**STATEMENT OF THE HONORABLE DONALD M. REMY**
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**BEFORE THE**
**SENATE APPROPRIATIONS COMMITTEE, SUBCOMMITTEE ON MILITARY CONSTRUCTION, VETERANS AFFAIRS AND RELATED AGENCIES**
**HEARING ON**
**VA'S ELECTRONIC HEALTH RECORD MODERNIZATION (EHRM): AN UPDATE ON ROLLOUT, COST AND SCHEDULE**

**SEPTEMBER 21, 2022**

Good morning, Chairman Heinrich, Ranking Member Boozman and distinguished Members of the Subcommittee. 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 today by VA's experts on this initiative, Dr. Shereef Elnahal, Under Secretary for Health; Mr. Jon Rychalski, Assistant Secretary for Management and Chief Financial Officer; and Dr. Terry Adirim, Program Executive Director, Electronic Health Record Modernization Integration Office (EHRM-IO).

I want to begin by thanking Congress and this Subcommittee for your continued support and shared commitment to Veterans. The resources you have invested in VA's EHRM effort will improve access, outcomes and experiences for Veterans. Successful deployment of a modern EHR is essential in the delivery of lifetime, world-class health care and benefits for Veterans, as well as to set the standard for U.S. health care writ large. We will get this right. With a unified, seamless, trusted information flow between VA and the Department of Defense (DoD), we can further empower Veterans and their families, caregivers and survivors to achieve and sustain health and wellness. In addition, 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.

I look forward to further engagement with you and your staffs to ensure that we are successful—and I assure you that we remain committed to full transparency regarding our deployment efforts. Veterans and patient safety are at the center of everything we do. In delivering world-class health care to Veterans, VA adheres to the principles of a High Reliability Organization and our fundamental goal is to achieve zero patient harm. To those important ends, I wanted to provide a program update, including what continues to be a sometimes challenging, but much more informed deployment and operational plan moving forward.

Our charge has been clear: create a single, seamless, integrated health record for Veterans, starting with their military service days. This complete record within a single system allows those who care for the Nation's Veterans to proactively prepare for the future and deliver the benefits, care and services those Veterans have earned.

This is one of the most complex clinical and business transformation endeavors in the Department's history. But the complexity and challenges associated with this

effort should not deter us from modernizing our technology and processes. This is an opportunity for VA to fundamentally transform health care for Veterans through standardization of its operations to deliver consistent, high-quality care whenever, wherever Veterans seek it.

Our nearly 40-year-old legacy system has served us well, but it has reached the end of its life-cycle—and given its limitations, it needs replacing. As Secretary McDonough said, this is a leap forward we can and must get right.

We acknowledge that the first deployment at Mann-Grandstaff VA Medical Center (VAMC) in Spokane, Washington was problematic. The mistakes identified in the months following the Spokane deployment are unacceptable. We are holding ourselves and our vendor accountable to get these issues resolved at Mann-Grandstaff and our other deployment sites.

Since the deployment in Spokane nearly 2 years ago, VA has applied the lessons learned from that experience to improve future deployments. We conducted a Department-wide strategic review that identified patient safety and other areas for improvement and used these lessons to change our deployment strategies with a focus on reducing risk and improving adoption. VA is unequivocally committed to providing safe, effective care to Veterans.

This EHR modernization effort is led by the EHRM Integration Office with Dr. Terry Adirim, as the Program Executive Director, responsible for integrating efforts across the enterprise-wide, to include the Veterans Health Administration (VHA), the Office of Management, and other offices. We are excited to have on board as the first Senate-confirmed Under Secretary for Health since 2017 - Dr. Shereef Elnahal, whose leadership of VHA will be critical to the success of this effort. In addition, Mr. Jon Rychalski has led VA's Office of Management for over 4 years and can address the updated independent cost estimate (ICE).

**EHRM: The Plan Going Forward**

Any implementation of this scale and complexity comes with inherent challenges. While we are working diligently to address them, we also know change like this can be challenging and, as such, have always viewed this process iteratively. We are currently in the initial operating capability (IOC) phase. In this phase, we are learning what is working, what is not working—and applying the lessons learned moving forward.

*Deployment Schedule*

Following the 2020 Mann-Grandstaff VAMC deployment and strategic review in 2021, VA revised its EHR deployment schedule through the first quarter (Q) of fiscal year (FY) 2024. We understand, and VA has always made clear, that the deployment schedule is subject to change based on unforeseen events that may prevent a safe and successful deployment. This may include a determination that a site may not be

ready for deployment due to implementation tasks not being completed on time or an assessment by EHRM-IO and Veterans Health Administration (VHA) leaders that a timeline adjustment is needed for a specific clinical site.

