

**ELECTRONIC HEALTH RECORD
MODERNIZATION DEEP DIVE:
SYSTEM UPTIME**

HEARING

BEFORE THE

**SUBCOMMITTEE ON TECHNOLOGY
MODERNIZATION**

OF THE

COMMITTEE ON VETERANS' AFFAIRS

U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTEENTH CONGRESS

FIRST SESSION

WEDNESDAY, NOVEMBER 15, 2023

Serial No. 118-40

Printed for the use of the Committee on Veterans' Affairs



Available via <http://govinfo.gov>

U.S. GOVERNMENT PUBLISHING OFFICE

WASHINGTON : 2024

COMMITTEE ON VETERANS' AFFAIRS

MIKE BOST, Illinois, *Chairman*

AUMUA AMATA COLEMAN RADEWAGEN, American Samoa, <i>Vice-Chairwoman</i>	MARK TAKANO, California, <i>Ranking Member</i>
JACK BERGMAN, Michigan	JULIA BROWNLEY, California
NANCY MACE, South Carolina	MIKE LEVIN, California
MATTHEW M. ROSENDALE, SR., Montana	CHRIS PAPPAS, New Hampshire
MARIANNETTE MILLER-MEEKS, Iowa	FRANK J. MRVAN, Indiana
GREGORY F. MURPHY, North Carolina	SHEILA CHERFILUS-MCCORMICK, Florida
C. SCOTT FRANKLIN, Florida	CHRISTOPHER R. DELUZIO, Pennsylvania
DERRICK VAN ORDEN, Wisconsin	MORGAN MCGARVEY, Kentucky
MORGAN LUTTRELL, Texas	DELIA C. RAMIREZ, Illinois
JUAN CISCOMANI, Arizona	GREG LANDSMAN, Ohio
ELIJAH CRANE, Arizona	NIKKI BUDZINSKI, Illinois
KEITH SELF, Texas	
JENNIFER A. KIGGANS, Virginia	

JON CLARK, *Staff Director*

MATT REEL, *Democratic Staff Director*

SUBCOMMITTEE ON TECHNOLOGY MODERNIZATION

MATTHEW M. ROSENDALE, SR., Montana, *Chairman*

NANCY MACE, South Carolina	SHEILA CHERFILUS-MCCORMICK, Florida,
KEITH SELF, Texas	<i>Ranking Member</i>
	GREG LANDSMAN, Ohio

Pursuant to clause 2(e)(4) of Rule XI of the Rules of the House, public hearing records of the Committee on Veterans' Affairs are also published in electronic form. **The printed hearing record remains the official version.** Because electronic submissions are used to prepare both printed and electronic versions of the hearing record, the process of converting between various electronic formats may introduce unintentional errors or omissions. Such occurrences are inherent in the current publication process and should diminish as the process is further refined.

C O N T E N T S

WEDNESDAY, NOVEMBER 15, 2023

	Page
OPENING STATEMENTS	
The Honorable Matthew M. Rosendale, Sr., Chairman	1
The Honorable Sheila Cherfilus-McCormick, Ranking Member	2
WITNESSES	
The Honorable Kurt DelBene, Assistant Secretary for Information and Technology, Office of Information & Technology, U.S. Department of Veterans Affairs	4
Accompanied by:	
Ms. Laura Prietula, Deputy Chief Information Officer, Electronic Health Record Modernization Integration Office, U.S. Department of Veterans Affairs	
Mr. Bill Tinston, Director, Federal Electronic Health Record Modernization Officer, U.S. Department of Defense	5
Accompanied by:	
Mr. Lance Scott, Solutions Integration Director and Acting Technical Director, Federal Electronic Health Record Modernization Office, U.S. Department of Defense	
APPENDIX	
PREPARED STATEMENTS OF WITNESSES	
The Honorable Kurt DelBene Prepared Statement	27
Mr. Bill Tinston Prepared Statement	29
STATEMENT FOR THE RECORD	
Oracle Corporation	33

**ELECTRONIC HEALTH RECORD
MODERNIZATION DEEP DIVE:
SYSTEM UPTIME**

WEDNESDAY, NOVEMBER 15, 2023

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TECHNOLOGY MODERNIZATION,
COMMITTEE ON VETERANS' AFFAIRS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 12:28 p.m., in room 360, Cannon House Office Building, Hon. Matt Rosendale (chairman of the subcommittee) presiding.

Present: Representatives Rosendale, Self, and Cherfilus-McCormick, and Landsman.

**OPENING STATEMENT OF MATTHEW M. ROSENDALE,
CHAIRMAN**

Mr. ROSENDALE. Good afternoon. The subcommittee will come to order.

Today, we are going to do a deep dive into another dysfunctional area of the Oracle Cerner Electronic Health Record (EHR) instability of the system.

VA and Oracle have come up with many different words to describe this problem. Outages, downtime, incidents, performance degradations, user interruptions, and incomplete functionality. They all mean that the EHR is not working and that staff cannot use it. That is the bottom line.

Far too often, the EHR amounts to a multibillion dollar frozen screen or a brick on the employee's desk. When the system goes down, the veteran's exam gets interrupted or delayed. Or the provider has to document orders on papers and enter them into the system later on. Sometimes a procedure has to be postponed all together, and we all know what kind of problems that presents by postponing these procedures. In at least a dozen incidents, some sort of EHR outage directly contributed to a close call or patient harm. It is an unacceptable situation. Finger pointing and blame shifting between VA, Department of Defense (DOD), and Oracle have gone on for far too long.

We are going to delve into the numbers, as well as into the root causes here today. According to VA and DOD, incident free time under their control was between 95 percent and 99 percent this year. According to Oracle, incident free time under the company's control was between 87 percent and 97 percent during the year.

It is true that complete nationwide outages have become less and less common over the past year, but crashes, hangs, and errors that affect one facility, one module, or one person are still widespread. Ultimately, what the users experience is what counts and they are not happy.

The Kent Gale, Leonard Black, Adam Gale, and Scott Holbrook (KLAS) research surveyed VA employees about whether “over the past 2 weeks the EHR was available when I needed it and downtime was not a problem.” Only 26 percent of VA employees agreed with that, and 58 percent of the employees surveyed said that EHR was not available and downtime was a problem.

There is a big disconnect here. Either by design or by accident, the criteria VA and Oracle are using are clearly not capturing all of the system’s problems. We know that the EHR help desk ticketing process makes VA staff jump through hoops to report issues. The Office of the Inspector General audited the help desk last year and found widespread frustration. Many of the employees have simply given up reporting the glitches that they encounter, so truly the numbers are worse. Much worse than what VA or Oracle is reporting.

Finally, the VA leaders told us 6 months ago that they had renegotiated the Oracle contract to focus on improving the EHR’s uptime. They told us that they had added tough service level agreements and real financial penalties. The results do not seem to bear that out. I am not seeing much motivation. All in all, the statistics we are being given are vastly different from the independent data that we have and from what we are hearing from the medical centers themselves.

I appreciate our witnesses joining us today to explain this. With that I would yield to Ranking Member Cherfilus-McCormick for her opening statement.

**OPENING STATEMENT OF SHEILA CHERFILUS-MCCORMICK,
RANKING MEMBER**

Ms. CHERFILUS-McCORMICK. Thank you, Mr. Chairman. Thank you to the witnesses for being here today.

While I agree that stability of VA’s new EHR is a critical part of the success of this program, I am concerned about the fact that we have to spend so much time talking about it. It seems to me that an operational EHR is the minimum requirement. It is the very least that we should expect of Oracle Cerner and VA.

I have received the data about Cerner and VA-owned downtime. I am concerned that the data does not seem to match what we are hearing from frontline staff. The end users that we have heard from indicate that the system is frequently either slow or nonfunctional and that other systems that interface with the EHR such as Joint Legacy Viewer (JLV) are even worse.

Transitioning to a new EHR is always hard. It does not need to be made harder by a system that is not reliably there when you need it.

I find it especially problematic that we are still talking about system stability more than 3 years after the initial go live at Mann-Grandstaff VA Medical Center. These technical gaps should have been identified and mitigated prior to the system go live at

Mann-Grandstaff in October 2022. The fact that there were and is still a huge disservice to the staff and veterans at the facility.

In addition to the inherent stability issues, we have heard repeated stories of Oracle Health pushing updates that break other functions of the EHR, and that in many cases they are pushing these updates in the middle of the workday. This does not seem like best practices to me. These updates would be safer if they were pushed in the middle of the night when their impact would be less felt.

I hope to hear today now how VA and Oracle Health are working to improve this process. For over a year now we have heard from Oracle that they are making major improvements to system stability but there seems to be a lot of finger pointing between the VA, DOD, and Cerner. I am pretty sure frontline staff do not care who is responsible. They would just like for their issues to be fixed.

I hope to hear today how VA and the Federal Electronic Health Record Modernization (FEHRM) plan to do just that.

Finally, I am bothered by the fact that we are forced to spend so much time talking about this when VA and Cerner have much greater, much bigger, and more complicated issues that need to be addressed. It seems that since Oracle bought Cerner last summer it has attempted to focus on the EHRM conversation on improving system stability. I guess they would rather talk about this low-hanging fruit than talk about fixing the clinical workflows. Or the fact that training and change management are still woefully inadequate and user satisfaction is still critically low.

I am disappointed that Oracle Health is not here to participate in this conversation. I understand that Ms. Scalia had another obligation but there must be someone else in the organization that could speak to this topic. It is very disappointing I would like to stress that they are not present with us today. The fact that they did not send a representative raises major concerns for me, and I expect better. I am constantly losing faith in the process.

With that, Mr. Chairman, I yield back.

Mr. ROSENDALE. Thank you very much, Ranking Member Cherfilus-McCormick.

I will now introduce the witnesses on our first and only panel.

First, from the Department of Veterans Affairs we have Assistant Secretary for Information and Technology, Kurt DelBene. We also have Deputy Chief Information Officer Laura Prietula. Finally, from the Federal EHR Modernization Office we have Director Bill Tinston and Chief Technology Officer Lance Scott.

