety of ways with different measurement tools. If the measurement tool used is the volume of appointments, a provider is more productive when they generate a larger volume of appointments. When the measurement of provider productivity is low, access to care issues are likely to arise.

Facility leaders and staff told the OIG that during the new EHR training period, at go-live, and in the months following the implementation of the new EHR, a reduction in provider productivity occurred.<sup>80</sup> Facility leaders reported to the OIG an estimated 50 percent reduction in productivity. The OIG learned through interviews the new EHR does not currently have the capability to capture provider productivity and that facility leaders could not produce a productivity data report. Therefore, the OIG determined provider productivity during the new EHR training period (August and September 2020) through the months following the implementation of the new EHR (October and November 2020), by reviewing the volume of all completed appointments at the facility during that timeframe and comparing it to the prior year. The OIG found a 30.7 percent decrease in volume in August 2020, a 25.6 percent decrease in September 2020, a 42.1 percent decrease in October 2020 and a 41.5 percent decrease in November 2020 (see figure 5).

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<sup>79</sup> VA OIG, *Review of Access to Care and Capabilities during VA's Transition to a New EHR System at the Mann-Grandstaff VAMC, Spokane, WA*, Report No. 19-09447-136, April 27, 2020.

<sup>80</sup> The OIG recognizes that the COVID-19 pandemic contributed to a portion of the reduced number of appointments.



**Figure 5.** *OIG analysis of completed appointments at the facility from August through November 2019 and from August through November 2020.*

*Source: VHA Support Service Center and Cerner HealthAnalytics completed appointments data provided by facility staff.*

Facility leaders and staff attributed the productivity decrease to the following issues related to the new EHR:

- Staff time spent developing workarounds
- Increased need of staff adaptability
- Inadequate staff training
- Poor functionality

The OIG noted that of the above reasons, the first, second, and third bullets stem from issues with insufficient training. The OIG concluded that facility leaders and staff anticipated a decrease in provider productivity and identified new EHR training factors played a role in decreased productivity.

## **Patient Complaint Tracking**

The OIG found facility patient advocates did not consistently track, trend, and report patient complaints about the new EHR. Per VHA policy, facility directors are responsible for ensuring the collection, analysis, and trending of patient complaint data. VHA policy also requires patient advocates bring complaint data to the attention of facility leaders to trigger assessment, analysis, and follow-up and that the quality manager recognizes improvement opportunities based upon

trends. VHA policy further states that “This system of reporting is vital to plan, implement, and evaluate organizational progress in improving the total Veteran experience.”<sup>81</sup>

The Facility Director told the OIG of monitoring patient complaints related to the new EHR through a morning huddle that included the patient advocates. The Facility Director further stated he was not aware of “any overwhelming wave of dissatisfaction.” The OIG found that although facility patient advocates tracked and trended patient complaints, the complaint data pertaining to the new EHR was incomplete, limiting the accuracy and value of identified trends.

The OIG determined that patient advocates entered 160 unique patient complaints into the Patient Advocate Tracking System between October 8, 2020, through November 22, 2020.<sup>82</sup> The OIG found there was no discrete field in the system to tabulate new EHR-related complaints and that the free text entries reflected a variety of terms. Due to the varied entries, the OIG reviewed each complaint and concluded there were 43 unique patient complaints (27 percent) that referenced a new EHR issue.

The OIG also found that no documentation existed to support that patient advocates received direction or training to track, trend, and report new EHR-related complaints to facility leaders. Further, patient advocates did not communicate Patient Advocate Tracking System data trends before, during, and after go-live to facility leaders.

Facility leaders and patient advocates did not follow VHA policy to track, trend, and communicate trending issues. Without effective and timely processes to ensure facility staff capture patient complaints pertaining to the new EHR, complaint data will not reflect trends or trigger analysis for facility leader follow-up.

## **Low Employee Morale**

The OIG found facility leaders and staff reported feelings of diminished morale following the new EHR's implementation. Change has a substantial impact on employee morale:

When change has a negative impact, there is a significant increase in stress, anxiety, and resistance. This, in turn, leads to decreased efficiency and productivity which interferes with achieving the goals and mission of the organization.<sup>83</sup>

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<sup>81</sup> VHA Directive 1003.04, *VHA Patient Advocacy*, February 7, 2018.

<sup>82</sup> The OIG chose the period of time before, during, and after the new EHR's go-live to capture patient complaints that would correlate with the new EHR's implementation. Unique patient complaints refer to the original complaint and not the subsequent entries relating to the original complaint that the patient advocates entered into the tracking system.

<sup>83</sup> Theodore B. Feldmann, “Understanding the Dynamics of Change and the Impact on Psychiatric Education,” *Academic Psychiatry* 38, (2014): 672-679.

Facility leaders and staff told the OIG that due to difficulties with the new EHR, staff were exhausted, struggling, felt that they were failing and morale was low. One facility employee stated that staff were not prepared for the new EHR and were overwhelmed, “it’s hard when we feel like I can’t believe they didn’t tell us how to do this or we’re finding out so many things on our own.” The OIG concluded that facility leaders and staff reported low morale after go-live as a result of being unprepared to use the new EHR subsequent to their training.

