Statement of Mike Sicilia, Executive Vice President, Global Industries
Oracle Corporation

Before the

U.S. Senate
Committee on Veterans' Affairs

Hearing on

"Examining the Future Path of VA's Electronic Health Record Modernization Program"

March 15, 2023

Introduction:

Chairman Tester, Ranking Member Moran, and members of the Committee, thank you for the opportunity to speak with you today to provide an update on Oracle's work on the Department of Veterans Affairs' (VA) Electronic Health Record Modernization (EHRM) program.

I am Mike Sicilia, Executive Vice President for Global Industries at Oracle. I am responsible for the Oracle Health Business Unit, including Oracle Cerner.

It has been nine months since Oracle acquired Cerner and assumed its responsibilities under the EHRM contract with VA. I last spoke before your Committee in July shortly after the acquisition closed. In the time since, Oracle has made significant progress on many critical issues that were impacting the Electronic Health Record (EHR) system. We recounted this work in our 2022 Year-End Congressional Report, which is attached to this testimony.

We have accomplished a significant amount in a relatively short period of time, but there is still work to do. We recognize that the program is not where you – and we – expect it to be, *yet*.

Chairman Tester, at the hearing held by the Appropriations Committee last September, you made a statement to the effect of "I don't want anything implemented before it is ready for prime time, on the same token we have an investment in a program that needs to start delivering at some time."

We have taken that to heart since our first day on the job with Cerner, and we have worked to turn the corner. We know Congress is frustrated.

What I can tell you today is that we believe continuing to move forward on this modernization project is the correct course. Modernizations – and changes – are never easy. Making this implementation additionally unique is the transition of the operational posture of VA and their EHR – moving from 133 different custom solutions governed in a decentralized operating structure, to an enterprise solution governed centrally, which itself brings challenges of change.

As we evaluate where we are today, we at Oracle have made the kind of progress, and fulfilled promises made shortly after the acquisition, that should give you confidence that Oracle is the right technology partner for VA to be successful.

As I said, there is still a lot of work to do, but allow me to first cover where we are currently, where we have made progress and the EHR is benefitting veterans, and then I will review the program's continued challenges, and our view looking forward.

Current Assessment/Columbus Visit

The progress we have made to-date, especially the enhancements and updates to the underlying technology that runs the EHR, gives us confidence that the system is properly resourced and capable of handling the additional users that come with future deployments. In January, Department of Defense (DoD) deployments added approximately 12,000 new users to the system across 2 hospitals, 11 commands and more than 70

physical clinic locations without issue. The DoD modernization program is now 75 percent complete and remains on schedule and on budget to complete domestic deployments within calendar year 2023.

Two additional waves of DoD deployments will occur in March and June respectively, which will allow us to further see that the federal enclave is able to handle the additional users and workloads that will come with the resumption of VA deployments.

Resuming VA deployments will be an important decision, one that we expect to work on closely with VA on as we near June. During the last several months, we have strengthened a positive working relationship with VA leadership; teams from all levels of engagement have been meeting weekly since August. We are aligned with VA and DoD on a common set of metrics that we use to measure our progress and the system's performance, and we are continuing to iterate. This alignment on metrics was something that had never previously been agreed on by all parties, and our working partnership grows daily.

Last week I was in Columbus, Ohio with Dr. Evans and visited Chalmers P. Wylie Medical Center. The visit proved to be insightful; across the board we heard about the benefits of the system, as well as continued frustrations. We want to thank the team in Columbus for spending the day with us, for their transparency and candor in conversation. The team at Oracle Cerner believes that there is a significant opportunity working together with VA/VHA to address the concerns voiced in Columbus in relative short order.

Many of the frustrations and concerns we heard about the system are rooted in its configuration and resulting workflows. If we level set on the relationship of the system, Oracle Cerner considers itself the provider of the system, implementing a configuration as designed by the central governance office of the VA. The good news here is that configurations and workflows can be modified and updated with relative ease once we receive direction from VA/VHA. I have the utmost confidence that working with Under Secretary Elnahal and Dr. Evans we will be able to streamline problematic workflows and get the VA approvals we need to make system changes from the original workflow design decisions.

As an example, we are currently working with the National Councils to simplify the complexity of ordering labs such as a liver enzyme test, and I'm hopeful we will have that change in place by the end of May.