I ask the witnesses all to please stand and raise your right hands.

Do you solemnly swear under penalty of perjury that the testimony you are about to provide is the truth, the whole truth, and nothing but the truth?

[Witnesses sworn.]

Mr. ROSENDALE. Thank you very much. Let the record reflect that all witnesses have answered in the affirmative.

Mr. DelBene, you are now recognized for 5 minutes to deliver your opening statement.

STATEMENT OF KURT DELBENE

Mr. DELBENE. Good afternoon, Chairman Rosendale, Ranking Member Cherfilus-McCormick, 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 system.

I am accompanied by Dr. Laura Prietula, Deputy Chief Information Officer of the Electronic Health Record Modernization Integration Office (EHRM-IO).

I want to begin by thanking Congress and the committee for your continued support and shared commitment to veterans. More specifically, to your support for the VA's EHR modernization efforts.

For VA, the successful deployment of the Federal EHR system will facilitate seamless healthcare transitions for service members and veterans across federal care settings.

As this committee already knows, the Federal EHR will provide an accurate lifetime health record for veterans among partners using the Federal EHR. Most excitingly for the newest members of the military, the EHR will serve them from the day they begin their military service through the rest of their lives.

The VA is on a journey to implement this large system transformation here. The Federal EHR system is a highly complex software environment composed of the core medical records system and several other connected systems that together deliver the overall EHR experience to clinical providers and patients.

In February 2022, VA established the Performance Excellence Program to improve the overall system performance, resiliency, capacity, and reliability of the Oracle Healthcare System. With this systematic approach, we have seen the core system stabilize over the time period resulting in an improvement in the overall user experience. As of November 8, there have been 185 consecutive days without an outage and 100 percent system availability in 10 of the last 12 months.

To be sure we are still experiencing partial system failures that impact the users, we capture these in our instant free time (IFT) which measures the time that the system performs without significant end-user problems. While the IFT metric is improving, it is not yet meeting the service level agreement of 95 percent IFT on a regular basis.

As of September 30, 2023, Oracle Health has reached this metric only 4 of the past 10 months. This partially is from the number of changes that are being introduced. It is a well-established axiom of software development that systems stabilize when the rate of change made in the system decreases. The rate of change is still very high, resulting in more incidences than we would like.

In some cases, the VA has requested functionality that has never been deployed in Oracle Health commercially, such as the integration of VA's consolidated mail outpatient pharmacy making VA the first user of this functionality, which also increases incident risk.

Regarding end-user support, we have improved the processing of tickets and Oracle Health has met all four ticket management Service Level Agreements (SLAs) in January, August, and September. Every critical and high severity incident has a root cause analysis done and a preventative action identified. These reports

are now integrated into Office of Information and Technology's (OIT's) daily operational status review.

Ultimately, we anticipate that the system's performance will improve when change velocity decreases and enough time has passed to enable unanticipated defects to be found and addressed. From a technical perspective, one of the advantages of the reset is providing time for optimization of the system and associated technical processes.

Improving system reliability, resilience, and availability remains a critical focus and VA continues to monitor and enforce contractual SLAs. As part of the contract renegotiation of May 2023, VA increased the SLAs tied to concrete financial consequences related to technical performance and end-user experience.

There are now 22 SLAs and six service-level obligations in place to hold Oracle Health accountable. As a result, VA saw improvement in these metrics.

As my colleague on the panel Bill Tinston will attest, VA works collaboratively with DOD and the Federal Electronic Health Records Modernization Office to improve operations based on lessons learned. Based on our shared learning, we applied improvements where possible such as improving certificate management, establishing Citrix pods that increase flexibility in system performance, and optimizing virtual private network setup for laptop computers.

In conclusion, veterans remain at the center of every thing we do. They deserve high quality healthcare that is safe, secure, timely, veteran-centric, equitable, evidence-based, and efficient. With the activities and improvements that are now underway, VA leaders are optimistic about the eventual success of the current program reset, the deployment of level Federal Health Care Center (FHCC) in March 2024, and the future full implementation of the Federal EHR throughout VA. Having said that, we will not do this until the system is ready to provide a good, quality experience to users.

Again, I extend my thanks and gratitude to Congress for your commitment to serving veterans with excellence, and we are happy to answer any questions you may have.

[THE PREPARED STATEMENT OF KURT DELBENE APPEARS IN THE APPENDIX]

Mr. ROSENDALE. Thank you very much, Mr. DelBene.

The written statement of Mr. DelBene will be entered into the hearing record.

Mr. Tinston, you are now recognized for 5 minutes to deliver your opening statement.

STATEMENT OF BILL TINSTON

Mr. TINSTON. Chairman Rosendale, Ranking Member Cherfilus-McCormick, and distinguished members of the subcommittee, I thank you for the opportunity to testify today on our partnering efforts to get the Federal EHR's deployment implementation and performance right.

I am accompanied today by Mr. Lance Scott, the Chief Technology Officer for the Federal Electronic Health Record Modernization Office, also known as the FEHRM. On behalf of the FEHRM,

I want to thank Congress and the subcommittee for your unwavering dedication to ensure our Nation's veterans, servicemembers, and beneficiaries receive the safe, reliable, interoperable, and modern EHR they deserve.

The FEHRM performs a key role in the Federal EHR modernization effort. The FEHRM oversees the shared environment containing the Federal EHR and support systems, governs the configuration and content changes derived through a joint decision-making process, tracks and facilitates software upgrades and solutions to optimize EHR performance, and solutions to optimize EHR performance, and informs continuous improvement through the tracking of joint risks, issues, opportunities, and lessons learned.

I understand the concerns regarding the reports of outages, incidents, and other technical problems associated with the deployment of the Federal EHR. The effort to deploy our modern EHR has been, and still is, a challenging endeavor, but in no way do these challenges mean that the EHR modernization is not an attainable goal. The FEHRM and its department and other Federal partners work through these challenges every day.

The modern interoperable Federal EHR is large in scale and complexity but this scale and complexity deliver capabilities and enhance patient care and provider effectiveness. This Federal EHR implementation effort also delivers on the promise of seamless healthcare transitions for Service Members and Veterans, and establishes a single lifetime longitudinal record for beneficiaries.

The Federal EHR is an ecosystem of orchestrated technologies. The overall EHR modernization effort is not about a single product, network, interface, or application; rather, it is about all-of these products, networks, interfaces, and applications working together within a national enterprise. The national enterprise that creates the right circumstances to deliver the right experiences for clinicians and beneficiaries alike.

This modern enterprise EHR capability enhances healthcare delivery and delivers better outcomes. Among its many benefits, the Federal EHR allows for standardized workflows, provides better coordination between the VA and DOD and our other partners, and enables efficient dissemination of innovation technology and new capabilities.

Although the Federal EHR enterprise is not yet at the performance threshold we demand, improvements are occurring. Performance improves by looking at the entire Federal EHR from an enterprise perspective. This holistic approach delivers significant outcomes to an ever-evolving system. For example, the mean time to restore has improved by 50 percent over the past 18 months. Over the same 18 month period, healthy minutes were sustained above 99.5 percent.

With an enterprise-wide approach to driving outcomes, we have also enhanced the stability of the Defense Enrollment Eligibility Reporting System, also known as DEERS. They interface with the Federal EHR. These changes have had significant impacts, and over the past 23 weeks, DEERS had a single outage that was resolved in less than an hour.

The FEHRM, alongside its VA, DOD, and other Federal partners, continues to collaborate and drive enhancements in the Federal

EHR. Since the initial deployment of the EHR, the FEHRM and the departments have worked with end-users and stakeholders to identify issues and improve the system's reliability, functionality, usability and capabilities.

Collectively, the FEHRM, VA, DOD, and our other Federal partners share problems, learn from each other, and develop solutions together. There are tremendous advantages in this and it results in a system that continuously improves.

In closing, as the son and brother of veterans and the leader of an organization largely comprised of service members and veterans united in modernizing the Federal EHR, this mission is personal and critical to me. I am focused on delivering patient-centered care and providing the greatest capabilities available to support the most informed clinical decision-making.

It is my observation that the more VA and DOD and our Federal partners collaborate and team as an enterprise, the more we raise the performance of the Federal EHR. I thank you for your commitment to getting the EHR modernization right, and for the opportunity to speak to you today. I look forward to answering your questions.

[THE PREPARED STATEMENT OF BILL TINSTON APPEARS IN THE APPENDIX]

Mr. ROSENDALE. Thank you very much, Mr. Tinston.

The written statement of Mr. Tinston will be entered into the hearing record.

We will now proceed to questioning, and I recognize myself for 5 minutes.

Unfortunately, Oracle is using the taxpayers' money and our veterans for their own private research and development mechanism. It is very disappointing to this committee, and we see it time and time again.

These companies hold themselves out to be the experts in the field. This is exactly what they were supposed to be doing. Yet, we are being used as an experimental lab. The taxpayers are funding it, and the veterans are the ones shouldering the problems.

Downtime has been redefined. Service tickets are not even being sent in anymore because there have been so many of them and they have frustrated the employees so severely. You know it, Mr. DelBene. You know it yourself. They are not sending in all their tickets.

Money is still free flowing to Oracle. They are making billions of dollars and it is, again, very disappointing.

Mr. DelBene, how do you explain the discrepancy in your uptime statistics versus the KLAS survey?

Mr. DELBENE. Thank you for the question.

I am not familiar with the exact methodology for the survey. One distinct difference is it is a survey of people's opinions of how the system is doing. We do hear from the people that are using the system and there is frustration. I will acknowledge that straight up.

At the same time, we have a set of metrics that are actually measured based on the true system performance, and that suggests that progress is being made. We are not happy with the complete progress made but we actually are being very systematic about measuring core system uptime, how systems around the core are

performing, and user uptime and how often that they see a glitch. We are seeing improvements in each of those metrics. Again, I will acknowledge that—

Mr. ROSENDALE. Okay, Mr. DelBene, when we see improvement going from 7 percent acceptable to 10 percent, on the paper it looks like there was a 38 percent improvement. Okay? 38 percent improvement from 7 percent just to get you up to 10 percent, quite frankly, Congress has a higher rating than that and it is not really good. Okay?

