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**"VA'S ELECTRONIC HEALTH RECORD MODERNIZATION"
COMMITTEE ON VETERANS' AFFAIRS
UNITED STATES SENATE**

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Good afternoon, Chairman Tester, Ranking Member Moran and distinguished Members of the Committee. Thank you for the opportunity to testify today in support of VA's initiative to modernize its electronic health record (EHR) system. I am accompanied by VA's senior leaders critical to this initiative, Shereef Elnahal, M.D., Under Secretary for Health, Kurt DelBene, Assistant Secretary for the Office of Information and Technology and Michael Parrish, Principal Executive Director for the Office Acquisitions, Logistics and Construction.

I want to begin by thanking Congress and this Committee for your continued support and your shared commitment to Veterans. Successful deployment of a modern EHR is essential to the delivery of lifetime world-class health care and benefits for Veterans. Indeed, with a modern EHR, we can enable care teams to deliver best-in-class access and outcomes while enhancing VA's ability to innovate and advance Veteran care and services. In the end, our goal is a unified, seamless, trusted information flow between VA, the Department of Defense (DoD), the U.S. Coast Guard and community providers that will empower Veterans and their families, caregivers and survivors to achieve and sustain health and wellness. Because Veterans are at the center of everything we do, their health and well-being and ensuring they receive the care they have earned is our highest priority.

We readily acknowledge there have been challenges with our efforts to modernize VA's EHR system. Yet, we remain fully committed to the ongoing modernization and deployment of the new system and have made significant progress from our first go-live in Spokane. We continue to improve the system based on feedback from our health care personnel and Veteran community. We currently are focused on assessing and remediating all identified issues at live sites, with a continued prioritization of patient safety. As we move forward with deployments, we will, of course, incorporate lessons learned and implement continued improvements we have identified, so that we can achieve the benefits of a modern EHR system. We strive to have a system that can support improved access, outcomes and experiences for Veterans, through a single health record from entry into military service to VA care.

VA has an obligation to Veterans and taxpayers to get this right. We understand the concerns of this Committee regarding the EHR system and its impact on Veterans and the care our health care personnel provide. We are committed to full transparency

and we appreciate your vigorous oversight. Indeed, we look forward to further engagement with you and your staffs to ensure that this modernization is successful. We commit to you that we are working diligently to address identified issues and implement enhancements and improvements. In delivering world-class health care to Veterans, VA adheres to the principles of a High Reliability Organization, and our number one goal remains achieving zero patient harm.

EHR Readiness

In October 2022, VA delayed upcoming go-lives of the new EHR system until June 2023 to understand and address challenges with the system and ensure optimal functionality for VA health care personnel. The goal, of course, is to achieve better outcomes for Veterans. During this “assess and address” period, VA is actively working on many other issues impacting system reliability and usability to include system performance, testing, training and functional optimization.

System Stability and Reliability

VA is resolving issues with the EHR system’s performance and stability before restarting deployments at other VA medical centers (VAMCs). Corrective actions within the Oracle database configuration have resulted in more than 6 months without a complete outage. The Block 8 upgrade in February 2023 included 28 updates, which reduced crashes and freezes across clinical, Revenue Cycle, and platform applications, resulting in an 11% reduction in application freezes and 8% reduction in application crashes. Additional improvements are planned for this weekend that will improve those numbers to a 13% reduction in freezes and 32% reduction in crashes. Key performance indicators are now being used to monitor and evaluate performance improvements.

Improving system reliability and availability remains a critical VA focus. Cerner is contractually obligated to meet 99.9% uptime commitment per measurement period (i.e., monthly) for the EHR production system, meaning that the system is functional and available for use. Over the last 6 months, Cerner has met that requirement. In addition, our immediate target is to achieve at least 95% system incident free time, which we define as the percentage of time in which all solutions are functioning as intended for all users. Because not all system interruptions are the result of Cerner activity—issues with other systems that connect to the EHR can impact it—VA continues to work with our partners at DoD and the Federal Electronic Health Record Modernization office to reduce downtime within the EHR enclave and the systems connected to it.