However, not all feedback we heard had to do with the configuration of the system. We heard thematic feedback around small bugs, human centric design, and gaps in our support process. Productivity has not rebounded to where Columbus leadership wants it yet, and there are issues that impact the medical center's revenue, which we are focused-on addressing. We must do better, and internally we are adjusting to ensure a better experience for the practitioners that serve our veterans, ultimately impacting our veterans directly.

What we did not hear in Columbus was a single provider who stated that the system can never work for them. Each division head that we met with echoed their intent on working with Oracle Cerner, and the central VA governance office, to address the issues they are experiencing to make rollouts better for upcoming sites. The audiology team today in Columbus is already working with other sites to share best practices and lessons learned as they prepare. Every person we interacted with shared ideas for how to make things better.

These providers are committed and dedicated to serving veterans, and we are committed and dedicated to making the improvements that they need so they can provide the best care. Their feedback is already being taken and worked into a plan, a practice we will mirror across all other sites that are live.

So where does that leave us? Currently the system is performing drastically better than it was nine months ago and is taking on new DoD users without issue. We believe the federal enclave is adequately resourced to take on additional VA sites without impacting performance.

We need to make workflows simpler, which will be an ongoing, iterative process among Oracle, VA/National Councils and users.

We have improved training, and we will assess the impact of these changes as new users undergo training. There is work that needs to be done that I will explain below to make these changes, harden governance standards and achieve a repeatable model.

The VA's recently issued EHRM Sprint Report includes many recommendations for improving the governance, processes and aspects of the EHR system. We continue to work with VA through all of these recommendations and implement solutions in our areas of responsibility as quickly as possible.

With all of that said and acknowledging the work to be done, it is still true that the underlying system is performing, stable and working. Yes, it can be improved and we are one hundred percent committed to working with VA to do so. Continual improvement is a reality with any EHR system and is a common practice for our customers worldwide. From a performance and stability standpoint, we believe the system is ready for the resumption of deployments. We will work with VA in the lead-up to June to evaluate other critical factors related to workflows, usability and continual improvement that will impact readiness for the resumption of go-lives.

Summary of Progress

The following is a short summary of progress made since I last appeared before the Committee.

System Performance: We have gone from an average outage of 345 minutes per month prior to the Oracle acquisition, to 21 minutes on average per month (considering January and February's most recent data).

We have met the contractual requirement for availability to be 99.9 percent or higher 5 out of the last 6 months, with a DEERs incident impacting the month of October. DEERS is the Defense Enrollment Eligibility Reporting Service operated by the Defense Manpower Data Center, providing personal identity and demographic information for service members.

We also have significantly reduced the instances of less severe, but still frustrating, degradations going from an average of 28 high severity incidents a month to 15 – yet our response time to fix the issues when they occur is greatly improving.

Appendix A provides a chart of current metrics on performance, VA specific. Teams across the board, from VA, to DoD and FEHRM, jointly review these metrics weekly in a cross enclave operational plan, as well as monthly at aggregate to understand broader trends. When trends arise, we build joint plans for a quick fix.

Users should also start to feel a notable difference across key workflows in terms of application and workflow interruptions, with 28 improvements delivered in the most recent Block 8 delivery in February 2023. More tuning coming in Block 9 will yield even more improvements across several workflows.

On the Technical Roadmap of 41 items that we provided to VA on September 2, 2022 – the list of items we need to deliver to make the federal enclave perform reliably – we have completed 26 already. These items are available to you to view on our Congressional Dashboard.

These improved performance metrics are the result of controls we have implemented to improve engineering rigor. Change management controls have been implemented for updates and system modifications, and dedicated incident response personnel and procedures have been added so that when there is a problem, we can conduct a rigorous root cause identification and preventative action processes, resulting in fewer incidents caused by a code change, faster incident response times and improved processes to prevent the same issue from happening again.

Congressional Items: There are 48 items Congress has requested be fixed or addressed in letters from Congress to VA dated June 27, 2022 and Jan. 18, 2023. Of these, Oracle has completed and closed 16 items, work is in progress or awaiting direction from VA on 20 items, 2 items are scheduled and the remaining 10 are in development. These items also are available to be viewed on our Congressional Dashboard.