How is it that the system can be up over 90 percent of the time and yet only 26 percent of the employees say it is available when they need it?

Mr. DELBENE. The core system is up over 99—

Mr. ROSENDALE. Okay. The system is up. Totally, the entire system is up 97 percent of the time, okay, but we are also finding out now that that is based upon a 24-hour day. It is not based upon an 8-hour workday. When you compress this down to an 8-hour workday, okay, and you take out the 10 percent of the time that it is not actually functioning, that is about an hour a day that the system is not—Mr. DelBene, this is simple math. We clarified that this is based on a 24-hour day.

Mr. DELBENE. That is correct. The probability, the actual downtime in a day under that statistic would be nowhere near an hour.

Mr. ROSENDALE. Well, Mr. DelBene, I am just working off of the numbers that we have here. If the numbers are based on this 24-hour day, and most of the medical centers are only open from 8 to 10 hours a day, are not the numbers inflated when no one is even trying to use the EHR?

Mr. DELBENE. If I may, number one, the actual core system of time is a very high number today so there would not be—

Mr. ROSENDALE. Mr. DelBene, if the number is being based upon and the survey is being based upon the number of hours that the facilities are open, that is dramatically less than a 24-hour day; correct?

Mr. DELBENE. Keep in mind that many of—

Mr. ROSENDALE. Mr. DelBene, is that correct?

Mr. DELBENE. No, it is not correct.

Mr. ROSENDALE. The system is going to be functioning 24-hours a day but we only have people who are utilizing it 8 to 10 hours a day?

Mr. DELBENE. Well, with all due respect that is the part that is wrong, because if you take someplace like Mann-Grandstaff it is open 24 hours a day.

Mr. ROSENDALE. How often are the people using that system? Do I need to go in and pull the actual hours and the charts for how many employees are utilizing that system, because we will pull that information as well. I do not believe that you are going to show as many people working on that system, okay, from a 9 to 5 as you are going to be from an 8 p.m. until 4 a.m.

Mr. DELBENE. If I may step back. The measurement is independent of the people using the system. It measures it when it is being used by a lot of people and it measures it when it is being used by a few people. The statistics cover over across all of those

scenarios. The distinction actually I do not think is a material one in this case.

Mr. ROSENDALE. Mr. DelBene, if no one was there using the system, okay—

Mr. DELBENE. It still measures it.

Mr. ROSENDALE [continuing]. then you cannot gather information from it.

Mr. DELBENE. Then you cannot gather information from it.

Mr. ROSENDALE. How can you measure uptime when no one is even trying to use the system?

Mr. DELBENE. Because it is—

Mr. ROSENDALE. I will yield now to Ranking Member Cherrilus-McCormick. She can take on her questions.

Ms. CHERFILUS-McCORMICK. Thank you so much, Mr. Chairman.

I worked in healthcare for a long time before coming to Congress and I wanted to make sure we put the conversation in perspective. I think it is very easy for us to forget that this is not just an Information Technology (IT) system but it is really an electronic health record.

My question is for Assistant Secretary DelBene. What are the consequences of an unstable EHR system in a healthcare setting?

Mr. DELBENE. Well, thanks for the question.

We obviously want the system and are driving toward the system being at a very high level of reliability. The core system is what is most important to have correct and to have always up, and that is why we have driven a very high level of SLA service level agreement for that core system.

The other systems that surround it, there are downtime procedures for—

Ms. CHERFILUS-McCORMICK. I wanted to focus specifically on the consequences of an unstable EHR system in a healthcare setting. Let us just identify, what are those consequences?

Mr. DELBENE. I am not sure I am actually the perfect person to answer that question since I am not a clinician myself. We are striving toward having a high level of reliability both for the core and the surrounding systems as well.

Ms. CHERFILUS-McCORMICK. As you are implementing the IT standard in the contract, are you aware of what the consequences are or what angles of it are the most important? Do you have awareness of that or does anybody else have awareness of that?

Mr. DELBENE. When we do triage of incidents that come in, in every case we ask the question of are there downtime procedures that people can use to accommodate or adjust to the fact that there is an outage.

Ms. CHERFILUS-McCORMICK. Okay. You have no understanding of the consequences when it is unstable?

Mr. DELBENE. I basically ask the people that are experts in that particular topic.

Ms. CHERFILUS-McCORMICK. Okay. How do EHR system failures impact patient care and safety?

Mr. DELBENE. Would you repeat the question, please?

Ms. CHERFILUS-McCORMICK. How do EHR system failures impact patient care and safety? What is the impact?

Mr. DELBENE. Again, I do not think I am the subject matter expert in that to be able to answer that question. I will say that we focus on having downtown procedures for every place where the EHR would be used.

Ms. CHERFILUS-McCORMICK. If you do not understand the implementation of it or the implications of it, how do you feel confident with the implementation of it if you do not understand the consequences or the safety measures that are potentially harmful?

Mr. DELBENE. Well, I do understand the system itself very deeply. I rely on people that are subject matter experts in the particular clinical workflows to make sure that the requirements that come into the system that we implement or that the team implements will implement the right workflows.

Ms. CHERFILUS-McCORMICK. I am sure you had these conversations with the experts before and you had the conversation of the consequences and the seriousness of this. In your perspective, just recalling what they have talked to you about, could you please tell me those consequences?

Mr. DELBENE. I am sorry. Again, I think I am probably not the right person to answer this question.

Ms. CHERFILUS-McCORMICK. The reason why I keep bringing it up is because I have worked in a healthcare setting. When we have contracted out and the people who we had who were actually responsible for implementation did have an understanding of the basic needs and consequences so they can look out for it. Independently, without those understandings, how can you be confident that the implementation going forward is actually protecting those involved and also meeting the needs? I understand that you are staying on uptime, downtime, also you are looking on that but is there any focus on the consequences, specifically in a healthcare setting that you, yourself, have been exposed to? It is important we get that answer because that would help us become more confident with the process you are implementing.

Mr. DELBENE. Thank you for the question. I think I understand the question. What I am trying to say is that we act as a cross-functional team where physicians and experts in medical care work hand-in-hand with us so that the team makes sure the right things happen.

Ms. CHERFILUS-McCORMICK. You are not taking time to understand it yourself? Okay.

My next question for you is what is the industry standard for EHR uptime?

Mr. DELBENE. Our goal is to have a 99.95 percent uptime. We actually believe that is at or above the core industry standard.

Ms. CHERFILUS-McCORMICK. The original contract set a standard of 99.9 when it was renegotiated earlier this year. It was raised to 99.95. Why do you think that this contract is still below industry standard?

Mr. DELBENE. Actually, for the core uptime it is, as we said in our testimony, it is actually achieving that standard.

Ms. CHERFILUS-McCORMICK. Are you feeling confident with the performance of and the implementation of Oracle?

Mr. DELBENE. Overall, no. We still think there is a ways to go. I do not want to present the system as all set and ready to go.

There are places we have significant concerns that we are working with Oracle on so I want to make sure that is clear. The incident free time not hitting standards is important. The end-user responsiveness we think still has a way to go. We think there are functional workflow issues that still have to be resolved.

Ms. CHERFILUS-McCORMICK. It is my understanding that the industry standard is 99.99, and the standard set forth by the renegotiation is 99.95, which is below industry standard.

Mr. DELBENE. I do not think that is the case but we should take that for the record and do some research there. Ninety-nine point ninety-nine is typically a standard used for an infrastructure component, like identity management. An end-user focused system will tend to be more toward 99.9 or three 9s reliability. We wanted to push it higher than that and get to 99.95. One of the things to keep in mind is, a gain, the downtime procedures and being able to work with EHR down will also influence when you push that vendor to get toward a higher standard or not.

Ms. CHERFILUS-McCORMICK. Thank you. I yield back.

Mr. ROSENDALE. Thank you very much, Representative Cherfilus-McCormick.

I now recognize my good friend from Texas, Representative Self, for 5 minutes of questions.

Mr. SELF. Thank you, Mr. Chairman.

I heard you dismiss the opinion of employees in a survey because there are people behind technology, and frankly, the VA system is a people business. They are real people administering care. They are real people receiving care.

In this survey—and I want to use the survey even though you may dismiss it. When 9 percent say that the Cerner system makes them as efficient as possible and 10 percent say it helps them deliver high-quality care, the question is, is that a failure of the system? I suspect you will say no, and if that is the case, if your answer is no, what percentage would be failure?

Mr. DELBENE. Thank you for the question.

Actually, I do not dismiss the survey. I think what I said was I do not know the methodology of the survey.

Having said that, I actually hold in very high regard the opinions that come from end users. They are the ones that matter. If they feel like the system is not meeting their needs we have to rectify that situation at a full stop.

Mr. SELF. What percentage?

Mr. DELBENE. Percentage? I am sorry.

Mr. SELF. Would constitute failure of the system?

Mr. DELBENE. What percentage would constitute failure—

Mr. SELF. If 9 and 10 do not, do you think the system is a failure at this point of time, at this point in time?

Mr. DELBENE. I would say that having 9 out of 10 people not be happy with the performance of the system is a problem.

Mr. SELF. Okay.

Dr. Prietula, continuing with this survey, 8 percent said their initial training prepared them to use the system, 14 percent said the training was helpful. Is this a training problem or a system problem?

Dr. PRIETULA. Thank you for your question.

In terms of training, end-user training, that is not part of my responsibilities though we are focusing on that training with some of the EHRM-IO components.

In terms of is it a failure of the system in terms of how you use it, we are making every effort to ensure that training is changed to ensure that we understand what the users need. What kind of potential additional training or different kinds of training we can have with them. Additionally, we are also working with our IT local and OI&T to ensure that they are absolutely understanding what the systems are, how they operate, and who to call should there be any issue.

Mr. SELF. Can you tell me why the employees in the private sector do so much better with the Cerner system than the VA system?

