Statement of Mike Sicilia, Executive Vice President Industries
Oracle Corporation

Before the

U.S. Senate
Committee on Veterans' Affairs

Hearing on

Examining the Status of VA's
Electronic Health Record Modernization Program

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Introduction:

Chairman Tester, Ranking Member Moran and distinguished members of the Committee, thank you for the opportunity to speak to you today about the Dept. of Veterans Affairs' (VA) Electronic Health Record Modernization (EHRM) program and Oracle Cerner's Electronic Health Records (EHR) system.

I am Mike Sicilia, and I am Executive Vice President for Industries at Oracle. I am responsible for Oracle's Global Health Business Unit and I am now responsible for Oracle's acquisition of Cerner. Oracle is a leading enterprise software company and cloud service provider with more than forty years of experience building and developing some of the most advanced, mission-critical, secure and performant technology around the world for governments, critical infrastructure, and commercial enterprises.

Oracle employs over 160,000 employees with more than 50,000 developers and engineers, and in the last ten years we have spent more than $56 billion on research and development. Oracle holds more than 18,500 patents worldwide. Oracle is in both the infrastructure business with the world's leading autonomous database as well as the applications business with a full suite of high-performance enterprise applications across all industries. Oracle is also a leading hyper-scale cloud service provider with global reach across industries and governments.

As you know, approximately six weeks ago Oracle completed its acquisition of Cerner. With this acquisition we are bringing together one of the world's most formidable and capable infrastructure and applications companies with one of the leading healthcare applications companies. Oracle's engineering expertise brought together with Cerner's clinical expertise is a very powerful combination.

Our rationale for acquiring Cerner is straightforward. Health IT in this country and around the world is broken and there is a massive opportunity to modernize and innovate. Compared to banking, telecommunications, transportation, utilities, or any other mission critical sector, healthcare IT is furthest behind the modernization curve. Across the industry, Electronic Health Record systems are dated, often bespoke, and running on-premises. Our intention is to lead the way with a new generation of modern, cloud, highly performant and secure applications.

In modernizing healthcare IT there is a major opportunity to improve patient outcomes with analytics, machine learning, and virtual care such as tele-medicine. There is a major opportunity to reduce healthcare costs. And there is a major opportunity to decrease the burden on caregivers. Unlike Cerner alone, Oracle brings an order of magnitude more engineering resources and scale to this formidable challenge.

While Oracle is new to the EHR business, Oracle has years of experience advancing medical research, powering clinical trials, reducing healthcare costs and providing public health authorities and policymakers with essential data to improve public health. During the COVID-19 pandemic, Oracle was honored to collaborate with the Centers for Disease Control (CDC) and the National Institutes of Health (NIH) to support COVID-19 related systems of record. We assisted in electronically pre-screening over six hundred thousand individuals willing to participate in vaccine clinical trials and then supported the CDC with the creation of the v-Safe After Vaccination Health Checker and HPOP ordering portals to support the distribution of vaccine, diagnostic and therapeutic supplies. Finally, we worked with the CDC to build a national data repository for COVID-19 vaccination data in the U.S. All this work was performed and continues to be supported by Oracle at no cost to the government. We are accustomed to handling large, complex tasks when our nation needs it.

The DoD and VA EHR System and the "List of 36":

I give you all this introduction so that you understand our acquisition of Cerner and assumption of its EHRM contract with the VA is well within our capabilities, given our size, expertise, and resources.

You should consider that in effect the VA, the Department of Defense (DoD) and the Coast Guard obtained a new, vastly more resourced technology partner overnight to augment Cerner. We also strongly believe in this mission and consider it not only a contractual obligation but a moral one to improve healthcare for our nation's veterans and their caregivers. We intend to exceed expectations.

In my recent meetings with many of the Committee members and other Congressional stakeholders your frustration with the current situation with the VA's EHR system was clear. I have spent the last six weeks reviewing the issues and working through engineering plans, and I have concluded that there is nothing here that can't be addressed in reasonably short order.

The EHRM program is the largest health IT modernization project in history. To-date the new EHR has been fully deployed for the Coast Guard and is deployed at more than half of DoD medical facilities. With the VA, the EHR is deployed at five medical centers and their associated facilities.

When fully deployed across the VA healthcare system, 171 medical centers will go from using 130 different versions of the current VistA EHR to using one single enterprise-wide EHR that is interoperable between the VA, DoD and Coast Guard.