## Conclusion

Classroom training and the corresponding supplemental materials were insufficient to train end users on how to operate the new EHR due to a focus on “button-ology” and the reliance on end users to review optional supplemental materials. Classroom training did not meet EHR training strategy requirements of workflow training based upon VA OEHRM and facility staff reports of the absence of workflow content.

A sufficient number of super users was trained in preparation for go-live; however, facility leaders and staff perceived the amount of new EHR training hours as insufficient due to the increased complexity of the new EHR as compared to the previous EHR and the poor quality of training content.

Facility staff reported challenges with attending training due to difficulties balancing training with ongoing clinical duties and impacts from COVID-19. Increased training time and improved scheduling instructions and procedures would likely benefit end users during new EHR implementation.

Facility leaders and staff reported limitations with the training domain that negatively affected staff ability to use the new EHR at go-live. Additionally, incomplete functionalities within the training domain affected their ability to operate the system at go-live and an absence of the training domain’s availability outside of the classroom contributed to the knowledge deficit of end users. The VA OEHRM Director of Change Management acknowledged that facility staff understood they were going to be able to practice with the EHR and that VA OEHRM Change Management erred in communication.

The VA OEHRM Director of Change Management validated facility leaders and staff concerns about the user role assignment process describing it as “very painful in the beginning” and noted VA OEHRM deficiencies with training staff on user roles. The OIG concluded that user role assignment process inadequacies led to both incorrect user role assignments and subsequent incorrect training assignments.

The OIG found that facility leaders and staff largely relied on super users for training support during the new EHR implementation. Facility staff reported Cerner classroom trainers provided limited assistance with basic functions of the new EHR and struggled to address questions with practice-based work as staff questions were frequently deferred without resolution. Cerner

adoption coaches did not meet VA OEHRM's projections for availability or utility to facility staff.

The OIG conducted a survey of facility staff after two to three months of new EHR use who acknowledged significant difficulties with core functions of the new EHR after training and more than two months of new EHR use. Only 5 percent of respondents reported being readily able to use all four of the core functions of the new EHR queried in the survey. Only a small percentage of facility EHR users reported a facile ability with core functions of the new EHR.

The VA OEHRM Director of Change Management acknowledged significant deficits in training but reported ongoing efforts to address this problem. The OIG could not determine whether the VA OEHRM's planned efforts will ameliorate the training content and delivery problems identified.

The OIG found that VA OEHRM Change Management completed ongoing assessments of Cerner's work on training and identified significant deficits in meeting project deadlines, management, staffing, and quality of products. VA OEHRM's Director of Change Management repeatedly identified deficiencies in Cerner's performance affecting the execution of training delivery from September 2018 through September 2020. The OIG was not able to determine the impact of Cerner's noted performance deficiencies on training at the facility as there was no evidence that VA OEHRM Change Management had assessed that impact.

The OIG found that VA OEHRM Change Management took action to evaluate training; however, the OIG identified significant deficits with that effort. In March 2021, nearly five months after go-live at the facility, the VA OEHRM Director of Change Management characterized the training evaluation plan provided to the OIG as "immature" and "in its infancy." Given the deficits in both planning and execution of training evaluation by VA OEHRM, the OIG found an absence of evidence that VA OEHRM has a current means of measuring actionable results of training and could not determine whether VA OEHRM will initiate a substantive plan within the estimated three to six month timeframe for evaluating training (prior to September 2021). The OIG determined that VA OEHRM staff withheld some training evaluation data from the OIG and altered other data prior to sending to the OIG. The OIG did not make a recommendation pertaining to this matter as it has been referred for further review.

The OIG identified two training issues faced by the facility which reflected governance challenges with VHA and VA OEHRM. The OIG found that a decision regarding an operational readiness assessment and the management of training problems highlighted VA OEHRM decision-making that failed to address VHA concerns. The OIG found that VHA leaders identified significant concerns with training and go-live in February 2020, but VA OEHRM leaders resisted and pushed for go-live at the facility. The OIG found that there was lack of process to address VHA leaders' identification of significant concerns with training and go-live and VA OEHRM leaders' resistance and push for go-live at the facility.

Facility staff experienced decreased provider productivity and reported low employee morale. Facility patient advocates did not receive direction or training to consistently track, trend, and report patient complaints about the new EHR.