Pharmacy: We delivered the top three Pharmacy enhancements to VA in four months instead of the original timeline of up to three years, which was the time communicated to VA prior to Oracle acquiring Cerner. Enhancements 1, 2 and 3A began updating across the system last week, after being piloted in February, and we anticipate Enhancement 3B to be updated in the same rolling approach beginning in April (we are working closely with the VA on additional testing to ensure a smooth rollout). More details on Pharmacy updates are below in the Block 8 section.

Behavioral Health Flags: Patient Behavioral Health Flags for Radiology and Lab were delivered ahead of schedule for inclusion in the February system update. Flags for Registration will be delivered this Spring for the August system update (Block 9). This addition will ensure behavior health flags are visible both upon registration and between encounters to enhance coordination across a veteran's entire care team.

Additional Clinical Support: In addition to the expanded use of behavioral health flags, VA providers can now use suicide screening tools within the EHR to easily assess patients for risk of suicide using the Columbia Suicide Severe Rating Scale (C-SSRS) assessment tool. The new opioid advisor tool is also continuing to automatically alert providers to avoid prescribing opioids to high-risk patients, and has done so more than 1,600 times in the VA since November 2020.

Unknown Queue: Enhancements for the Unknown Queue were delivered on August 1, 2022, fulfilling a promise I made during my testimony in July 2022. As a direct result of this change, we have seen a 90 percent drop in the number of orders that fall into the queue.

We delivered to VA changes that alert a provider when an order they entered could not be scheduled and requires correction as well as a similar message to the provider in their notification center. These alerts continue until the order is corrected by the provider. VA implemented these changes in December, and because of these fixes and enhanced awareness, there is currently, on average, only one scheduling task routed to the Unknown Queue per site per day which represents a dramatic improvement.

Testing: Enhanced testing enables us to validate code and configurations in very similar circumstances to which they will operate.

We are working with both the DoD and VA to update our existing test environment to be a more meaningful place to test, matching the size and scale of the federal EHR system. With this we will be better able to evaluate risks associated with an update and build test automation capabilities so regression testing can be implemented and continuously performed outside of the federal EHR system to ensure general workflows are always functional.

This will be complete in the fall of 2023; however, we are making iterative improvements through the next several months and have already made progress – we are able to complete scale testing on concurrent users of up to 70,000 today.

Training: Training improvements in strategy, content, delivery, and communication are also in-process that we believe will lead to higher levels of end-user satisfaction and readiness prior to a deployment. We are implementing the recommendations made in the Oracle funded third-party training assessment and will have them operational when go-lives resume in June 2023.

Block 8 Updates

In February 2023, major updates were provided to the EHR system through the Block 8 update.

The most important of these updates were those relating to Pharmacy. You may recall that at the time of the acquisition Cerner and VA were anticipating that the implementation of Pharmacy features would take up to 36 months. Instead, Oracle re-evaluated the timeline and approach, injected resources, and delivered the most critical changes to VA for validation in 4 months. Three of these changes went into the February Block 8 update and a fourth feature is anticipated to go into the April 2023 update, currently being tested by the VA today.

These Pharmacy improvements have improved the productivity levels for end users by enhancing usability between the EHR and other VA specific systems, and providing better alignment between work and workflows to prevent the need from navigating between systems for providers and pharmacists to do their jobs.

An enhanced prescription history function increases pharmacist processing for prescriptions, enabling veterans to receive prescriptions faster. A change allowing local VA site pharmacies to control prescription visibility for ordering means that there is less re-work if a local VA site cannot fill a prescription. Another change provides a more accurate list of active prescriptions for a veteran regardless of whether a veteran's

prescription was originally ordered within the EHR or from a community care provider. Finally when a provider is in the EHR, the expiration date for a veteran's prescription is displayed, which allows for more timely prescription renewals.

The update that is anticipated to be delivered in production in April will replace provider prescriptions with the pharmacy information used to fill the prescription. This brings more visibility to situations when a pharmacy is using a different tablet size, for example, to fill a prescription (e.g. Lisinopril 20 mg tablet x 1 tab prescription filled with Lisinopril 10 mg tablet, x 2 tabs).

Behavioral health flags were extended in the Block 8 upgrade to additional workflows in radiology and labs so that they are now more widely viewable across the system for wherever a veteran is receiving care. In addition, an update will be delivered later this spring to VA for testing and implementation in Block 9 for behavioral health flags to be visible in the registration module.