While I fully appreciate substantial challenges exist – all of which are legitimate and understandable – the fact is that more is working than is not. Rollouts to date have been largely successful, and much of the functionality is working.

Nearly 9,000 veterans and service members have utilized a facility with the new EHR and have benefited from clinicians having a more comprehensive view of their medical record without having to dig through multiple systems. For example, a veteran may have received their first COVID-19 vaccination shot at a DoD location, and their second shot or a booster at a VA clinic. That veteran's health record is seamlessly documented for all of the doses and the clinician benefitted from having the full picture of the veteran's medical history and prescription data.

Similarly, and by way of example, patient safety is being greatly enhanced by the system's opioid advisor tool. The Cerner EHR allows clinicians to simultaneously check data from 47 state Prescription Drug Monitoring Programs (PDMP) and DoD facilities to prevent improper prescribing of controlled substances. Previously clinicians had to leave a patient's record and access PDMP data through each state's website with different passwords for each site. The opioid advisor tool has automatically alerted providers to avoid prescribing opioids to high-risk patients 700 times in the VA since November 2020 and nearly 1,000 times in the DoD in the month of May alone.

In addition to how the system is better integrating disparate data and systems into one place to improve patient safety, the new EHR also incorporates many new or improved patient-safety tools to directly support clinical decision-making. Barcode medication administration is a workflow that allows providers to validate that the correct medications are given to each patient. The new system provides a more robust capability and expands this important patient safety feature beyond inpatient services to anywhere veterans receive medications.

The program's goals of having a single, interoperable record following an individual from active service to the VA is in place. Ultimately that's what this is all about, making sure that from an Army recruit's first physical at boot camp to her separation from service and receipt of care at the VA, she will have an EHR that goes with her and allows all of her providers at any facility to know her full medical history.

Our Chairman and our CEO have made it clear that our top talent is to be shifted to working on the DoD/VA EHR system as our number one priority. A war room has been established led by a team of very senior Oracle engineers and developers. Our war room is conducting a top-to-bottom analysis of the entire EHR system. We are integrating with the Cerner team but understand that Oracle brings an order of magnitude larger engineering team than Cerner so we can set urgency to projects and drive a number of goals at the same time that previously was not possible.

We aren't there yet, and there is a lot of work to do. Further, we will always provide honest and full transparency, the good, bad and ugly. If something isn't working, we plan to fix it first and work out the economics later. Patients and providers will always come first, and we won't let contract wrangling get in the way.

Let me be clear. Oracle's goals are two-fold and in this priority order:

1) To ensure patient safety above and beyond anything else; and

2) To deliver to the VA, DoD and Coast Guard the most modern, intuitive, performant and secure EHR in the world. We intend this system to be the gold standard.

As we focus on these goals, we know there are issues that need to be addressed. Examining the "List of 36" items that was attached to your letter to Deputy Secretary Remy dated June 27, 2022, leads me to "bucket" the issues into three categories: 1) Performance; 2) Design; and 3) Functionality.

Performance: As is not unusual with commercial EHR systems, the Cerner EHR system is currently running on a dated architecture with technology that is in some cases two decades old. Frankly it is being run on a disparate set of technology and systems that have grown in place over time, making it difficult to manage, support and scale. It isn't in the cloud and it requires massive amounts of manual support. This isn't unusual in the EHR industry, but it does lead to more frequent outages and degradations of service.

Today I am announcing our intention to move the Cerner application to a modern, hyperscale cloud data center within the next six to nine months, which will deliver better performance and stability for the end-user. This is the same Generation 2 Cloud infrastructure that underpins Oracle's customers' most critical workloads in sectors like Financial Services and Utilities. Candidly we anticipate this change alone will be the single most important change we make in terms of system reliability. It will also provide a scalable, modern platform for us to deliver the kind of future releases users have come to expect like mobility and predictive analytics.

Another advantage of moving the EHR system to Oracle Cloud Infrastructure is that our cloud is a second-generation cloud with security built-in from the start. Infrastructure security patches are applied automatically with no downtime, removing the possibility of human error that is a major cause for breaches. Oracle maintains all the highest government security classifications. Moving to a new datacenter and Oracle cloud will be provided at no extra cost to the Coast Guard, DoD or the VA.

We also currently have a team of our best engineers – now with access to all the source code – fixing bugs and upgrading technologies. By way of example, shortly after the closing our team

fixed a database bug that caused 13 of the last 15 outages. I can't promise you there won't be another outage, but since we made that fix in mid-June, there has been no unplanned downtime through yesterday.