## Recommendations 1–11

1. The Under Secretary for Health explores the establishment of a group of Veterans Health Administration staff comprised of core user roles with expertise in Veterans Health Administration operations and Cerner electronic health record use with data architect level knowledge to lead the effort of generating optimized Veterans Health Administration clinical and administrative workflows.
2. The Deputy Secretary establishes an electronic health record training domain that ensures close proximation to the production environment and is readily available to all end users during and following training.
3. The Deputy Secretary ensures end users receive training time sufficient to impart the skills necessary to use the new electronic health record prior to implementation.
4. The Deputy Secretary ensures the user role assignment process addresses identified facility leaders and staff concerns.
5. The Deputy Secretary ensures Cerner trainers and adoption coaches have the capability to deliver end user training on Cerner and Veterans Health Administration electronic health record software workflows.
6. The Deputy Secretary evaluates the process of super user selection and takes action as indicated.
7. The Deputy Secretary reviews the Office of Electronic Health Records Modernization's performance-based service assessments for Cerner's execution of training to determine whether multiple, recurrent concerns are being accurately captured and addressed.
8. The Deputy Secretary oversees the revision of an Office of Electronic Health Records Modernization training evaluation plan and ensures implementation of stated objectives.
9. The Deputy Secretary reviews the Electronic Health Record Modernization governance structure and takes action as indicated to ensure the Under Secretary for Health's role in directing and prioritizing Electronic Health Record Modernization efforts is commensurate with the Veteran Health Administration's role in providing safe patient care.
10. The Under Secretary for Health establishes guidelines and training to capture new electronic health record-related patient complaints, including patient advocacy.
11. The Under Secretary for Health ensures an assessment of employee morale following implementation of a new electronic health record and takes action as indicated.

## Appendix A: Excerpts of VA OEHRM Comments on Cerner Timeliness Performance

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**Table A.1. OIG's Timeline of VA OEHRM Change Management Comments  
Regarding Cerner's Timeliness**

Review Period	VA OEHRM Comment*
3/18/18 – 6/17/19	At this time, no plans have been finalized as the contractor has not produced a satisfactory product thus timelines are slipping. I remain concerned about all areas listed above as well as the approach to human capital.
6/18/18 – 9/17/19	Although the contractor does meet timelines for some individual work products, the contractor displays an ongoing pattern of continuing to struggle overall to meet established timelines.
2/18/19 – 3/17/20	Contractor presented a revised training development schedule for the curriculum redesign that exceeded the task order period of performance. This schedule was revised but still exceeds the period of performance by several weeks.
2/18/19 – 3/17/20	The contractor shifted the training content development timeline to the point that materials were still being received for review by VA after the super user training had begun. This resulted in an inability for the contractor to incorporate recommended/required changes into the training materials prior to first usage of the materials. Materials continue to be received for review without communication of what is to be expected and the timeline for review.
11/18/19 – 12/17/19	The contractor continues to shift the training content development timeline reducing the amount of time available for government review and approval. Making it unlikely that requested changes will be implemented in time for the first offerings of the courses.”
4/18/20 – 5/17/20	We have concerns that the work product deadlines are frequently missed or pushed back. Clear expectations were set for the prioritized work products, activities, and tasks in a 30/60/90-day PowerPoint presentation that was discussed multiple times with Cerner at the end of March and throughout April 2020.
5/18/20 – 6/17/20	During the reporting period, Cerner met established deadlines for deliverables but during the COVID-19 pause several work products identified as CM [Change Management] priorities, not impacted by the pause, were requested...VA requested that these work products, activities, and tasks be completed prior to re-engagement with the sites. Cerner pushed back on agreed upon deadlines. As of 7/20/20 (date outside of reporting range provided for context), only one work product ... of the seven requested has been completed.
6/18/20 – 7/17/20	...the training content development schedule is an ongoing issue. Cerner does not track when materials will be delivered to the government for review. This inhibits planning for future activities and leads to delays in the overall efficiency of the planning and execution of activities leading up to the MG [Mann-Grandstaff] go-live.

Source: OIG compilation of statements extracted from documents provided by VA OEHRM.

\*Note: Statements are verbatim from documents provided by VA OEHRM. Comments from March and June 2018 overlap with quality assurance surveillance plans that were reviewed from the periods the OIG reviewed.

## Appendix B: Excerpts of VA OEHRM Comments on Cerner Staffing for Training Performance

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**Table B.1. OIG's Timeline of VA OEHRM Change Management Comments  
Regarding Cerner's Staffing Efforts for Training**

Review Period	VA OEHRM Comment*
3/18/18 – 6/17/19	I am concerned about the limited number of staff in TO5 [Task Order 5] to accomplish all the required deliverables and work products [training materials]. It is critical for CM staff [VA OEHRM Change Management staff] to be embedded in the councils and workgroups at the national and local levels. It consumes their time to both prepare for and attend and is impacting their ability to deliver timely on other work products.**
6/18/18 – 9/17/19	In the elearning area, there are concerns about staffing levels and the approach. Because of a lack of resources, they are proposing downgrading the delivery of proficiency checks because they do not have the appropriate number of staff.
2/18/19 – 3/17/20	It is unclear whether the contractor is adequately staffed at this time. Several program work products were delayed, and it is unclear if this is due to a staffing shortfall or other contributing factors. It is unclear whether their [sic] will be an adequate number of instructors when training begins again. Previously there were 58 identified, there are now only 53.
9/18/19 – 12/17/19	It is unclear whether the contractor is adequately staffed at this time. A number of the program work products have been delayed and it is unclear if this is due to a staffing shortfall or other contributing factors.
12/18/19 – 2/17/20	It is unclear whether the contractor is adequately staffed at this time. A number of the program work products have been delayed and it is unclear if this is due to a staffing shortfall or other contributing factors.
3/18/20 – 4/17/20	Staffing issues continue to be an issue even after concerns have been raised. Cerner has acknowledged several instances where training content development and activities could not be completed because of staffing shortages or inadequate time to complete the effort.  It is unclear whether the contractor is adequately staffed at this time. Several program work products were delayed, and it is unclear if this is due to a staffing shortfall or other contributing factors. It is unclear whether there will be an adequate number of instructors when training begins again. Previously there were 58 identified, there are now only 53.  There are currently no training sessions scheduled until February of 2021. Thus, faculty are not currently providing training. The current focus of work is primarily on development of training materials. Therefore, it is unclear if the staffing mix currently in place is optimized for the work to be accomplished. However, as a firm fixed price contract, the VA does not have input into [sic] staffing.
4/18/20 – 5/17/20	The quantity of staff is appropriate however the lack of demonstrated expertise to accomplish the mission is a concern for some staff. For example, inexperienced Organizational Change Consultants having difficulty meeting expectations for completing Stakeholder Engagement Plans and workflow analysis.