VA also established a Performance Excellence workgroup in March 2022 to review technical performance issues with Cerner and resolve problems with system stability, reliability and performance. The goal of this workgroup is to remediate identified reliability and performance issues before deployment of the EHR system to additional sites and minimize any disruption to access of care. VA looks forward to continuing deployments this summer.

System Usability

On February 17, 2023, the three priority pharmacy enhancements were installed as part of the Block 8 upgrade to the EHR system. These enhancements are improving providers' visibility of available prescriptions, optimizing system options for maintenance medications and expanding details on prescription expiration dates—all of which are necessary to support our health care personnel in delivering Veteran care. Demonstrating the lessons we have learned from the past, these enhancements underwent rigorous testing prior to installation, and initial feedback from the pharmacy community is positive – especially pharmacy personnel at Mann Grandstaff which experienced the greatest impact in the early deployments. In fact, it is fair to note that without these pharmacy enhancements, we would not be able to effectively resume EHR system deployment. We are confident the implemented changes and the remaining pharmacy changes will reduce the burden on personnel at the five sites already using the new EHR and improve delivery of world-class health care Veterans have earned.

VA is also standardizing activities across the VA health system to optimize business processes, reduce user adoption issues and improve training and testing. This includes standardization of data collection workbooks and standardization of locations and roles. Standardization and improving the end-user experience is critical to reducing use error and risk of patient safety events.

The Electronic Health Record Modernization Integration Office (EHRM-IO) and the Veterans Health Administration (VHA) have worked collaboratively to assess and remediate a subset of identified system challenges to expediently resolve some of the most critical issues. Examples of these issues and resolutions include:

- Introduction of behavioral health flags that are prominent in the user-facing sections of the EHR (completed in February 2023 Block 8 update for RadNet and PathNet; RevCycle scheduled for Block 9 in August 2023);
- Development and Insertion of physician credentialing table that will ensure clinicians orders are delivered to the intended location and leaders have the appropriate level of visibility and control (scheduled for June 2023) before next go-live;
- Completion of a “Prescriptions” filter made available by default;
- Configuration change to only allow formulary medications to appear on initial search;
- Creation of a standard report on common prescriptions to allow for facilities to review to trigger modification; and
- Technical enhancement that now 1) limits the available options in the “VA Scheduling Location” drop down field when placing Orders and 2) ensures Providers will no longer see the entire list of locations available at the facility and will only be able to select from locations with scheduling build associated to the order.

We also learned that additional updates are required to the EHR system workflows and administrative processes for medical centers with oncology and research services and have started developing these updates. These changes are due to the high-risk nature and complexity of oncology medication protocols (these will be completed before Level 1a facility go-lives).

Training, Change Management and End-User Engagement

End-user engagement and adoption is key to achieving usability and successful integration of the EHR system into operations. When VA health care personnel can efficiently and effectively use the EHR in their day-to-day care delivery, Veterans benefit from a simplified patient experience, earlier identification of health risks, and better preventative care based on when and where they served. VA continues to listen to our end users and make improvements to training and adoption activities based on their feedback. We have taken steps to address concerns with contracted trainers and the sandbox simulated training environment to better prepare users for the live EHR environment. We are addressing challenges with user participation and involvement of super users, who are critical in providing specific, on-the-job guidance to our health care providers. We have made the training more modular and based on specific system functionality. This allows us to further target training requirements to end users' specific roles in the system, better aligning content with the work they perform and reducing the overall amount of training required for many users. We also are doing a better job managing expectations around training, so that our staff understand it is only one part of the overarching adoption pathway for the new EHR system. Based on lessons learned, ongoing feedback and general maturing of the program as deployments expand, VA is working on a variety of other program improvements to support end users. These updates include additional support from clinical consultants, VHA subject matter experts and super users on use of the EHR within VA policy, processes and operations.