Dr. PRIETULA. I can give you an example of or an idea of. We have a multitude number of changes that we have introduced into the code base or the main Oracle stack. VA has significantly customized that platform. What we are doing right now is bringing back many of those customizations to make sure that we are coming back to the base of what the system is supposed to do. Most of the commercial entities as I am told use out of the box functionality from Oracle Health. We have significantly modified that code base. As I said, we are working to bring that back into standards.

Mr. SELF. I would question that “use it out of the box” because I think most people have some customization.

Mr. TINSTON, I did not catch, I did not understand your reference to DEERS. DEERS is decades old. What is that tie that you tried to make?

Mr. TINSTON. DEERS in particular has posed a problem for operations on the VA side because calls were made to that system. As you described, it is an aged system and so its performance impacted the performance of the VA experience with the EHR. The VA has changed their interaction such that they have created resilience from an EHR perspective so that if there is a DEERS problem or a connecting system problem that the user is able to continue with the work and the workflow that they were engaged in. Mr. DelBene has engaged with the DOD Chief Information Officer (CIO) to drive improvement in the associated connected DOD systems such as DEERS.

Mr. SELF. Okay. Mr. Chairman, I yield back.

Mr. ROSENDALE. Thank you very much, Representative Self.

Mr. DelBene, I am going to go back and try to pin down a little bit more information about the discrepancy between what is actually reported through Oracle and what it is the employees are stating because we have got this big gap, okay, between how bad they say it is and how bad that you guys say it is.

The incidents that are experienced by the employees—crashes, slowdowns, hangs—all of these things are severe enough to the point that the employees find the system unusable. Okay? If an employee finds this system unusable, what I am trying to figure out is how are you reporting that? They report it to you and they say I have had this system. It is unusable at this one facility, at this one site. Okay? How does that get calculated in for this 97 percent, 98 percent showing that it is up and running where we have

these downtimes again based upon an 8-hour day and one facility instead of all the facilities and a 24-hour day? How do we do the reporting for a person sitting at a desk and saying this system will not work for me for an hour?

Mr. DELBENE. Again, the measures that exist are 24-hour wide measures. There is no concentration of those in a particular 8-hour period. I think that is part of our discrepancy.

Let me step back. We definitely think that there are issues around getting good performance, end user responsiveness still in the system. The three measures that we have defined as SLAs, which without going into too much detail get to the average responsiveness, the 10 percent worse responsiveness, and the 1 percent worst. We are very careful to make sure that we had all three of those. In each case they are hitting it but in particular for the 1 percent of people there is still a lot of hangs that happen in the system. We define a hang as a 5-second pause. What that metric is, the threshold is 50 of those in a day. The current number is somewhere around 20 of those in a day. I actually think if you were looking at the screen and seeing 20 such hiccups, if you will, in a day, you would perceive that as unacceptable performance. I think that is a place where we actually are aligned and we need to do better.

The other thing I would make clear is we particularly set up the contract so that as we go into additional option years we can change those SLA numbers and we can ratchet them down to be more strict. We are looking at those SLAs and saying which ones would we change moving forward?

Mr. ROSENDALE. Again, this gets down to the definitions and it gets down to the math. Okay? I think that that is where we have the big problem, because if you are having this problem, the same problem, the hangup, the delay, and it is taking place in different facilities at different times throughout the course of the day then it is not really getting calculated accurately about the system having a deficiency because we are basing it on a 24-hour day. You and I can debate back and forth but you are not going to have the amount of traffic on that system from 6 or 7 p.m. until 4 a.m. that you have from 9 to 5.

Okay. Moving on. Only 11 percent of the VA employees told the KLAS research that the Oracle Cerner EHR has the fast response time that they expect when logging in, refreshing the screen, and retrieving the information. That sounds a lot like the definition of incidents. Yet, you are reporting incident free time in the high 90's. Again, how do you explain that?

Mr. DELBENE. Well, thank you for the question.

We know for each of the systems whether they are responded or not and we separately measure what is the actual response of the user experience. What you see is the number. We can actually measure a particular system is up, and we can accurately measure as a result how much incident time there is in aggregate. We separately measure whether the actual system is responding adequately. That is the number I tried to give you a sense of. They are meeting the SLAs but we still think, particularly for that 1 percent of users which probably will be more vocal, and rightly so, that the experience may well be unacceptable.

Mr. ROSENDALE. Mr. DelBene, if your definitions are not capturing problems with the EHR that are preventing the VA staff from doing their jobs, okay, they are just saying this is not working for me and you do not have a definition to capture that, does that not mean the definitions are incomplete or not accurate?

Mr. DELBENE. I think it means that we need to really make sure that we are well aligned with users to make sure we have their—and we are. To make sure we understand how they are perceiving the system. There are two separate questions. There is the performance of the system and what do the numbers tell us? Then there is how end users—

Mr. ROSENDALE. Let me make this real simple. If I file a complaint and you are speaking a different language, okay, that does not accept that complaint, then it is not getting registered.

Representative Cherfilus-McCormick, I recognize you for your next round of questioning.

Ms. CHERFILUS-McCORMICK. Thank you so much, Mr. Chairman.

I have huge concerns as I was considering the conversation we just had. One of my concerns is, you know, I am trained as a lawyer. I did not have a healthcare background when I got into healthcare, but one of the basic things that we do is to understand the healthcare system. The reason why it is important to understand the healthcare system is because you have to understand if you are actually weighing the right variables and if you are actually weighing the right matrices to determine success.

The end users of Cerner and Oracle. I want to know what your relationship is with them because they do understand the healthcare system and they work together. Now, do you have any system or a survey that you may have used to find out what their perceptions are, because what you are reporting does not match what they are reporting.

Mr. DELBENE. Thank you for the question. It is a very good one, and we do those end-user feedback sessions as well as surveys. Let me pass to Dr. Prietula who can talk more about that.

Dr. PRIETULA. Yes. Thank you for the question.

We do recognize that we needed to be much more close to our end users. We established during this Reset period, we established some integrated teams with Veterans Health Administration (VHA) and our groups and EHRM, to really assess where are we in terms of the user experience. We have human factors engineering groups working with us now to make sure that—and with Oracle Health as well as our partnership—to make sure that we start working on remediating what the users are understanding that needs to be improved from an end-user perspective. We also have from some surveys that the pre-and post-deployment of a code block, which is a major release. We have some of those that we started to do to understand where we are in terms as to the experience that the users are having with it.

Ms. CHERFILUS-McCORMICK. Could you please provide us with those surveys and that data? How frequent is that, those surveys?

Dr. PRIETULA. We just started them.

Ms. CHERFILUS-McCORMICK. You just started them? How many rounds of surveys have you conducted?

Dr. PRIETULA. One.

Ms. CHERFILUS-McCORMICK. One round of surveys. When was the last survey that was conducted?

Dr. PRIETULA. That was with our code block release 9. That was in September.

Ms. CHERFILUS-McCORMICK. In September of this year?

Dr. PRIETULA. Of this year. Yes.

Ms. CHERFILUS-McCORMICK. Who does the critical analysis of that, the surveys?

Dr. PRIETULA. We are working, like I said, with human factors engineering, and VHA.

Ms. CHERFILUS-McCORMICK. When are they delivering the results of that?

Dr. PRIETULA. We are looking at those results now.

Ms. CHERFILUS-McCORMICK. Once you receive it, how are you planning on doing the critical analysis of what they deliver to you?

Dr. PRIETULA. We have projects established. As we go and do the root cause analysis as to what is going on, what did they identify as being an issue, we go and evaluate where should we be starting? We have projects that we can kick off to go and address each one of those.

Ms. CHERFILUS-McCORMICK. Will you and Mr. DelBene be a part of the critical analysis?

Dr. PRIETULA. We work as a partnership.

Ms. CHERFILUS-McCORMICK. Okay. Then could you tell me what the consequences are of a failing EHR system?

Dr. PRIETULA. I cannot tell you the consequences. I am not a clinician.

Ms. CHERFILUS-McCORMICK. Are you substantially confident that you can, in fact, be able to do that critical analysis if you do not understand that?

Dr. PRIETULA. Like I said, we are working with VHA as well in that evaluation. It is a technology—

Ms. CHERFILUS-McCORMICK. You are relying totally on their analysis of it?

Dr. PRIETULA. It is a joint analysis because if it is like the front end portion of it, that is with our VHA. If it is something that the system can enhance or can fix, that is where we come in as engineering and architects.

Ms. CHERFILUS-McCORMICK. Do you feel comfortable knowing that that part of understanding the basic part of healthcare, the necessities, the safety for our veterans, that lack of knowledge, are you comfortable making decisions without understanding the implication on our veterans?

Dr. PRIETULA. When we look at the requirements that are given to us from our functional community, we work with them on every step of the way.

Ms. CHERFILUS-McCORMICK. You are comfortable with that, knowing that a failing system can cause death and safety hazards for our veterans, are you comfortable with that?

Dr. PRIETULA. No, I am not comfortable, and I did not say that.

Ms. CHERFILUS-McCORMICK. I guess what I am asking is relying on—well, you can go ahead and answer, Mr. DelBene.

Mr. DELBENE. Yes. I think that we have gotten a little off track here. I think what we are trying to express is that we act as a

cross-functional team, multi-functional team. In the end what matters is that the team concludes, are we ready to continue to pass the reset or not.

Ms. CHERFILUS-McCORMICK. We are actually right on track. I did not want to step in but we are on track. As I said, as leading a healthcare company, there is a certain amount of reliance that you can have on your team. As a leader you have to understand certain principles. Understand the consequences of the people who you are protecting. Carrying out the mission of taking care of our veterans is an important mission but understanding the critical nature of the system is also important. That is the baseline, the near baseline. Understanding that is one thing and ensuring that everyone who is working on the team understands that is another thing.

I wanted to see, I am trying to become more confident about this structure and what is present. The more we talk about it, the more confidence I am losing because I am not seeing that independent process of understanding the basics. These are the basic system that are not being understood.