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<p>5/18/20 – 6/17/20</p>	<p>Several program work products were delayed or incomplete, and it is unclear if this is due to a staffing shortfall or other contributing factors. To note, these delays are unrelated to COVID 19 impacts. There has been an improvement during the past month in moving forward with several areas related to content development and in the tracking and reporting of work products.</p> <p>There are currently no training sessions scheduled until February of 2021. Thus, faculty are not currently providing training. The current focus of work is primarily on development of training materials. Therefore, it is unclear if the staffing mix currently in place is optimized for the work to be accomplished. However, as a firm fixed price contract, the VA does not have input into [sic] staffing.</p>
<p>8/18/20 – 9/17/20</p>	<p>While staffing levels have improved in key positions, several program work products were delayed, incomplete, or insufficient. It is unclear if the concerns with quality of the product are related to a staffing shortfall or other contributing factors. To note, these delays are unrelated to COVID 19 impacts - These circumstances should be preventable given the right mix of staffing and/or expertise.</p> <p>In addition to quality factors mentioned in the Technical/Quality section, for example, instructor preparedness for delivering training is inconsistent, many are observed not to be following administrative instructions, some have not tested logins prior to training start, participants signing class rosters and contact tracing logs is inconsistent and requires frequent follow-up.</p>

*Source: OIG compilation of statements extracted from documents provided by VA OEHRM.*

*\*Note: Statements are verbatim from documents provided by VA OEHRM. Comments from March and June 2018 overlap with quality assurance surveillance plans that were reviewed from the periods the OIG reviewed.*

*\*\*Note: Task Order 5 is a portion of the new EHR contract which contain tasks related to change management and training.*

## Appendix C: Excerpts of VA OEHRM Comments on Cerner Management of Training Performance

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**Table C.1. OIG's Timeline of VA OEHRM Change Management Comments  
Regarding Cerner's Management of Training**

Review Period	VA OEHRM Comment*
2/18/19 – 3/17/20	<p>The contractor has been requested repeatedly to provide all materials that will be presented to the deployment sites to OEHRM VA program leads for review prior to use at the sites. The contractor has not complied with this requirement resulting in inaccurate information being provided to the sites.</p> <p>Project monitoring and control elements are missing, for example, stakeholder management plans (section 2.5) and communications management plans (section 2.10) as identified in the VITAL strategy document last submitted in September 2019.</p> <p>The agreed upon VITAL training metrics including competency metrics are not currently being reported in deliverables even though there is agreement on what will be captured, and the data is being collected.</p> <p>The establishment of a VITAL advisory board has not begun and is required to be in place before the end of the task order.</p>
9/18/19 – 11/17/19	<p>The contractor management team has experienced significant turnover during this period. This reduces the continuity of the program and has required refocusing of the efforts for the content development and planning for training including developing the strategies for the non-IOC [initial operational capability] site participants.</p> <p>The new management team is adjusting and has been coordinating activities and schedules to return the program to an acceptable status.</p>
12/18/19 – 2/17/20	<p>The contractor management team continues to coordinate the activities for the MG [Mann-Grandstaff VA Medical Center] training activities as well as begin planning for Puget Sound and the future waves.</p> <p>The team still has difficulty managing the following activities:</p> <ul style="list-style-type: none"> <li>• Communicating all onsite activities and interactions and providing copies of all documents/emails shared with the site</li> <li>• Communicating information/requirements to meet stated schedules</li> <li>• Following through on identified activities to provide current status</li> </ul> <p>Project monitoring and control elements are missing, for example, stakeholder management plans (section 2.5) and communications management plans (section 2.10) as identified in the VITAL strategy document last submitted in September 2019.</p> <p>The agreed upon VITAL training metrics including competency metrics are not currently being reported in deliverables even though there is agreement on what will be captured, and the data is being collected.</p>
3/18/20 – 4/17/20	<p>As required by the PWS [Performance of Work Statement], a strategic communication plan for VITAL is required but has not been completed. A draft of the plan is currently under development.</p> <p>The work to establishment [sic] a VITAL advisory board has been identified and milestones created. The work is on-going. No new deliverables/work products or</p>

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	milestones associated with the advisory board have been provided or met during this time period.
4/18/20 – 5/17/2020	Coordination with VA leadership has improved with some administrative processes refined to include the weekly meetings and associated notes. However, other activities continue to be delayed or lack a full response in a timely manner.  In addition, leadership decisions made at the upper levels of the Cerner Learning Team are not being communicated in a timely manner to the broader team. This has led to delays in work moving forward and have caused additional meetings to be scheduled to resolve issues.
5/18/20 – 6/17/20	Coordination with VA leadership has improved with some administrative processes refined to include the weekly meetings and associated notes. However, other activities continue to be delayed or lack a full response in a timely manner.