Program Improvements

VA has also made progress in completing implementation of many of the VA Office of Inspector General's (OIG) recommendations for the EHRM program. As of the date of this testimony, 43 of the OIG's 68 recommendations are closed, including the final recommendation from the unknown queue that was closed in January 2023. Two additional recommendations are targeted for closure by the end of March 2023. 25 recommendations remain open, including two from the oldest report focused on access to care at Mann-Grandstaff VAMC. These two recommendations relate to evaluating the EHR system's impact on productivity and the impact of mitigation strategies on the user and patient experience and are targeted for closure by June 2023. VA continues to drive each to closure. We have established VHA EHRM governance bodies and processes to ensure enterprise standardization and health system decision-making. As part of this work, EHRM-IO transitioned the EHRM National Councils to VHA to be incorporated into VHA's governance process.

Readiness to Resume Deployments in June

As improvements continue to be made over the next few months, VA will continually evaluate the readiness of each site as well as the EHR system to ensure success. The continuous focus will be on assessing and remediating any identified issues at live sites and designing for safety and efficiency at future deployment sites. Inside VA, EHRM-IO continues to partner with VHA stakeholders, including site and Veterans Integrated Service Network (VISN) leadership, to execute deployment events and track site readiness in preparation for upcoming 2023 go-lives and beyond. To be clear, we will not go live at any site with unresolved safety critical findings, but remain firm in our resolve to continue deployments of the modernized EHR. Additionally, with the new EHR National Councils within VHA, multiple database and system reliability fixes and the three priority pharmacy enhancements in place, VA leaders are confident in a successful path forward for future deployments.

Continued Engagement at Live Sites

VA is not singularly focused on the future deployment schedule. We continue active engagement with sites already using the new EHR system. We are grateful for their hard work and dedication to patient care. In fact, these sites have provided vital feedback on challenges with the new EHR that have resulted in critical improvements. We maintain a continuous feedback loop with these deployed sites to capture future improvement opportunities at those sites and to drive future changes at sites not yet deployed. As we continue to support these live sites, VA has developed and sustained a training regimen to ensure new hires are properly trained and existing users are getting opportunities to optimize their performance in the EHR system. We routinely communicate system changes, planned maintenance events, upgrades and outages, and also leverage our weekly User Impact Series, which is attended by over 200 super users, site and VA leaders, and subject matter experts. The lessons learned from these sites have enabled VA to improve the level of support provided before, during, and after go-live.

The progress we have made is demonstrated by the opening of Mann-Grandstaff VAMC's acute psychiatric unit on January 17, 2023. As the unit began using the new EHR system, staff and leadership commented on both the smooth transition and the level of support they received. VA has also developed a VAMC Information Portal Dashboard with 82 facility operational metrics to monitor health care delivery at sites using the new EHR system.

Contract Update

VA's initial sole source contract award was awarded to Cerner on May 17, 2018. The EHRM Indefinite Delivery/Indefinite Quantity (IDIQ) contract was structured with the initial period of performance over five years, after which another five-year option period is available to exercise at the Government's discretion. The current period of performance for VA's contract ends May 16, 2023. Our Office of Acquisition, Logistics,

and Construction, together with other stakeholders in VA, has conducted acquisition planning and preparation to support option period negotiations with Cerner. Those negotiations are expected to begin on March 14, 2023.

Budget Overview and Cost Estimate

To support the EHR modernization effort, the total budgetary resources for EHRM-IO budget for FY 2023 is \$2.103 billion (\$1.759 billion from FY 2023 appropriation and \$344 million in carryforward funding from FY 2022). This reflects the funding needed to sustain deployed sites and prepare for the next program requirements at sites scheduled to go-live in FY 2024 and early FY 2025. To address OIG's concern regarding the lack of an independent cost estimate (ICE), VA procured the services of the Institute for Defense Analyses (IDA) to develop an ICE that includes EHRM-related costs attributable to EHRM-IO, VHA, and the Office of Information and Technology, among other costs related to the new EHR throughout the life cycle of the system. This estimate provides VA leadership with a neutral, independent assessment of potential costs to implement and operate a new EHR. The four main contributors of differences between EHRM's estimates and IDAs are the deployment timeframe, inclusion of sustainment, inclusion of productivity losses across the deployment, and cost differences among existing elements of the deployment process. VA is currently assessing the ICE. We are also working to update and finalize the program's life cycle cost estimate and will provide an updated version to Congress once completed.