EHRM Benefits for Veterans

The point of this effort is for our nation's service members and veterans to have a seamless, interoperable medical record from enlistment through lifetime care – and for service members and veterans to benefit from a modern EHR that keeps pace with developments in technology and healthcare delivery. When complete, the modernized DoD and VA systems will produce better health outcomes, increased access to care, less burden on healthcare providers, and a future where this technology enables providers to spend more time with their patients and make better decisions about their care because they have all the information they need at their fingertips.

We already are seeing some of these benefits at the five deployed VA sites and their associated clinics. For example, with over two million female veterans in the US today, the EHR's women's health software allows seamless tracking for mammograms and cervical cancer screenings. It improves tracking and follow-up with new tools that do not exist in VistA where records were kept on spreadsheets and much of the tracking took place outside of the EHR.

Another example is that historically when a veteran was referred to another VA Medical Center (VAMC) for services, an interfacility consult order was sent to the receiving site. As each VAMC had their own version of VistA, the documentation of the visit was stored in the receiving hospital's version of VistA and sent to the Joint Legacy Viewer where the ordering provider would need to log into the separate system to find the outcome and follow-ups to the visit. With the new EHR, now when an interfacility consult is ordered between two VAMCs on the new EHR, consults seamlessly appear on the receiving site's worklist and the documentation is already part of the veteran's single comprehensive record. This leads to better care and more information for providers in one place.

A third example of the benefits of modernization lies in telehealth, which obviously has greatly increased in importance since the pandemic. With an integrated telehealth solution in the EHR, users have direct access to the telehealth appointment from a link inside the chart. There is no longer a separate appointment e-mail to find, and nurses are no longer having to call the veteran prior to the appointment to walk them through connecting.

Another area where we are seeing significant efficiencies of the EHR is in the labs at deployed sites. The lab at Walla Walla has reported saving three hours per day because the new EHR has eliminated time-consuming manual processes. Specimen tracking from community-based outpatient clinics (CBOC) was a highly manual and time-consuming process. EHRM automates the process for lab results and allows for VA to digitally track specimens coming from the CBOCs.

Finally, use of the new EHR will undoubtedly empower VA to fulfill the promises made to veterans under the PACT Act by tying their records of service and medical care to presumptive eligibility. For the first time, conversations are beginning with DoD on bringing Individual Longitudinal Exposure Record (ILER) exposure data directly into the EHR. This means that not only will a single, seamless lifetime record avoid lost paperwork or other records gaps caused by data siloes that complicate disability eligibility, but also the data driving the EHR will help us get ahead of the next generation's service-related health crisis by flagging and activating against concerning health trends related to service exposure across the entire DoD and VA patient population.

Training

The EHRM training program is executed in accordance with government-defined requirements and government-determined priorities. While VA's contract with Oracle defines the contract-required technical training on the new EHR, end user feedback reflects more expansive expectations. To better understand these needs and associated opportunities, at its own expense Oracle engaged a third-party to conduct an independent assessment of the EHRM training program and offer recommendations for improvement. The result of this effort was the identification of ten root cause issues, six high-level recommendations and more than 25 initiatives that center on training improvements to four core areas: strategy, content, delivery, and communication.

To make the necessary improvements, we are focused across all four of these areas and do so with enhanced collaboration across VISN sites and by leveraging feedback loops for deployed sites.

From a strategic lens we are enhancing end-to-end training methodology with more scenario-based learning focused on cross collaboration within a clinical team. In addition, we are tailoring learning in what we call Adoption Pathways, which integrates the training strategy with change management and communications so as to level-set what end users can expect during trainings.

As an example, one of the key findings from the assessment was the need to focus on enhancing and empowering peer-to-peer training. Thus, we have retooled our super user training to better equip our super-users for their roles before training begins through go-live and into sustainment to enable sustained peer-to-peer training.

We are also continuing to upgrade training content, educate end-users on shortcuts already built into the system, and make training tools more accessible and available earlier to elongate and flatten the learning curve. This includes a refocus in areas that are critical to the delivery of care, where roles are seeing a significant amount of change and where we have seen lower end user adoption rates from the first five site deployments. We are in discussions with Accenture to provide an initial set of trainers for our provider certification program for training throughout this year and next year.