*Source: OIG compilation of statements extracted from documents provided by VA OEHRM.*

*\*Note: Statements are verbatim from documents provided by VA OEHRM.*

## Appendix D: Excerpts of VA OEHRM Comments on Cerner Quality of Training Products Performance

To return to text, push alt+left arrow together

**Table D.1. OIG's Timeline of VA OEHRM Change Management Comments  
Regarding Cerner's Management of Training**

Review Period	VA OEHRM Comment*
2/18/19 – 3/17/20	<p>The contractor updated the curriculum design for the VITAL program based on participant feedback and VA client recommendations. This was an iterative process with the initial redesign requiring significant rework before acceptance by the government. The contractor took almost 3 months to develop an updated curriculum design. The government was not satisfied with the output of the first iteration of the design since it did not seem to advance the work of curriculum design. It instead produced “supplemental training aids” but did not address the core curriculum redesign as expected. Training material redesign has begun on the curriculum.</p> <p>VA disagrees with some assertions/statements made in this deliverable and it is lacking detail in the projected activities section. Rating for this deliverable is Marginal and recommended for remediation.</p> <p>The contractor was unable to adequately provide data about training attendance and completion during the super user training, data reporting was delayed and unable to be validated using VA system reports. This resulted in inadequate reporting to leadership and a lack of confidence in the reported information.</p>
9/18/19 – 11/17/19	<p>Deliverables need more detail especially on events to address stakeholders involved and outcomes. Artifacts are not typically attached to deliverables but are referenced. Sites requested EHRM solution demonstrations for months. During week of 9/26/19, Cerner delivered an insufficient plan to support these site demonstrations that shifted primary responsibility to the VA and VAMC leadership. VA requested Cerner revise the approach, and Cerner provided an updated plan.</p>
11/18/19 - 12/17/19	<p>Delivered 200-Level and 300-level participant handouts for review – these materials had internal comments and track changes, have multiple formats and are inconsistent in quality.</p>
12/18/19 – 2/17/20	<p>Cerner's Change Management methodology stated that they would develop Start Stop Continue (SSC) documents for all workflows. They were also provided a contract modification to ensure there were change consultants in all national and local workshops to capture the change impacts that were discussed. In December 2019, Cerner told VA that they had updated their methodology and they were only developing SSC documents for the workflows that they deemed complex. While VA has received SSC [Start Stop Continue] documents for the 26% of the workflows that Cerner has deemed the most complex, there is little to no reference to 74% non-complex workflows and their changes and those need to be addressed, too.</p> <p>VA does not feel like the SLPs [Service Line Plans] are comprehensive. The SLPs provide details about Enterprise Wide Change Management activities. VA expected to see documented activities or materials that will be or have been used to address impacts with the Service Chiefs, Supervisors, and staff. In super user training, VA received feedback that the training only focused on system training and specifically</p>

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	<p>did not address workflow changes. All workflow changes should have been documented in the SSCs and then addressed in the SLPs.</p>
<p>3/18/20 – 4/17/20</p>	<p>The contractor is behind schedule on the following:</p> <ul style="list-style-type: none"> <li>• Incorporating VA feedback into the instructor-led training materials from the initial review. This activity is of a critical nature, given that one of the main reasons for a pause from a March go-live is because the training content and TRAIN domain did not match.</li> </ul> <p>In addition, multiple disciplines have expressed concern over the quality of training materials related to the content not matching their needs. This is a recurring theme that points to either lack of staffing and/or expertise in ensuring materials are tailored to the VA user. There is insufficient response to questions regarding the data/evidence supporting recommendations for content and curriculum recommendations. This includes an inability to articulate historical data that justifies/supports the current approach to training. The business analytics position on the training operations team remains vacant at this time, which could be contributing factor.</p>
<p>5/18/20 – 6/17/20</p>	<p>It is of concern that job aids marked as “final” still appear to be incomplete (tracked changes, copy editing errors, etc.) In addition, upon review, it has been found that several adjudicated comments and subsequent content changes needed following council and OEHRM feedback do not appear to have been updated to reflect changes stated in the feedback form. OEHRM is engaging in an audit of this adjudication process to verify where discrepancies remain in the content.</p> <p>Multiple disciplines continue to express concern over the quality of training materials related to the content not matching their needs. To note, there have been marked improvements in content designed for the Veterans Benefit Administration roles.</p> <p>Onsite training activities have been impacted by the COVID-19 response and an inability to meet directly with the site POCs.</p> <p>We recommended rejection for the Monthly Organizational Change Management Report submitted in May 2020 due to lack of detail and the quality of information provided in the report. Cerner did not address feedback regarding the inclusion of information on high complexity workflows, and lack of information on resistance planning.</p> <p>The contractor remains behind schedule on the following:</p> <ul style="list-style-type: none"> <li>• Capability Set 2 curriculum development. This has not started, and Cerner has yet to establish a schedule for these training development activities. As a result, CS 2 curriculum development is at risk of not being completed by the end of the task order period of performance.**</li> </ul>
<p>6/18/20 – 7/17/20</p>	<p>Multiple instances have been identified where the role to curriculum mapping and associated content are mis-aligned. This misalignment has had downstream effects to ensuring staff are accurately mapped to courses tailored to their specific roles. Documents critical to those decision points are owned by different Cerner workstreams and are not consistently in alignment.</p> <p>It is of continued concern that materials identified as “final” still appear to be incomplete (tracked changes, copy editing errors, etc.)</p> <p>In addition, there continue to be instances where feedback from comments by council members have not been incorporated into final training materials. The recent audit revealed multiple instances of where identified content changes were not made to materials as indicated.</p>