In preparation for deployments, EHRM-IO employs a detailed integrated readiness criteria checklist to assess risk at future sites. Additionally, we now use a continuous feedback loop with deployed sites to capture improvement opportunities and to drive future changes at sites not yet deployed. Pre-deployment activities are underway in Veterans Integrated Service Networks (VISN) 10 and 20, as well as preparation activities for site deployments in VISNs 12 and 23 scheduled later in FY 2023 and in early FY 2024.

Demonstrating the value of the new readiness process put in place, VA decided to postpone its planned go-live at Boise VAMC, originally scheduled for July 23, 2022. This decision was based on concerns that the site and Cerner had not completed all the tasks on the site deployment readiness checklist. A new launch date for Boise VAMC has not been determined. We also shifted Puget Sound VA Health Care System (HCS), which includes the American Lake and Seattle VAMCs, from the original date of August 2022 to March 2023; and the VA Portland HCS, which includes the Portland and Portland-Vancouver VAMCs, from November 2022 to April 2023. These decisions were based on system stability concerns. Moving the deployment of these larger, more complex sites allows Oracle Cerner more time to deliver on its commitment to stabilize the system and implement our top priority capability enhancements.

We have paused going live at sites until 2023 to get this right. We are using our readiness checklist to determine their viability, and as always, we will adjust to ensure we are deploying a safe and effective EHR system. During the remainder of the calendar year, VA will be actively working on updates to the system, which includes testing at the Department's most complex facilities, as well as adding new capability enhancements. We are also still very much engaged with our past deployment sites, closely monitoring and assessing user experience, adoption of the new system and lessons learned.

The full EHR deployment schedule through 2028 is currently under development with VHA and VA's Office of Information and Technology (OIT) and will be ready in fall 2022.

*Capability Enhancements*

VA is committed and working diligently to resolve the challenges and issues identified in the strategic review, and by the Office of Inspector General (OIG) and the Government Accountability Office (GAO). We already have made progress on many of the issues identified. As of September 2022, we have closed 20 of the 68 OIG recommendations and are working with OIG to close an additional 12. However, some of the remaining recommendations are complex that cannot be closed out until the IOC phase is complete. Additionally, we are focused on ensuring technology stability and

system enhancements, as well as on rigorous processes to manage budget and expenditures, aligning them with schedule, requirements and performance, among many other program improvements. Given the lessons learned from recent deployments, we also anticipate improving metrics, system stability, user adoption and training.

In terms of capability enhancements, VA currently is focused on four priority areas: pharmacy, suicide prevention, research and revenue cycle. Some of these enhancements are above the baseline requirements in the original contract but are necessary to ensure that our medical providers can deliver care safely according to VA policy and to meet the unique needs of Veterans. A notable example of progress is the task order modification for seven pharmacy capability enhancements, which was awarded to Cerner Government Services on July 6, 2022. The preliminary timeline for development of all 7 enhancements was 13-36 months. Oracle Cerner recently indicated that it would deliver the top three capability enhancements prioritized by the pharmacy community in 6-9 months. In the interim, VA has engaged MITRE experts to evaluate and provide recommendations to optimize the current pharmacy process to reduce burden on our medical personnel.

Another key concern among clinicians has been the visibility and prominence of patient behavioral health record flags. Flags are currently configured and available in PowerChart and FirstNet as part of core commercially available capabilities. However, these flags can be bypassed by clinicians, so we are working to enhance them - in all Cerner applications - to prompt clinicians to address them without the ability to move forward until appropriate action has been taken. In the meantime, staff have been trained on the workflow of accessing the alerts via an additional click from within those applications. We are in the process of adding additional mental health and patient record flags with task order modification award anticipated in the next 1-3 months. Once awarded, we anticipate having the ability to add three capabilities in 2-4 months, and an additional 2 capabilities in 18-24 months.

Like other EHR systems, the Cerner EHR system includes a queue to capture erroneous orders. The “unknown queue,” is not a defect of the EHR, but rather how the system is designed. It functions to catch orders that cannot be delivered and completed so that they can be reviewed by staff for correction.

The problem with the unknown queue at Mann-Grandstaff VAMC was related to a failure of communication, training and processes. Unfortunately, responsible Mann-Grandstaff VAMC personnel initially were not aware of the unknown queue and how to work with this feature when the new Cerner EHR system was deployed. Subsequent actions have been taken to ensure that the queue is working optimally, including ensuring order locations are configured properly, adjusting workflows, identifying staff to monitor the queue who are trained in its use, developing tip sheets and additional resources, among others. Almost all this work was completed prior to the 2022 deployments.

VA now has a process in place for facilities to track orders in the unknown queue daily and to assign facility staff to correct and resubmit the orders in a timely manner. The issues discussed in the recent OIG report regarding the unknown queue were useful to further enhance its operation. VA has implemented corrective actions and reported them to OIG via a memorandum, dated July 6, 2022, requesting closure of the recommendations, and is diligently working to ensure that all facilities that have already deployed or are deploying in the future are adhering to the appropriate processes.