I will just yield back, Mr. Chairman. Thank you.

Mr. ROSENDALE. Thank you very much, Representative Cherfilus-McCormick.

I will now represent my friend again from Texas, Mr. Self.

Mr. SELF. Thank you, Mr. Chairman.

I want to go back to those end users. I assume those are your employees and not the veterans. What are they instructed to do when they have either a shutdown or what did you call it? A pause. A 5-second pause or more. What are they instructed to do. They are with a patient and the system becomes unusable for some period of time. What do they do?

Dr. PRIETULA. We have, again, in that collaboration with our Veterans Health Administration working groups, we notify employees when there is an issue, either that they have reported or that we know that the system is not executing where it needs to be, we have a process in place where we can notify them.

Mr. SELF. No, no. We are sitting in the room. You are getting an exam or whatever. The system is unstable. Do they use it during the actual clinical treatment or is this only a planning system? I assume it is used during treatment.

Mr. DELBENE. If I may, the system, again, the uptime for the system is such that for the vast majority of the time the system is operating these days. We should just be clear there. If there is a system issue incident going on, they have downtime procedures which allow them to continue to do their work.

Mr. SELF. Okay. You said your average is 20 of these. What did you call them, pauses?

Mr. DELBENE. Oh, so you are saying, yes, for the average person I think that Laura can tell me.

Dr. PRIETULA. Two.

Mr. DELBENE. The statistic for the average person is two such instances of less than 5 seconds in a particular day.

Mr. SELF. Okay.

Mr. DELBENE. That actually will not significantly—

Mr. SELF. You do not think it impacts the quality of their care at all.

Mr. DELBENE. I think the 1 percent is the place we need to really focus. The 1 percent of users that are seeing the worst possible experience are still seeing 20 such incidents in a day on average. That is unacceptable.

Mr. SELF. The VA, the Dallas VA is in—it is not in my district but it is close to my district. The second largest in the system, I believe, 200,000 veterans. The 1 percent would be a significant number of veterans that would—

Mr. DELBENE. It would be end users. I am sorry. That would be the 1 percent of people operating the system.

Mr. SELF. Operating the system.

Mr. DELBENE. Yes. The other thing I would like to be clear on is the place that we have had best progress so far is actually in the clinician experience. Particularly in this last block upgrade, their experience has improved the most. It is around registration and scheduling that we probably have some issue. We have more issues centered in that end-user group.

Mr. SELF. Okay. Mr. Chairman, I yield back.

Mr. ROSENDALE. Thank you very much, Representative Self.

Mr. DelBene, you acknowledged in your testimony that the EHR is not meeting veterans' and VA clinicians expectations. Activities to prepare for the go live at the James A. Lovell Federal Health Care Center in North Chicago are underway right now. Does the system meet those expectations now? If not, how is it going to improve by March?

Mr. DELBENE. Thank you for the question.

We are not at a point that we are launching today. I think we believe we are on track to launch in terms of the expectations of the people managing the system in Lovell. I actually might ask Mr. Tinston to reply on that one if you are okay with that.

Mr. TINSTON. Representative Rosendale, we work every single day cross-functionally with the technical team at the VA, technical team at the DOD, the two programs and the leadership at North Chicago to make sure that we are on track to deliver in March. Our understanding and our intent there is to get a yes. That we can improve their ability to deliver care before we go live with anything in North Chicago. I expect that answer will be yes. I have no reason to believe it is anything but yes at this point. We are diligently watching every single day.

Mr. ROSENDALE. Okay. Mr. DelBene and Ms. Prietula, you should be familiar with the EHR reset legislation that was provided to the VA in September.

Mr. DELBENE. Yes.

Mr. ROSENDALE. Okay. It would establish criteria for each medical center director to certify that the Oracle EHR is appropriate to install and the facility is prepared to receive it. The bill is not law yet but this is a common sense standard. Are you going to apply the standard to Lovell without the legislation? Do you believe that Lovell would need it?

Mr. DELBENE. I believe that it is important for the end users and for the management of that facility to be onboard and supportive of the rollout.

Mr. ROSENDALE. Okay. I do, too. That is why we had that language in the legislation.

What I am asking is, are you ready to apply all of those standards to the Lovell rollout? Do you believe that they would meet it?

Mr. DELBENE. I believe at this point we are on track to meet that when we do launch, but we will not launch until we have met the standards that are part of our go live criteria.

Mr. ROSENDALE. Mr. Tinston, Mr. Scott, James Lovell is the only fully integrated DOD VA hospital. You are implementing the Oracle Cerner EHR there before VA can finish their reset work. What unique challenges does Lovell pose, and how are you going to overcome them? This is a facility that is different than any other place we have had a rollout. Again, what are the challenges, and what do you think needs to be done?

Mr. TINSTON. Sir, the problem is different at James A. Lovell Federal Healthcare Center. They are an organization led by the VA that was asked about a decade ago to work in an integrated fashion supporting both DOD beneficiaries and VA beneficiaries out of one common facility. We did not equip them with the right IT tools to do that. They use at least three different EHRs trying to create integrated care delivery at that facility. We are solving that problem and we work every day, to your prior question, with the director of the facility to make sure that we are addressing the problems and we are making things better as we approach a go live at that facility. That is the last remaining DOD facility. It is the only one they have not deployed the common record to, and we work every day, and to your point, specific issues to that are that they see beneficiaries from both systems every single day, and they do that in an integrated fashion and we have to improve their ability to do that because the people there have already done the work and working in an integrated fashion. We need to give them the tools. That is what we are striving to do.

Mr. ROSENDALE. I have grave concerns because of watching the other facilities and the rollouts, and we know that level is a lot more complex. Forgive me if I am a Doubting Thomas about this but when we see the deficiencies and the failures in the other facilities that are not nearly as complex, as level, again, we are going to need to apply these metrics. If the legislation is not passed, I am hoping that we can get you to agree to this metrics, but right now as you look at it, what level of comfort do you truly have that we are going to be able to meet those metrics in March?

Mr. TINSTON. It actually pretty high. It is the highest it has ever been and it has improved every day in the last year because we work on a daily basis with the leadership team that delivers care at FHCC in North Chicago. As we continue that engagement, and I had our situation report with the broad team yesterday afternoon and there were no showstoppers. This is led by the Veterans Integrated Services Network (VISN). We have the VISN there. We have the director of the facility there. We have the Veterans Health Administration representatives there in the conversation every day to make sure that we are meeting the criteria that they need to go live and deliver effective care and safe care better than they do today.

Mr. ROSENDALE. Thank you. Thank you.

Mr. TINSTON. Absolutely.

Mr. ROSENDALE. Okay. I am going to yield to Representative Cherfilus-McCormick. Thank you.

Ms. CHERFILUS-McCORMICK. Thank you.

Mr. TINSTON, what do you see as the FEHRM's role in improving system stability for VA and the DOD?

Mr. TINSTON. The FEHRM is about the things that we do together between the DOD and the VA. Not things that we both do but the things that we do together. The FEHRM by charter is set up to manage all of those joint processes. Part of your question—yes, ma'am?

Ms. CHERFILUS-McCORMICK. Are there any factors that limit your ability to succeed?

Mr. TINSTON. We work within the boundaries that the two departments have set for us. I do not know that anything limits our ability to succeed. No, ma'am.

Ms. CHERFILUS-McCORMICK. This is a little off the topic but since I have you here, in May 2022, the VA and the DOD Inspector General published a report that found that the DOD and the VA did not take all the action necessary to achieve interoperability because FEHRM program office officials did not develop and implement a plan to achieve for all Fiscal Year 2020 National Defense Authorization Act (NDAA) requirements or take an active role to manage the program's success as authorized by its charter.

My question is, what is the status of the FEHRM's efforts to address this recommendation?

Mr. TINSTON. Ma'am, with regard to that recommendation, the two deputy secretaries whom I work for, Deputy Secretary of the VA and Deputy Secretary of the DOD asked me to come back with our plan to address that. I have done that. What we are doing is focusing at this point on the joint site at FHCC because that is the culmination of all our efforts to create a joint single federal record.

Ms. CHERFILUS-McCORMICK. Okay. When do you plan to be fully compliant with the NDAA recommendation?

Mr. TINSTON. Ma'am, I believe we are.

Ms. CHERFILUS-McCORMICK. All right. I yield back. Thank you.

Mr. ROSENDALE. Thank you very much.

Mr. TINSTON, why is there not any survey data for the Military Health System (MHS) Genesis for this year? Did the DOD decline to participate?

Mr. TINSTON. Not that I am aware of.

The FEHRM works with both departments to include EHR-related questions in surveys that the departments were already doing. Interesting, we just completed as NDAA 2020 requires, an annual EHR summit with users from each department. The results of that will be coming out soon. In general, what we got from the users was that they recognized the importance of the EHR. They think that things are improving. Their complaints were, as you noted in some of your questions and comments, that the training is not right yet. We are not quite there but we are moving in the right direction and we are compiling the results of that at EHR summit where we had 1,000 users participating with us for 2 days and we will have that available in the near future.

Mr. ROSENDALE. I would love to see that survey information again. When we show improvements and you are going from 7 per-

cent satisfaction rate to a 10 percent satisfaction rate, as a percentage that looks great but it is really not that much of an improvement. I mean, I am sorry. When we also are taking calculations on downtimes, slowdowns and things like that that are for one person, one facility, and we are not even gathering in all of the tickets any longer that we know that are out there, that does not give us confidence about the working system either.

Mr. Tinston, last year only 24 percent of the military health system employees told KLAS that EHR was available when they needed it. That is even worse than the VA. Is that what we can expect at Lovell FHCC?

Mr. TINSTON. Absolutely not. I cannot speak to what people will say but when we look at people's satisfaction surveys on an enterprise system we have to consider multiple factors. It is incredibly important that they be satisfied and that we do everything we can to create their ability to effectively use the system and ensure that we deliver an effective system.