For the front end of the system, it's important to understand that EHR systems globally – and this is equally true for the VA as it is for commercial, private healthcare facilities – provided by Cerner or anyone else – are dated and are frankly stuck in the late 1990s. Oracle plans to invest substantial resources to develop and deploy modern stateless web applications – with a modern user interface – to all Cerner customers, including the VA. This is somewhat down the road but I want to emphasize that Oracle's acquisition of Cerner will vastly accelerate this process and make the VA the gold standard of EHR systems globally. Again, this technology will be provided to the DoD, Coast Guard, and VA within the current contract envelope.

Design: The second category of problems relates to system design. In the end, applications are largely processes and workflows. No one is to say that Cerner developers have a monopoly on workflow ideas and quite often a process makes sense on a white board makes no sense in actual practice. If the workflow is not intuitive, if it has too many steps – or clicks – or if it doesn't quite meet the needs of end-users let's change those processes.

Let's be clear, modern applications should not require training or the training should be minimal. Certainly an EHR system has a level of complexity and medical specificity that will require some training, but our goal is to make this system as easy to use as anything else you do online. The best way to succeed is to win over users with user interfaces that are intuitive and functionality that exceeds practitioner's needs. When we do that, we believe we will create greater user satisfaction and combat inertia for acceptance of the new system.

When it comes to design, a case in point is the so-called "unknown queue," which I have read a lot about in the news and the subject of the Inspector General's most recent report. Now, the truth is the unknown queue was not a bug, it was a process to account for patient scheduling tasks to facilities or providers that were not recognized by the system. These scheduling tasks were not lost, rather they were routed for manual review and processing. But the fact is the process initially resulted in far too many actions being routed to this queue and the manual review was not being completed in a timely manner. The fact is the "unknown queue" is a process designed to account for human error rather than designed to mitigate it. So, let's enhance it. We will find a way to automate more on the front end and come up with a better process on the back end. I have included Oracle's response letter to the House Committee on Veterans' Affairs to this testimony, which describes the current status of the "unknown queue" in more detail. We intend to address these issues within weeks.

Going forward, we intend to move engineering resources much closer to the end-users to create a real, collaborative solution model. Again, these issues will be addressed at Oracle's

expense because the entire system will be better as a result, not only for the VA but for DoD and all our other customers.

Functionality: The third category of items on the list are areas where functionality is not yet developed or not ready for prime time. Maybe the best example here is pharmacy. My inclination with the pharmacy module is to start over and make pharmacy an example – a showpiece – of what is to come. We now have VA's requirements, and we intend to use a new model of collaborative development where we will bring developers out to the users and jointly define parameters, metrics, and workflows. In fact, we plan to send a substantial number of military veterans who currently work as developers at Oracle to work with VA pharmacists, clinicians and other end-users to assist in this process.

We intend to develop this as a modern, stateless web application, which simply means it is built for use in the cloud with the associated scalability and reliability you expect from popular web sites today. With this development, all the modern mobile, social, and analytical features will be built in. Today, I am announcing that we believe we can have a beta version of the new pharmacy module built and delivered within six to nine months from today.

Conclusions:

We recognize this "List of 36" could grow as quickly as it shrinks and other issues will come up that need to be addressed. We are committed to providing the Committee with full transparency as we move forward addressing these and other issues. You can be assured we are triaging all the issues that we have been made aware of to-date and working through them with appropriate clinical and engineering expertise where needed. Our teams are analyzing whether there are ways to simplify and accelerate capabilities and improve end-user experience and adoption. This is an enterprise-wide system, but we understand end-users have different preferences and needs and it will be designed so they can configure it to work for them. To be clear, we are dedicated to providing whatever resources are necessary to deliver the DoD and VA a system that exceeds expectations.

We commit that Oracle will not go-live at a facility unless we are confident the system is fully prepared for the additional workloads and it has been thoroughly tested because patient safety is our highest priority.

Oracle is committed to delivering the VA an EHR system that exceeds expectations without exceeding the contracted cost. If there are issues with performance or workflow we commit to fixing those issues at our expense.

Let me end by saying that Oracle is excited to be the VA's new partner on the EHRM project. We are confident that our energy, commitment and resources is what this program needs.

With a little time, we can deliver for all the veterans who served our nation and deserve nothing but the best, as well as for our current service members who will one day be a part of our veteran community.

We hope you will support us in this endeavor and look forward to working with the Committee as we move forward. I look forward to your questions. Thank you.