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	<p>The Workflow Status Report was rejected due to the deliverable lacking accomplishments (not impacted by COVID-19) and any references to workflows, which should have been included. This deliverable did not meet quality expectations.</p>
<p>7/18/20 – 8/17/20</p>	<p>Concerns still exist over the quality of training materials. While the work done over the past several months has led to improvements in content and leadership is quickly reacting when issues are identified, there was insufficient correction of known issues by the content teams prior to the start of training.</p> <ul style="list-style-type: none"> <li>• Updates to content of Proficiency Checks were not completed prior to the start of super user training</li> <li>• Three (3) courses had no proficiency check developed prior to the start of training</li> <li>• Updated Change Control Board approvals that impact roles were not tracked across all affected areas of learning (Role trees were outdated, which led to incorrect roles being selected on the URA, which led to incorrect TMS [Talent Management System] program being assigned, etc.)</li> <li>• Multiple disciplines continue to express concern over the quality of training materials related to the content not matching their needs.</li> <li>• Content related to use of message center was removed from training. This led to users having no training related to how they would communicate with the clinical staff they support. This has led to multiple downstream impacts.</li> </ul>
<p>8/18/20 – 9/17/20</p>	<p>Concerns still exist over the quality of training materials. While the work done over the past several months has led to improvements in content and leadership is quickly reacting when issues are identified, there was insufficient correction of known issues by the content teams prior to the start of training.</p> <ul style="list-style-type: none"> <li>• Updates to content of Proficiency Checks were not completed prior to the start of super user training</li> <li>• Three (3) courses had no proficiency check developed prior to the start of training</li> <li>• Updated Change Control Board approvals that impact roles were not tracked across all affected areas of learning (Role trees were outdated, which led to incorrect roles being selected on the URA, which led to incorrect TMS program being assigned, etc.)</li> <li>• Multiple disciplines continue to express concern over the quality of training materials related to the content not matching their needs.</li> <li>• Content related to use of message center was removed from training. This led to users having no training related to how they would communicate with the clinical staff they support. This has led to multiple downstream impacts.</li> </ul> <p>The Workflow Status Report was recommended for rejection because the attachment, the CM Consultant Guidebook (TO5 Mod P6, Section 5.5.3), had several identified weaknesses (e.g., lacked specificity around best practices for compiling impacts and asking questions to inform the council change impact report). The contractor's proposed guidebook does not include an effective plan that, if implemented, would provide the Organizational Change Consultants the guidance they need to do their jobs in future waves. The Walla Walla and White City Human Capital Site Guides were rejected because they did not present an analysis of human capital data, metrics, and trends as outlined in Task Order 5.</p>

*Source: OIG compilation of statements extracted from documents provided by VA OEHRM.*

*\*Note: Statements are verbatim from documents provided by VA OEHRM.*

*\*\*Note: VA OEHRM leadership made the decision to deploy the new EHR functions in separate blocks at separate times. The separate blocks of functions are called "capability sets."*

## Appendix E: Acting Deputy Secretary Memorandum

### Department of Veterans Affairs Memorandum

Date: June 29, 2021

From: Acting Deputy Secretary

Subj: OIG Draft Report, Training Deficiencies with VA's Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington (2020-01930-HI-1026) (VIEWS 5036721)

To: Assistant Inspector General for Healthcare Inspections (54)

1. Thank you for the opportunity to review and comment on the Office of Inspector General (OIG) subject draft report. I concur with the recommendations assigned to the Acting Deputy Secretary, which are recommendations 2,3,4,5,6,7,8, and 9. The Office of the Acting Deputy Secretary provides an action plan in the attachment.
2. Comments regarding the content of this memorandum may be directed to the Senior Advisor to the Acting Deputy Secretary.

*(Original signed by:)*

Carolyn Clancy, M.D.