Mr. ROSENDALE. Again, the surveys are showing that the people are not satisfied with it. Mr. DelBene can say that the system is up and functioning but again, I continue to go back, if it is up and functioning because nobody is utilizing it and it is between 8 p.m. and 4 a.m., then it does not really matter. It is when people are there trying to utilize it.

Dr. Prietula, here is the most troubling response from the KLAS survey. Only 10 percent of the VA employees said that Oracle Cerner EHR enables them to deliver high quality care. Only 10 percent. I will grant you that is up from 7 percent last year. Again, I am going to these percentages. These numbers are abysmal. Compare that to the number for Veterans Health Information Systems and Technology Architecture (VistA), which is at 56 percent. We are talking a dramatic difference. How many billions of dollars more is it going to cost to get the Oracle Cerner number up to the VistA level How long is it going to take for us to get there?

Dr. PRIETULA. Thank you for the question.

We are working very closely with Oracle Health in terms of improving system performance in general. We have made a number of improvements since I have got to this position. We have at least 47 different projects that we have been executing and around 36 of them we have—

Mr. ROSENDALE. Ms. Prietula, I have to interrupt but as you know, we only have a limited amount of time. We are approaching \$4 billion spent on this system. Okay? It has been in place since I have been here, so my tenure is coming on 3 years now and I know that it was on before that.

How much more would you say that we should begin to have conversations about allocating toward this system? How long is it going to take us to bring those numbers up to where VistA is today?

Dr. PRIETULA. I think that you will see improvements in the coming deployments that we have. I cannot tell you when we are going to be reaching the same numbers as VistA but I am very confident that we will be able to get to numbers that are going to be acceptable to our end users.

Mr. ROSENDALE. Okay. I still have a little bit of time.

At this rate of improvement it would take Oracle EHR 15 more years to come up to the level of VistA. Fifteen years based upon the incremental changes and improvements that you all have been making. Do you think that that is reasonable? Is that worth investing in?

Dr. PRIETULA. Thank you for the question.

I believe that with the changes that we are bringing on we are starting to get more velocity on the changes and we are trying to ensure that all of those—in every release we have a performance improvement. I believe that it is not going to take us 15 to get to the VistA performance.

Mr. ROSENDALE. Thank you very much.

Mr. Landsman, I would defer to you, yield to you for 5 minutes of questioning.

Mr. LANDSMAN. Thank you, Mr. Chairman. Thank you all for being here. You all have gotten into a lot, so let me just ask a couple high level questions. This is for Mr. DelBene.

I am curious, because this is obviously not the first time you have taken on something like this. I am curious about the approach. I mean, this highly complicated system that has a whole host of very serious issues. This is a big picture. How do you approach something like that and, you know, as it relates to the larger problem but then if you drill down to the sort of end user, the staff, and those they care for, in this case, veterans, what is your approach? What are the big North Stars? How do you tackle something like this?

Mr. DELBENE. It is a good question. Thank you for it.

I have experienced a lot of these sorts of systems in my career.

I think first, you have to be anchored on whether you believe the system is addressing end-user needs directly. Is it a good fit for the system relative to what you are trying to accomplish? At that point, you have to make sure that you are taking the feature requirements that you get from end users, and are you on a good path to actually implementing them in software, in the system?

At some point it gets down to a period of winnowing down the changes until you get to a point where the system is stable. If you feel like you have addressed the end-user issues, you then drive down toward what we would consider a release of that software. That is probably one of the most uncertain times in the system because you just do not know what, as we say, the tail looks like. How long is that tail going to last?

The reason we set up the reset the way we did is because of that uncertainty of how long is it going to take us, and we are committed not to actually start to deploy again until we get into that chute, into a place where the end-user experience is good. That is the challenge we have in this system in particular.

I want to just acknowledge again, we do not think we are there. We do not think we have got everything done that we need to get done for the system to be acceptable to end users. We are committed to not deploying in further locations until it is.

Mr. LANDSMAN. So very helpful.

There are sort of these two things, or at least I picked up on two big things. One is you have got to get to a place where it does this work for the end user. Then if the answer is yes, you start working

through the problems and, you know, until you knock them all out. You are at this point where you are trying to sort out whether or not this is—or how do you get to a place where this is a good fit or this works for the end user? What are the two or three big things you are looking for?

Not exactly the things that have to happen, but as you are sort of, you go in every day. What are the things that you are monitoring as it relates to are we heading in the right direction in terms of this being a good fit for the end user?

Mr. DELBENE. Well, there are people, other parts of the team that are saying, you know, how are we doing in terms of the clinical experience? As a technical person, the pieces that I am looking for is does this system look stable? Are we making progress on those things we are managing? I am also looking to the team and saying, like, when I triage, or I meet every morning, we walk through every incident that happened in the last 24 hours.

The thing I am looking for is patterns. I am looking for are we doing enough due diligence and change control? Are we causing incidents because of the change that we should not? I am looking beyond and saying is there some instability beyond this? This is a telltale for us. I am kind of looking at an entire system and saying so what are the hidden things behind this that this might be an indicator of? Trying to look deeper into the system every day.

Then there are the metrics of just success. Are we on those SLAs that we defined, are we actually hitting them on a regular basis? It is one thing to hit them once. You have got to hit them on a sustained basis to feel like the system is truly stable.

Mr. LANDSMAN. Last question. How long do you give this? I mean, that is not a “got you” question. In general, maybe not for this specific thing but when do you start feeling like, okay, this may not be a good fit? Or do you know what I mean?

Mr. DELBENE. I do.

Mr. LANDSMAN. Okay. Are you at that point?

Mr. DELBENE. I think having done this a number of times, the first thing you look for is are you not within some bounds of stability? Like this thing is coming in for a landing.

Mr. LANDSMAN. Gotcha. Yes.

Mr. DELBENE. I do not think this system looks that way to me. However, if you want to talk about how long that tail is, I think at this point we do not honestly know.

Mr. LANDSMAN. Got it. Thank you.

I yield back.

Mr. ROSENDALE. Thank you very much, Representative Landsman.

Thank you very much to all of the witnesses for joining us today. The panel is excused from the table.

I would yield to Representative Landsman if you have any closing remarks that you would like to add.

Mr. LANDSMAN. Just a few. One is thank you all for everything you are doing. This is incredibly complicated. It is also very, very important, as you know. I mean, this is you are at work right now and for some of you I suspect it has been your work for a long, long time. I just want to say thank you. I have a VA hospital in my district. It is a huge facility. It serves thousands and thousands of

people who served us and for them to get to a place where the system that they are using is helping them in a way that the current does not. Right? Is it helping them serve the folks that they care so much about?

It is just so important so I just appreciate what you all are doing. Mr. DelBene, for bringing your expertise. I suspect it gives a lot of people a lot of confidence that you are here and you are sorting through it and being as deliberate and thoughtful as you clearly are. Thank you all. Thank you, Mr. Chairman.

Mr. ROSENDALE. Thank you very much.

Today's hearing should have been unnecessary. The very least we expect from a piece of software is that it runs reliably when we launch it. The complexity and the rate of change within the VA should be no surprise to anyone and this is no excuse for Oracle. Again, they hold themselves out as the experts in this field.

The irony is that the VA already has an EHR platform with more than 99.9 percent uptime. This is like Ivory soap pure, folks. It is called VistA. We delved into how it achieves that level of performance in March. It is baffling that anyone could pay billions of dollars and set a lower standard. Set a lower standard. I understand the determination to make Oracle Cerner work, especially now the DOD has nearly finished implementing it.

I hope the two departments and Oracle can put the blame shifting behind them once and for all and address the problems regardless of who may have created them. We are going to be giving special scrutiny to how the system performs at James A. Lovell and, at the joint facility. Finger pointing is not just counterproductive. It can be fatal.

Once again, I want to thank the witnesses who appeared today.

I ask unanimous consent that all members have 5 legislative days to revise and extend their remarks and include extraneous material.

Without objection, this hearing is adjourned.

[Whereupon, at 1:38 p.m., the subcommittee was adjourned.]

A P P E N D I X

PREPARED STATEMENTS OF WITNESSES

Prepared Statement of Kurt DelBene

Good afternoon, Chairman Rosendale, Ranking Member Cherfilus-McCormick 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 Ms. Laura Prietula, Deputy Chief Information Officer, Electronic Health Record Modernization-Integration Office.

I want to begin by thanking Congress and this Committee for your continued support and your shared commitment to Veterans and, more specifically, for your support of VA's EHR modernization efforts. For VA, the successful deployment of the Federal EHR system will facilitate seamless health care transitions for Service members and Veterans across health care settings. The Federal EHR will provide an accurate, lifetime health record for Veterans among partners using the Federal EHR. For the newest members of the military, this EHR will serve them from the day they begin their military service through the rest of their lives.

The new Federal EHR system integrates with other health information technologies and will ultimately simplify the experience for Veterans and for VA staff, enhance standardization across the VA enterprise, and improve VA and the Department of Defense's (DoD) interoperability with the rest of the United States health care system. Moreover, the adoption of a product used by VA and DoD will help to simplify health care delivery by providers in both Departments, benefiting patients who receive care in both systems or who are transitioning from DoD to VA for care. It will also enable VA to deliver and optimize a unified and seamless trusted information flow between VA, DoD, the U.S. Coast Guard and community providers.

Since the initial go-lives of the Federal EHR in VA, we have been listening to Veterans and clinicians, and it is clear that the system is not yet fully meeting their expectations. As part of an Electronic Health Record Modernization (EHRM) Program Reset (Reset) announced in April 2023, VA halted work on future deployments of the Federal EHR, with the exception of our planned joint deployment with DoD at the Captain James A. Lovell Federal Health Care Center (FHCC), while the Department prioritizes improvements at the five sites that currently use the Federal EHR. The purpose of the Reset is to closely examine and address the issues that clinicians and other end users are experiencing with the current Federal EHR, and position VA for future deployment success.

During this Reset, VA is addressing the issues with the Federal EHR and redirecting resources from deployment activities other than Lovell FHCC to work on optimizing the Federal EHR at the sites where it is currently in use. The area of technical system performance is one of several areas that is receiving dedicated attention and needs resolution before deployments can resume at full pace.