Deployment Schedule

Deployments are scheduled to begin again in June 2023. VA has a draft schedule for the next six sites for FY 2023. We plan to deliver a full life cycle deployment schedule to Congress by May 2023.

EHR System Alternative

Since the decision to modernize VA's EHR system was announced in 2017, our charge has been clear: create a single, seamless, integrated, interoperable, and secure health record for Veterans, starting with their military service days. From the outset, doing so was going to be one of the most complex clinical and business transformation endeavors in the Department's history. However, the challenges of modernizing our EHR system must not prevent us from moving forward. Modernizing is critical to providing our health care personnel with the most up-to-date tools to provide the best care to Veterans.

Our existing EHR system, VistA, is almost 40 years old. It has served VA well, and we know long-time VA employees are accustomed to the system. VistA is comprised of 130 distinct instances, and is not a solution that can be sustained or modernized to deliver the benefits of an enterprise electronic health record for our Veterans, with seamless integration across federal partners and community care centers. It does not have modern capabilities like artificial intelligence/machine learning, web access, and capabilities providers and Veterans expect and deserve from a

modern cloud-native EHR. VistA is a member of VA's expansive and complex ecosystem of software and infrastructure. The size and complexity of that technology ecosystem has nearly doubled in the last five years, and most of that growth was in modern cloud-native applications. Programmers are increasingly challenged keeping VistA integrated in a growing ecosystem that is architected very differently from the system designed 45 years ago. These challenges compound every year.

VA must continue to move forward with a modern, commercial EHR solution in close coordination with Federal partners including the DoD. An alternative approach would only push us further away from the goal of a single, seamless, integrated health record necessary to provide world-class health care to our Veterans. Despite the challenges, it is important to note that the same EHR system that VA is deploying has already been successfully implemented at DoD sites across the United States, including by the U.S. Coast Guard and the U.S. Military Entrance Processing Command, as well as in the commercial sector. Implementing a commercial, enterprise-scale EHR allows VA to take advantage of new technologies both today and in the future. It allows us to standardize workflows and systems across VA and to automate and integrate manual processes, resulting in efficiencies and better service and care to Veterans. In addition, enterprise-wide standardization means that personnel trained at one facility will be able to transfer their skills to any other facility nationwide without re-learning the EHR system. Further, it will make it easier to use telehealth to share clinical expertise across VA's expansive health care delivery network, improve enterprise scheduling and enable smarter care decisions based on a broad view of a Veteran's medical history and service record.

Conclusion

Our focus is keeping Veterans at the center of everything we do, and our top priority remains and continues to be advancing a culture of safety and high reliability, with the goal of zero incidents of patient harm. Veterans deserve high-quality health care—that means health care that is timely, safe, Veteran-centric, equitable, evidence-based and efficient.

As improvements continue to be made over the next several months, VA will continually evaluate readiness of sites and the EHR system to ensure success. This includes close collaboration with EHRM-IO, site and VISN leadership and other key stakeholders to evaluate individual site readiness. These assessments include ensuring each site has the people, processes and technology elements in place to ensure a successful go live. With the key activities and EHR system improvements that are underway, VA leaders are confident of the path forward.

I again extend my gratitude to Congress for your commitment to serving Veterans with excellence. With your continued oversight and support, VA will realize the full promise of a modern, integrated health record to cultivate the health and well-being of Veterans. We are happy to respond to any questions that you may have.