Simultaneously we are putting tools in place that will automate training logistics, significantly improve the overall end-user experience, and provide real-time data and analytics to further improve content delivery and overall confidence in the learning journey.

All of these efforts will help improve change management communications and enable a more targeted, timely approach to effective communication to the right stakeholders at the right time.

Costs and Timeline

Oracle is committed to being a good steward of both public and private funds. Our work with DoD, VA, the U.S. Coast Guard and other federal stakeholders is no exception.

In September 2022, I committed in testimony to the Senate Appropriations Committee to keep costs in line with the contract ceiling, barring new requirements from VA. This commitment also includes the moving of the EHR to a modern, cloud-based system at no additional cost—to ensure the system works for all stakeholders including patients and health care providers.

Our intent continues to be to fulfill the deployments within the contract window, acknowledging of course that VA determines the schedule.

To speed deployments from where we are now will require continued working with VA to implement their defined national standards inclusive of workflows, interfaces, clinical content, user roles and devices so that when we prepare to deploy at a new site there is a repeatable model that we can use. Not only will this minimize costs associated with workflow and interface sprawl and allow deployments to occur on a predictable timeline, but it will also allow VA to achieve a consistent veteran experience and quality of care regardless of venue of care.

DoD's contract for modernizing its EHR system was issued in 2015. By October 2017 it had only deployed to four facilities and after that they went nearly two years with no additional facilities going live. During that time DoD, Leidos and Cerner focused collectively on:

- Fine-tuning and adhering to a standard, enterprise baseline of capabilities, workflows and connectivity;
- Enabling a repeatable deployment methodology; and
- Establishing a local and enterprise governance structure with clear lines of accountability that remained committed to delivering an enterprise system.

With those conditions in place and steady leadership from DoD, implementation resumed in September 2019. Deployments accelerated and went from four live sites to being 75 percent complete today with 140,000 total users in a little over three years. Later this year DoD implementation will be complete across the United States, with overseas locations likely early next year.

We can achieve a similarly repeatable model with VA. A key factor will be deep collaboration to obtain timely approvals for any deviations. This will allow us to be able to deploy across VA more rapidly – implementing

to these three governance principles, which is why I continue to believe and to advocate to VA that this can be done in the contract's current ten-year window provided deployments resume in June.

Challenges

Workflows: As I have discussed, improving the provider experience with the EHR is a must-do, and that manifests itself mostly in usability and reducing burdensome tasks. This includes both workflow optimization and streamlining. These changes will make the greatest impact for providers using the system. We held a functional summit with VA in November 2022, which provided a forum to educate, collaborate and gain consensus on high impact areas for prioritization and creating a path to resolution.

Following the input I received in Columbus and in partnership with Under Secretary Elnahal and Dr. Evans, I believe we are ready to breakthrough on workflows and get this done expeditiously. This is not, however, our only challenge.

Interfaces: As a result of the lack of standardized procurement processes in the past, there are over 800 independent systems at the site level and not all require an interface into the new EHR. Such a large number of systems requires an enterprise standard for connectivity to both define what is needed and what is not, but also to prevent scope creep and additional contracting work ahead of deployments. While initial work in the lead up to the first EHRM deployment led to the build of nearly 100 interfaces, we still see the continual demand for new interfaces at sites as we move through the deployment schedule and currently have already added nearly 20 additional interfaces.

Revenue: We understand revenue challenges facing VAMCs and are working with VA to update the revenue cycle and billing components. This is a problem I heard about specifically in Columbus. For a clinical based revenue cycle capability, this also means ensuring proper training to end users to better mitigate downstream billing issues related to complete documentation in the record.

Referrals: While we have made progress to improve the referral manger process by reducing manual processes, improving system performance, and increasing user productivity and embedding Referral Initiative to standardized process adoption and workflows across VAMCs, we are continuing to work with VA to make improvements to the referral management component of the EHR especially for when veterans need to seek care in the community.

Modern EHR

Last year I informed you of our plans, with permission from VA and DoD, to move the federal enclave that runs the EHR system to our cloud infrastructure. Our focus remains on stabilizing and enhancing the performance of the existing system, but we also continue to work through these cloud plans with VA and DoD and are in the early stages of development.