VA has an obligation to Veterans and taxpayers to get this correct. We understand the concerns of this Committee regarding the Federal EHR system and its impact on the Veterans and VA staff who rely on it. We are committed to full transparency, and we appreciate your oversight. We look forward to further engagement with you and your staffs to ensure that this modernization effort and related health information technology modernization efforts are successful.

EHR System Changes

VA is on a journey to implement a large system transformation. The Federal EHR system is a highly complex software environment composed of the core medical records system and several other connected systems that together deliver the overall EHR experience to clinical providers and patients.

In February 2022, VA established a Performance Excellence Program to improve the overall system performance, resiliency, capacity, and reliability of the Oracle Health system. Due to this systematic approach, we have seen the core system stabilize over time, resulting in improvements to the user experience. As of November 8, 2023, there have been 185 consecutive days without an outage, and 100 percent system availability in 10 out of the last 12 months.

However, we are still experiencing partial system failures that impact end users. We capture these failures in our incident free time (IFT) metric, which measures the time that the system performs without a significant end-user problem. While our IFT metric has slightly improved from last year, it is not yet meeting the Service Level Agreement (SLA) of 95 percent IFT on a regular basis. As of September 30, 2023, Oracle Health has reached this metric for only 4 of the last 10 months.

This is due in part to the number of changes still being introduced. These changes are made to improve the performance, system functionality, and user experience. It is a well-established axiom of software development that systems stabilize when the rate of changes made to the system decrease. The rate of change is still high, and as a result, we are still seeing more incidents than we would like.

While we have been able to improve the stability of the core product, we continue to make regular changes to the environment to achieve the functional capabilities needed for VA. Though system change may bring different and improved experiences to the users of the system, it also introduces the possibility of unintended consequences or system instability.

In some cases, VA has requested functionality from Oracle Health that has never been deployed by Oracle Health commercially, such as an integration with the VA Consolidated Mail Outpatient Pharmacy, making VA the first user of the functionality, which also increases incident risk.

We have seen suboptimal and/or inconsistent end-user responsiveness of the system. We measure both the mean responsiveness as well as the 90th and 95th percentile response times. The core system is becoming more stable, and the mean user responsiveness is improving. While Oracle Health has met the SLA for these metrics, we are refining these metrics based on user feedback and will likely seek to tighten these for option year 2 of the contract. We are also measuring performance in areas that are not currently on contract, but still of interest to VA. For example, the time to recover from an incident remains at around 2 hours. Faster incident resolution times are better.

Regarding user support, we have improved the processing of tickets. Oracle Health met all four ticket management SLAs in July, August, and September 2023. Every critical or high severity incident has a root cause analysis performed and a preventive action identified. These reports are also integrated now into the VA Office of Information and Technology daily operational status reviews.

Ultimately, we anticipate that the system's performance will improve when the change velocity decreases, and enough time has passed to enable unanticipated defects to be addressed. From a technical perspective, one of the advantages of the Reset is providing time for optimization of the system and associated technical processes.

Block and Cube Releases

Blocks 8 and 9 were deployed in February and August 2023, respectively, and provided enhanced functionality to the field. A total of 47 system performance improvements and enhancements were pushed into production as part of the Block 9 release, which resulted in a 24 percent decrease in user interruptions and a 24 percent reduction in application freezes for all users.

Just last week, we deployed our November 2023 cube release, which fixed some bugs in the system and enhanced existing interfaces and capabilities. In February 2024, we plan to release Block 10, with more than 20 different enhancements and improvements being deployed across the enterprise. Each one of these releases has a planned improvement to the system performance and resiliency.

Accountability

Improving system reliability, resiliency, and availability remains a critical focus for our program. VA continues to monitor and enforce contractual SLAs. As part of the contract renegotiation in May 2023, VA increased the SLAs tied to concrete financial consequences related to technical performance and user experience. The renegotiated performance metrics include reliability, responsiveness, interoperability with other health care systems, and interoperability with other applications. There are now 22 SLAs and 6 service level obligations in place to hold Oracle Health accountable. As a result, VA has seen improvement to those metrics. VA expects to refine and potentially expand the SLAs in the upcoming option year 2 negotiations.

Lessons Learned from DoD

VA works collaboratively with DoD and the Federal Electronic Health Record Modernization Office to improve operations based on lessons learned and to collaboratively address issues with interfaced non-Federal EHR systems and networks that can impact system performance. Based on our shared learning, we have applied im-

provements where possible, such as improving certificate management, establishing Citrix Pods for increased flexibility and system performance, and optimizing virtual private network setup for laptop computers.

Conclusion

Veterans remain the center of everything we do. They deserve high-quality health care that is safe, secure, timely, Veteran-centric, equitable, evidence-based, and efficient. As improvements continue to be made through the duration of this Reset, VA will continually evaluate the readiness of sites and the Federal EHR system to ensure success and patient safety.

With the activities and improvements that are now underway, VA leaders are optimistic about the eventual success of the current program Reset, the deployment at Lovell FHCC in March 2024, and the future full implementation of the Federal EMR throughout VA. Having said that, we will not do this until the system is ready to provide a good quality experience to our users.

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.

Prepared Statement of Bill Tinston

Good afternoon, Chairman Rosendale, Ranking Member Cherfilus-McCormick and distinguished Members of the Subcommittee, I thank you for the opportunity to testify today on federal electronic health record (EHR) modernization and interoperability, and our partnering efforts to get the deployment, implementation, and performance of this critical health care capability right. I am accompanied by Mr. Lance Scott, the Chief Technology Officer for the Federal Electronic Health Record Modernization (FEHRM) program office.

On behalf of the FEHRM program office, I want to thank Congress, and this Subcommittee, for your unwavering dedication to ensure our nation's Veterans, Service Members, and beneficiaries receive the safe, reliable, interoperable, and modern EHR they deserve. I also want to thank you for the support we received to deliver this transformational, patient-centered health care capability.

I understand the concerns regarding reports of outages, incidents, and other technical problems associated with the deployment of the Federal EHR (FEHR) that we will discuss today. The effort to deploy a modern EHR has been, and still is, a challenging endeavor. But in no way do these challenges mean that EHR modernization is an unattainable goal. The FEHRM and its Department and other federal partners work through these challenges every day.

The modern, interoperable FEHR is large in scale and complexity. But this scale and complexity deliver capabilities that enhance patient care and provider effectiveness. This FEHR implementation effort also delivers on the promise of seamless health care transitions for Service Members and Veterans, and establishes a single lifetime, longitudinal record for its beneficiaries.

Today, I look forward to sharing how the FEHRM partners with Department of Veterans Affairs (VA), Department of Defense (DOD), and other federal agencies to address the challenges and make the single, common FEHR a reality.

THE FEHRM and its Mission

The FEHRM serves a key role in the modernization effort we are discussing today. Congress gave the FEHRM many responsibilities to drive EHR modernization forward. Among other responsibilities, the FEHRM is charged with pursuing the highest level of VA and DOD health care interoperability, maintaining the common EHR configuration baseline for the VA and DOD, continually evaluating the state of configuration and any impacts on interoperability, promoting the enhancement of the EHR system, and implementing a single lifetime, longitudinal health record between the VA and DOD.

To meet this charge, the FEHRM performs a host of functions advancing the FEHR. The FEHRM unites efforts and delivers common capabilities that enable VA, DOD, and other federal agencies to implement the FEHR. Common capabilities the FEHRM delivers include performing oversight of the shared environment containing the FEHR and supporting systems, governing configuration and content changes derived through a joint-decisionmaking process, tracking and facilitating software upgrades and solutions to optimize EHR performance, and informing continuous improvement through the tracking of joint risks, issues, opportunities, and lessons learned.

The Federal EHR

The FEHR is an ecosystem of orchestrated technologies. The overall EHR modernization effort is not about a single product, network, interface, or application. Rather, it's about all of these products, networks, interfaces, and applications working together within a national enterprise to create the right circumstances to deliver the right experience for clinicians and beneficiaries alike.

This modernized, enterprise EHR capability enhances health care delivery, and delivers better outcomes. Among its many benefits, it allows for standardized workflows, better coordination between the VA, DOD, other federal partners, and private sector health care systems, and the efficient dissemination of innovation, technology, and new capabilities.

Within the VA, the FEHR is currently in use at five medical centers, 22 community-based outpatient clinics, and 52 remote sites. Following these initial deployments, the VA halted work on further deployments of the FEHR, with the exception of the Captain James A. Lovell Federal Health Care Center (FHCC), to focus on improvements at the five sites currently using the FEHR. FEHR technical performance is one of the areas the VA Reset is focused on. Beyond the VA's current deployment posture, the FEHR is in wide use across the federal health care space.

The United States Coast Guard completed its FEHR deployment across 109 sites, and the National Oceanic and Atmospheric Administration successfully deployed the FEHR across its seven sites.

DOD is the most mature in its deployment of this capability. The DOD routinely implements lessons learned and refines its deployment processes, building on established practices to improve each subsequent deployment. With the exception of the FHCC, the DOD completed its deployment of the FEHR throughout its clinical sites within the continental United States.

The DOD is now completing its global deployment of the FEHR to multiple overseas sites. As an example of the FEHR enterprise driving outcomes, last month the DOD completed its Europe deployment in multiple clinical facilities in nine countries, across four time zones, in twelve days. The deployment to the DOD's Pacific sites is underway, and our early results indicate similar outcomes.

Improving the Federal EHR

I share the frustrations of many of today's fellow witnesses, and the distinguished members of this Subcommittee, over issues that emerged in the VA's deployment of the Federal EHR. However, I see the rigor VA is demonstrating in this Reset, and the collaboration that occurs everyday across the breadth and depth of our modernization effort. I am confident we will get this right.