Proper training is an important element of a successful deployment. This means providing timely tailored, well-constructed coursework that requires active participation. VA has taken several actions to address identified training concerns, including:

- Engaging with independent consultants (McKinsey & Co) to review the contents and delivery of the training program, collecting end-user feedback and other related data and providing recommendations for improvements in the training program based on industry best practices;
- Conducting interviews on content areas of concern with super users and Clinical Councils;
- Working with EHRM-IO to incorporate feedback from listening sessions with super users at Puget Sound HCS regarding virtual super-user training;
- Piloting transition of 400-level courses including Sign-On Fair/Favorites Fair courses to local sites' super users and/or local sites' informatics teams (this is part of the strategy to transition ownership of appropriate activities from Cerner to VHA for long-term sustainment); and
- Implementing ongoing training content updates based on lessons learned, system changes and feedback from active EHR users.

*System Reliability*

VA continues to actively address concerns regarding system outages and degradations and is holding Cerner accountable. Not only are these episodes frustrating and disruptive to our medical personnel, but they potentially could put Veterans' safety at risk. We are also working collaboratively with DoD, the Federal Electronic Health Record Modernization Program Office, Cerner and Leidos to ensure stability of the Federal network. We are instituting prevention strategies and working to recognize problems earlier and improve notification procedures. Further, Cerner has committed to upgrading the current system and to the introduction of procedures for responding more quickly to service disruptions to ensure a better, more reliable user experience.

Cerner has failed to meet the 99.9% service uptime Service Level Agreement for 7 out of the last 13 months (June 2021 through July 2022) and the Department has received financial credits for Cerner's failure in meeting the contractual level of performance. To further hold them accountable, VA sent a second Letter of Concern to Cerner on August 5, 2022, reiterating our concerns and directing Cerner to provide their

technical and operational roadmap to remedy the ongoing system instability issues within 30 calendar days.

These problems put our medical professionals' ability to deliver safe and effective care to Veterans at risk. Cerner's failure to resolve the system instability issues may result in the use of other contractual remedies within the Government's authority.

*New Functional Champion*

VHA's involvement with the EHRM program is critical to the success of the EHR modernization initiative. The Office of the Functional Champion (OFC) is VHA's representative embedded within EHRM-IO and engaged across the Department. The OFC will lead functional initiatives to support VA's medical personnel, including collaborating daily across VA offices and across the health system to coordinate the development and implementation of EHRM-related activities. OFC works closely with VHA to ensure that our clinical community's interests are represented and integrated into each facet of the program, including leadership, staffing, governance and deployment.

We are pleased to have a new Functional Champion, Dr. David Massaro, as part of our leadership team. Dr. Massaro started on August 1, 2022. He is board certified in family medicine and health informatics and will lead EHRM-IO's clinical and business functional efforts, including change management and training activities. Dr. Massaro formerly served within VHA in several executive roles, including Acting Chief of Clinical Informatics Operations for the Office of Health Informatics. He previously spent over a decade as a physician at VA.

More VHA personnel are being integrated fully into OFC, including informaticists, solution experts and informatics patient safety experts.

**Budget Overview and Cost Estimate**

In support of this effort, the President's Budget includes $1.8 billion for FY 2023. This is in alignment with the new strategy, which adjusts the baseline requirements to align with VA's updated deployment plans. This funding is vital to support the 18 currently proposed EHR deployments scheduled for FY 2023, as well as the pre-deployment activities at future sites. These pre-deployment activities typically begin 13-15 months in advance of go-live dates to ensure sites are equipped to receive the new EHR system.

In FY 2023, VA currently plans to conduct EHR and infrastructure readiness activities at 68 sites across 7 VISNs. The funding will provide for:

- EHR: Contracts for site assessments, site transitions, enterprise integration and site implementation, including activities such as site activation, training and workflow development.

- Infrastructure: Information Technology (IT) and other infrastructure investments, such as IT upgrades, modifications to existing systems and interfaces.
- Program management support: Government staff (e.g., salaries and benefits), Government administrative expenses and contractor support.

Continuity of funding is integral to our ability to prepare sites for the deployment of the new EHR, and to execute VA's rollout schedule. By the end of FY 2022, EHRM-IO will have invested infrastructure readiness funding in 15 out of VHA's 18 VISNs. VA will also complete the vast majority of infrastructure modernization work in VISNs 10 and 20, and initial progress will be made in 13 additional VISNs. The FY 2023 budget also supports security, server stack and Local Area Network work at the final three VISNs, the initial set of infrastructure readiness items that the sites receive.