## Appendix F: Acting Under Secretary for Health Memorandum

### Department of Veterans Affairs Memorandum

Date: May 27, 2021

From: Acting Under Secretary for Health (10)

Subj: OIG Draft Report, Training Deficiencies with VA's Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington (2020-01930-HI-1026) (VIEWS 5036)

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

1. Thank you for the opportunity to review and comment on the Office of Inspector General (OIG) subject draft report. The Veterans Health Administration (VHA) concurs with the recommendations assigned to the Acting Under Secretary for Health, which are recommendations 1, 10 and 11. VHA provides an action plan in the attachment.
2. Comments regarding the contents of this memorandum may be directed to the GAO OIG Accountability Liaison Office at [VHA10BGOALACTION@va.gov](mailto:VHA10BGOALACTION@va.gov).

*(Original signed by:)*

Richard A. Stone, M.D.

## VA Action Plan

### Training Deficiencies with VA's New Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington 2020-01930-HI-1026

**Recommendation 1. The Under Secretary for Health explores the establishment of a group of Veterans Health Administration staff comprised of core user roles with expertise in Veterans Health Administration operations and Cerner electronic health record use with data architect level knowledge to lead the effort of generating optimized Veterans Health Administration clinical and administrative workflows.**

**VHA Comments:** Concur

VHA has established the Office of the Functional Champion under the Assistant Under Secretary for Health for Clinical Services. End users, as well as clinical, patient safety, and informatics leadership with expertise in VHA operations and policy will be involved in the evaluation and optimization of clinical and administrative workflows implemented within the Cerner electronic health record, associated interface products, and the legacy VISTA system. Our goal is to standardize a single enterprise approach that reflects integrated decision-making throughout the end-to-end workflows of the health system. These team members will populate the re-engineered EHRM Councils which will be re-chartered within the VHA Office of the Functional Champion.

Status: In Progress

Target Completion Date: September 2021

**Recommendation 2. The Deputy Secretary establishes an electronic health record training domain that ensures close proximity to the production environment and is readily available to all end users during and following training.**

**VA Comments:** Concur.

VA's 12-week, top-to-bottom strategic review reaffirmed the need for an expanded and interactive pre-production environment with close proximity to the production environment. VA views this as a critical pillar of the future success of the project and as a mechanism for testing the viability of workflows, for enterprise-wide collaboration, and for training, change management, and innovation. Further, enabling teams across the enterprise to engage with the product early in the transformation schedule will enhance readiness for change.

Status: In Progress

Target Completion Date: January 2022

**Recommendation 3. The Deputy Secretary ensures end users receive training time sufficient to impart the skills necessary to use the new electronic health record prior to implementation.**

**VA Comments:** Concur

VA agrees that ensuring that interdisciplinary end user teams have ample time to engage with the new electronic health record, and to become proficient in leveraging the EHR for the benefit of the Veterans we serve, is essential to transformation. VA intends to leverage the type of pre-production environment described above to ensure early and frequent ability for end users to engage with the new EHR. Further, VA is working to strengthen focused, role-based training well ahead of future go lives and based on lessons learned, including for VISN and facility management teams, local Informatics Steering Committee members and superusers, revenue cycle teams, and frontline employees.

Status: In Progress

Target Completion Date: January 2022

**Recommendation 4. The Deputy Secretary ensures the user role assignment process addresses identified facility leaders and staff concerns.**

**VA Comments:** Concur

Effective user role assignment is essential in enabling interdisciplinary teams to deliver excellence, access, and outcomes for Veterans. With an on-site team, VA is actively working to address user role concerns in Mann-Grandstaff; moving forward, VA will work to establish an enterprise operating model with clear, standard roles across the enterprise. Role- and team-based testing, training, and change management will be central to the approach.

Additionally, the Veterans Health Administration (VHA) Functional Champion will establish an interdisciplinary working group with expertise in VHA operations and Cerner electronic health record use to lead the effort to optimize user role definition and assignments. This effort will assure that user roles reflected within the technology are aligned with the Federal Supremacy National Standard of Practice effort for VA Health Care Professionals already underway. Such standardization will allow us greater access and efficiencies for VA Healthcare Professionals and ensures parity with the US Department of Defense (DoD) irrespective of conflicting State requirements. This working group will partner with the Federal Supremacy effort to continue to identify change management, education, oversight of practice, patient safety, and training needs.

Status: In Progress

Target Completion Date: January 2022

**Recommendation 5. The Deputy Secretary ensures Cerner trainers and adoption coaches have the capability to deliver end user training on Cerner and Veterans Health Administration electronic health record software workflows.**

**VA Comments:** Concur

VA agrees that role- and team-based training must be provided by personnel who understand the job requirements and nuanced interdisciplinary workflows of employee learners. Based on lessons learned in the Department of Defense, VA will build a supportive structure that is founded in adaptive training models and end user peer-to-peer support that will mature over time and in capacity as additional deployments go-live. Through virtual training and at-the-elbow availability, VA will use current Cerner end users to mature the development of this support while also ensuring that Cerner provides improved clinical support for deployments. Additionally, VA intends that a pre-production training environment, as described above, will enable training and adoption to occur early and broadly, enhancing the level of readiness for change and avoiding sole reliance on pre-go-live training.