Oracle is a leading hyperscale cloud service provider, operates fully authorized government cloud regions, and is one of the selected cloud providers for the Intelligence Community's Commercial Cloud Enterprise (C2E) program and the DoD's Joint Warfighter Cloud Capability Program (JWCC). We believe moving the federal enclave to our infrastructure cloud will only enhance the performance and security of the EHR system for VA, DoD and other federal users.

We also continue to be committed to delivering the world's first modern, intuitive, stateless web EHR system, and would like to partner with the VA and DoD to be adopters. The new web application will have an entirely new user interface, and feature modern design, mobility, and analytics to improve patient care. A core design principle as we build this system is that it must be built in a way for low client impact, meaning, data from their existing system should seamlessly map to the net new system. This will be provided to our nation's veterans and their caregivers as *a free upgrade* to the system already under contract.

We anticipate having a beta version for a handful of key workflows available later this year.

Closing

After an initial assessment following the close of Oracle's acquisition of Cerner in June 2022, we have catalogued lessons learned from the initial VA deployments and issues that require improvement have been made clear. Modernizing legacy systems is always hard to do and always worth doing.

With the DoD progressing towards completion, we now can showcase the potential for replacing a national tangle of scattered healthcare records with a seamless record maintained in a modern secure, accessible, and intuitive system. Turning back is not an option as the commitment to our veterans is too important and success is within sight.

We look forward to continuing to work with you on behalf of our nation's veterans as we deliver on VA's EHRM project. Thank you.

Appendix A – VA Key Performance Indicators (KPIs)

KPIs *(Combined VA & DoD Experience)*	June 2022	July 2022	August 2022	Sept 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023 *
Availability: Outage Free Time (OFT) % **	99.6	100	99.6	100	99.1	100	100	99.9	100
Oracle-Owned Outage Free Time (OFT) %	*99.8*	*100*	*99.6*	*100*	*100*	*100*	*100*	*100*	*100*
Incident Free Time (IFT) % **	80.0	75.0	84.8	86.3	77.7	79.9	33.0	74.0	71.0
Oracle-Owned Incident Free Time (IFT) %	*88.2*	*89.6*	*91.5*	*94.0*	*93.2*	*91.2*	*88.6*	*88.9*	*84.4*
Major Incidents (SEV1 | 2)	11 | 34	0 | 21	1 | 19	0 | 9	1 | 10	0 | 14	0 | 22	1 | 21	0 | 31
Mean Days Between Major Incidents	1.53	2.5	2.31	4.14	3.33	2.90	2.50	2.31	1.59
Mean Minutes to Recovery, Major Incidents	106	187	137	141	525	283	971	210	220
Major Incidents Caused by Change (SEV1 | 2)	1 | 12	0 | 5	0 | 7	0 | 3	1 | 7	0 | 5	0 | 7	1 | 1	0 | 18
p99 User Interruptions	420	441	477	346	387	340	222	279	276

* *Preliminary numbers. Incident data for the month is not finalized until the 15th.*

** OFT / IFT: (*Minutes Free of Incident / Total Minutes*) X 100% (***All incidents are included, regardless of responsible party***)

December IFT Callouts

December IFT experience was significantly impacted by an extended Televox incident lasting over 12 days. Televox is our provider that delivers patient reminders of appointments and referrals. During the December issue, Televox did not send patient reminders during this time; accordingly, clinics had to call patients directly.

We are working on a failover provider in partnership with the VA and DoD as Televox today is a single point of failure, which forced people to revert to manual work at the time of go down.

February IFT Callouts

February KPI results incorporate the Code Block 8 Release Experience. The release of the block did create a few incidents to specific modules, not the entire system. Teams real time triaged via a war-room and were able to resolve issues quickly, so while IFT did take a hit, we know this is directly correlated to our release. We are working on a plan to automate and improve block 9.

Our February Oracle-Owned IFT was 84.4% (6,290 total minutes). Of the 31 Major Incidents in February, 21 were Oracle owned, and 12 of those were directly related to Code Block 8. Code Block 8 incidents totaled 2,808 minutes (~44% of total Oracle-owned minutes). Without this impact, Oracle-Owned IFT would have been 91.4%

Attachment

2022 Year-End Congressional Report (see separate file)