In addition to the funding requested for the EHRM account, VHA's Medical Facilities request includes $505 million in Non-Recurring Maintenance funding for facility infrastructure projects required to support EHRM. Some of the projects funded by this request include: $43 million at the Brockton VAMC, $45 million at the West Haven VAMC, and $45 million at the Dallas VAMC for required data cabling, electrical, heating/ventilation/air conditioning, and data center upgrades.

As planned, the FY 2023 President's budget provides the necessary funding to prepare for and meet the deployment requirements at sites that will go live in FY 2024 and early FY 2025. Thanks to the support of Congress, funding already provided in FYs 2021 and 2022 supports the IT physical infrastructure requirements essential to the new EHR. EHRM program funding continues to support site preparation activities, including the IT infrastructure, distinct from pre-deployment activities described above,a that must be completed 12-32 months prior to go-live and deployment activities to prepare sites for the new EHR system.

In FY 2021, the VA OIG published two reports that each found deficiencies in the Department's Life Cycle Cost Estimate for EHRM and identified the need for an ICE for EHRM. In response to those reports, VA reviewed current and historical costs across the Department to ensure that, beginning in FY 2022, our quarterly financial reports to Congress provide a more complete picture.

To address OIG's concern regarding the lack of an independent cost estimate, VA procured the services of the Institute for Defense Analyses (IDA) to develop an independent cost estimate that includes EHRM-related costs attributable to EHRM-IO, VHA and OIT 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. VA facilitated briefings with key Congressional staff on the preliminary cost estimate in July – now that VA has received the draft final report from IDA, we have provided a copy to the Committee as promised.

The four main drivers of differences between EHRM's estimates and IDA's are the deployment timeframe, sustainment, inclusion of productivity losses across the deployment and cost differences among existing elements of the deployment process.

For the specific difference between VA's and IDA's cost estimates for EHR deployment, VA's estimate spanned 10 years whereas IDA's estimate covers a timeframe of 13 years. VA's estimate was based on the current 10-year contract. IDA's estimate of 13 years was derived from examining data on historical enterprise resource planning programs.

In its estimate, IDA also includes the cost for some sustainment during the implementation phase plus 15 years of sustainment operations once the system is fully deployed. The specific sustainment cost point estimates in IDA's life cycle cost are $3.5 billion during the implementation phase and $17.1 billion during the 15-year fully deployed phase. VA's estimate did not include some of the costs for operations and support during the implementation phase nor any sustainment costs during the fully deployed phase.

In total, IDA's estimate includes an estimated $25.9 billion in costs for elements not in scope of VA's estimate. These additional elements (i.e., acquisition, sustainment pre- and post-full deployment) account for about 75% of the cost difference between VA's estimate ($16.1 billion) and IDA's estimate ($49.8 billion).

The remaining approximately 25% difference between VA and IDA estimates is due to IDA independently producing higher cost estimates for some of the elements common to both VA and IDA estimates. These increased costs were derived from VA actual costs and the IDA-estimated 13-year implementation schedule. Cost increases are common for programs of this complexity, and prior enterprise resource planning programs have had similar cost increases in acquisition.

IDA's cost estimate excluded consideration of the effects of sustaining our current EHR, VistA. VistA must remain operable until all required functionality is replaced. The total cost to sustain VistA in FY 2021 was approximately $841 million. We expect this VistA cost to continue during the deployment of the Cerner system.

**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.

Thus, during the remainder of this year, we are working on ensuring the stability and resiliency of the EHR system and making improvements to the system, including usability improvements for our health care personnel. We are staying engaged with

past deployment sites and providing support to our front-line personnel as well as fixing those issues they have identified. We are holding ourselves and Oracle Cerner accountable and continuing the work to deliver a more successful EHR, which will ensure delivery of world-class care to our Veterans.

While modernizing VA's EHR is a fundamental change in how business and health care work processes are performed within VA, it presents us with opportunities to transform the way we deliver health care, and to standardize that delivery across the enterprise to achieve improvements in patient safety and efficiency in health care deliver. Because this initiative is so transformative in terms of how Veteran care is provided, the success of the project depends on how well we prepare and support the people who use it. Be assured that the resources you have invested in VA's new EHR system, when fully implemented, will support VA in delivering world-class health care and will improve access, outcomes and the experience for Veterans for decades to come.

Finally, we want to acknowledge what may be top-of-mind for many of our stakeholders, including Members of the Subcommittee. We understand the uncertainty this type of innovation can bring as meaningful, industry-shifting change often does. In a rollout of this scale and complexity, challenges are expected, they are inevitable, and we are prepared to address them. We learned much from our first deployment almost 2 years ago and have improved our deployment strategies. In fact, in the years ahead, a successful EHR deployment must reflect what we have learned, with each challenge helping to better inform and position the next deployment.

I again extend my gratitude to Congress for your continued support and shared commitment to serving Veterans with excellence. With your continued 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.