Status: In Progress

Target Completion Date: January 2022

**Recommendation 6. The Deputy Secretary evaluates the process of super user selection and takes action as indicated.**

**VA Comments:** Concur

VA recognizes that it is critical for superusers' to possess knowledge, experience, and familiarity with the job requirements and interdisciplinary workflows of the end users they support. VA is working to refine the process of superuser selection and associated training such that end users have ample, effective support across go-lives and to enable ongoing innovation at implementation sites.

Status: In Progress

Target Completion Date: January 2022

**Recommendation 7. The Deputy Secretary reviews the Office of Electronic Health Records Modernization's performance-based service assessments for Cerner's execution of training to determine whether multiple, recurrent concerns are being accurately captured and addressed.**

**VA Comments:** Concur

VA's comprehensive strategic review of the Electronic Health Record Modernization program illuminated the need to more rigorously manage cost, schedule, and performance for this project, including with regard to training. VA is working to review prior performance-based service assessments of training and other areas and will specifically aim to ensure concerns are being accurately captured and addressed by Cerner.

Status: In Progress

Target Completion Date: January 2022

**Recommendation 8. The Deputy Secretary oversees the revision of an Office of Electronic Health Records Modernization training evaluation plan and ensures implementation of stated objectives.**

**OEHRM Comments:** Concur

VA will establish a robust training evaluation plan and will ensure stated objectives are achieved. Successes and lessons learned will be used to enhance training efficacy and inform future training strategy. Notably, VA will assess the efficacy of new methods of training, as with the pre-production environment described above.

Status: In Progress

Target Completion Date: January 2022

**Recommendation 9. The Deputy Secretary reviews the Electronic Health Record Modernization governance structure and takes action as indicated to ensure the Under Secretary for Health's role in directing and prioritizing Electronic Health Record Modernization efforts is commensurate with the Veteran Health Administration's role in providing safe patient care.**

**VA Comments:** Concur

Effective governance of Electronic Health Record Modernization is essential to delivering enhanced access, outcomes, and excellence for Veterans. VA agrees that responsibility for leadership of critical aspects of the project, including clinical requirements and patient safety, should be held where the relevant expertise exists. VA is strengthening functional championship in support of the Under Secretary for Health and is establishing a joint governance body to oversee and guide the future direction of the project, inclusive of the: Under Secretary for Health; Chief Information Officer; Chief Data Officer; Under Secretary for Benefits; Chief Veterans Experience Officer; Chief Acquisition Officer; and Assistant Secretary for Enterprise Integration. This body will be accountable to the Deputy Secretary.

Status: In Progress

Target Completion Date: January 2022

**Recommendation 10. The Under Secretary for Health establishes guidelines and training to capture new electronic health record-related patient complaints, including patient advocacy.**

**VHA Comments:** Concur.

Veteran feedback, including in the form of suggestions, complaints and through patient advocacy channels, is essential to inform VA's early identification and subsequent resolution of any issues Veterans experience across the transition to a new EHR. VA is exploring options to effectively receive and action such feedback, as well as to ensure leadership has shared, continual understanding of the status of Veteran experience.

Status: In Progress

Target Completion Date: January 2022

**Recommendation 11. The Under Secretary for Health ensures an assessment of employee morale following implementation of a new electronic health record and takes action as indicated.**

**VHA Comments:** Concur

The National Center for Organizational Development Assessment and Consultation Team will partner with the Office of the Functional Champion and informatics leadership to develop and administer assessments at applicable sites to determine the impact of electronic health record implementation on employee morale.

Status: In Progress

Target Completion Date: January 2022

## Appendix G: VISN Director Memorandum

### Department of Veterans Affairs Memorandum

Date: May 4, 2021

From: Director, Northwest Network (10N20)

Subj: VAOIG Draft Report: Healthcare Inspection - Training Deficiencies with the New Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington

To: Director, Office of Healthcare Inspections (54HL10)  
Director, GAO/OIG Accountability Liaison Office (VHA 10B GOAL Action)

1. Thank you for the opportunity to review the VA Office of Inspector General's Draft Report: Healthcare Inspection - Training Deficiencies with the New Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington.
2. I acknowledge receipt of the report and note that there were no findings at the Facility or VISN level. Attached please find the facility's response.

*(Original signed by:)*

Teresa D. Boyd, DO

## Appendix H: Facility Director Memorandum

### Department of Veterans Affairs Memorandum

Date: May 4, 2021

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

Subj: VA OIG Draft Report: Healthcare Inspection – Training Deficiencies with the New Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington

To: Director, Northwest Network (10N20)

1. Thank you for the opportunity to review the Veterans Affairs (VA) Office of Inspector General's Draft Report: Healthcare Inspection – Training Deficiencies with the New Electronic Health Record System at the Mann-Grandstaff VA Medical Center in Spokane, Washington. I concur with the assessment and findings, and appreciate the review team's thoroughness and dedication to quality improvement across the VA.
2. The Mann-Grandstaff VA Medical Center will continue to monitor performance.

*(Original signed by:)*

Robert J. Fischer, MD  
Medical Center Director

## OIG Contact and Staff Acknowledgments

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