The FEHR, and the implementation effort that drives its success, continuously evolve. Since the initial deployment of the FEHR, the FEHRM and the Departments have worked with end users and stakeholders to identify issues and improve the system's reliability, functionality, usability, and capabilities. Collectively, the FEHRM, VA, DOD, and our other federal partners share problems, learn from each other, and develop solutions together. There are tremendous advantages in this, and it results in a system that continuously improves.

System performance is not a discussion about a single product. Rather, through joint deployments and increased users, we learned much about the criticality of maintaining a common EHR baseline. The performance of this single enterprise system is driven by a multitude of different factors and interactions within a complex ecosystem of interfaces and interfacing systems. To optimize performance, we must employ the right configurations while minimizing deviations, such as local end user device configurations, from the enterprise configuration baseline.

Although the FEHR enterprise is not yet at the performance threshold we demand, improvements occur every single day. Many of these improvements are realized through the FEHRM's understanding that performance improves dramatically by looking at the entire FEHR ecosystem from an enterprise perspective. This holistic approach delivered significant outcomes to an ever evolving system. For example, through the success of the Oracle Health Corrective Action-Preventive Action (CAPA) process, the mean-time-to-restore (MTTR) improved by 50 percent over the past 18 months. Currently, the MTTR is now under 4 hours for more than 95 percent of events. Over this same 18-month period healthy minutes were sustained above 99.5 percent.

With its enterprise-wide approach to driving outcomes, the FEHRM improved the stability of the DOD Defense Enrollment Eligibility Reporting System (DEERS) interface with the FEHR enterprise. In the early years of the FEHR deployment, DEERS led the cause of FEHR system degradation and downtime. The FEHRM engaged, along with the DOD and VA and coordinated a series of engagement sessions

with the Defense Manpower Data Center (DMDC) to highlight and improve reliability. Over a period of months, DMDC as well as the FEHR made changes to DMDC infrastructure as well as the way DEERS and the FEHR interacted. These changes had significant impacts, and over the past 23 weeks, DEERS had a single outage that was quickly resolved in 53 minutes.

Beyond the subject of this hearing, the FEHRM continues to collaborate in the development of significant FEHR advances. In terms of data exchange and interoperability, in April 2020, the FEHRM deployed the Joint Health Information Exchange (JHIE). This grew to be the largest Health Information Exchange in the world, exchanging bidirectional health care data with over 95 percent of health care organizations. This created the most complete patient health care record in history, for all members of the FEHR.

Another example of a significant release is the upcoming release of the “Seamless Exchange” capability to the FEHR. This exciting capability is currently undergoing a pilot at the VAMC at Walla Walla, Washington. Seamless Exchange will allow the auto ingestion of external community partner health care records directly into the FEHR, provide a data deduplication capability, and for the first time, establish data provenance for FEHR supported clinicians.

And, most notably, in response to the COVID pandemic, the FEHRM established a bidirectional exchange between state immunization registries and the FEHR. This new capability provided states and FEHR partners an enterprise means to create a more complete patient record by exchanging State immunization data.

Conclusion

In closing, as a son and brother of Veterans, and leader of an organization largely comprised of Service Members and Veterans united in modernizing the FEHR, I am focused on delivering patient-centered care, and providing the greatest capabilities available to support the most informed clinical decision making. The success of deploying this modern FEHR is fulfilling a solemn promise to our Service Members, Veterans and their families.

The single, common FEHR enhances health care delivery, and delivers better outcomes. It is my observation that the more VA, DOD, and our federal partners collaborate and team as an enterprise, the more we raise the performance of the FEHR. The FEHRM, with its VA, DOD, and other federal partners, are committed to deploying and evolving this transformational health care capability together.

The FEHRM is dedicated to providing health care providers with IT they do not need to think about by seamlessly providing the right data about the right patient at the right time. Focusing on continuous capability delivery not only improves the delivery of health care by our partnered clinicians, it improves the health care experience for our valued beneficiaries. I look forward to our continued partnership, transparent communications and commitment to provide our nation’s Veterans the care they deserve and informing you of our progress as we continue this vital mission.

I thank you for your commitment to getting EHR modernization right, and for the opportunity to speak with you today. I look forward to answering your questions.

STATEMENT FOR THE RECORD

Prepared Statement of Oracle Corporation

Introduction:

Chairman Rosendale, Ranking Member Cherfilus-McCormick and members of the Subcommittee, thank you for the opportunity to provide a Statement for the Record for today's hearing. I regret having an unavoidable scheduling conflict that prevents me from being with you in-person.

In this Statement for the Record I will provide an update on Oracle's work on the Department of Veterans Affairs' (VA) Electronic Health Record Modernization (EHRM) program, specifically related to system performance as measured by Outage Free Time (OFT), Incident Free Time (IFT) and User Interruptions.

Outage Free Time:

At the time of Oracle's acquisition of Cerner in June 2022, one of the top issues impacting the federal EHR system was outages. We made stabilizing the system to prevent outages our top priority, and our efforts have paid off.

Our contractual obligation since June 2023 is for Oracle-owned OFT to be 99.95 percent or higher per month. (This more stringent obligation than the previous one of 99.9 percent was agreed to in the new contract signed in May 2023.)

For 12 of the last 13 months, Oracle-owned OFT has been at 100 percent. This means that in each of those 12 months the EHR system components operated or owned by Oracle, mainly the Cerner Millennium EHR, have been performing with 100 percent uptime, without an outage.

The one month in which the OFT obligation was missed was April 2023, due to two systems related incidents that caused OFT to drop to 99.319 percent. Both of these incidents went through our comprehensive Corrective Action / Preventative Action (CAPA) program for a full technical review. As a result, Oracle took immediate action to harden our layered technologies and have modified significant aspects of our domain restart sequencing to resolve the core issue.

These, as well as all major incidents, are thoroughly and transparently discussed with lessons learned along with short and long term irreversible corrective actions to prevent reoccurrence. Every week Oracle conducts detailed operational reviews with VA EHRM-IO and DoD PMO leaders. There has been significant improvement in system performance and OFT since the time of the acquisition, which reflects the strong engineering expertise Oracle has brought to this project.

Oracle is confident the EHR system is capable of taking on new users and continuing to perform well. The last weekend of October 2023, the EHR was deployed to DoD's Asia Pacific region medical facilities. This wave of deployments completed DoD's OCONUS medical facilities. Other than the joint DoD-VA facility in Chicago, DoD is now fully deployed across its domestic and global healthcare system. In the most recent wave, DoD has added 8,000 new users to the federal EHR system, with a total of 184,000 across DoD. These increases in user-load have been accomplished while maintaining OFT as required under our contract.

Incident Free Time:

Instances of degradations in service for the EHR, but not a full outage, are tracked in IFT. We know that these degradations are very frustrating to users and have directed significant engineering resources to make improvements in IFT. After reducing outages, improving IFT has been our next highest priority, and it is trending in the right direction.

Acknowledging that improving IFT needed to be a high priority focus for both Oracle and VA, we agreed to add a new obligation in the renegotiated contract to measure our performance and increase accountability. We did this knowing that our work to increase IFT is in progress and that there could be months, in the short run, where meeting the obligation may be difficult, but with the belief that the work we are doing will succeed in the long-run.

Thus, under the new contract, we were obligated to attain 93 percent or higher IFT for the months of June, July and August 2023, and we are obligated to attain 95 percent or higher IFT each month starting in September 2023 and moving forward.

In the months of May, June and July 2023 Oracle-responsible IFT for VA was greater than 95 percent. In September 2023, Oracle-responsible IFT for VA was 96.41 percent. However, in August 2023, IFT was 91.93 percent, and we accordingly issued a credit under the terms of the new contract.

A significant contributor to the IFT result in August 2023 were incidents related to the Block 9 upgrade. IFT would have been 95.44 percent if the incidents related to Block 9 were excluded. Looking back over past years, approximately half of IFT incidents are a result of change introduced into the system, as in block or cube updates. This has been true for 2023 with approximately half of all Oracle-responsible IFT incidents being related to the Block 8 and 9 upgrades conducted in February and August, respectively.

Oracle has taken steps to assess the root cause of the issues impacting IFT and to prevent recurrence in future block or cube updates. We are driving improvement by running our CAPA program across 70 percent of all VA incidents, overhauling our procedures for release management related to block, cube and other updates, and establishing clear accountability to product, platform and service performance.

As a result, the impact to IFT in the August Block 9 upgrade was 2,372 minutes compared with 3,533 minutes in the February Block 8 upgrade, a reduction of 1,161 minutes (33 percent less). Of note, this reduction for Block 9 was achieved with an upgrade package that was nearly twice as large as Block 8.

Overall IFT of course is impacted not only by Oracle but also by VA, DoD and other federal users and third parties. One positive step that we have taken with VA and DoD to improve overall IFT is increased joint testing prior to block or cube upgrades going live. Moving forward, we also will be validating third party products that are embedded in the EHR because that was a driver for degradations with Block 9.

We worked closely with DoD in preparing for OCONUS deployments of the EHR to reduce degradations and impacts to IFT. We found that improving VPN and network hardware as well as ensuring users have up-to-date devices made a difference in improving performance. We are conducting similar work with VA to improve performance and reduce impacts to IFT.

User Interruptions:

A user interruption is most frequently experienced when the EHR freezes, crashes or hangs for a period of more than five seconds.

In the Block 9 upgrade conducted in August 2023, updates were made to reduce user interruptions across the federal EHR, including:

- Eighteen freeze and hang improvements that reduce freezes by approximately 14,000 freezes per month (23 percent improvement);
- Twelve error and response time improvements across registration, pharmacy, labs, problem lists, orders and more for more than 20,000 users.

The new contract that was agreed to earlier this year requires that we meet three different obligations regarding user interruptions.

First, P50 user interruptions requires that 50 out of 100 users must average five or fewer daily interruptions. Since January 2023, P50 interruptions have been nearly eliminated and met the contractual obligation each month, with an average of 0.01 since May 2023, and with Block 9 improvements it was 0.00 in September 2023. This means that 50 out of 100 users of the EHR system experienced no interruptions.

Second, P90 user interruptions requires that 90 out of 100 users must average ten or fewer daily interruptions. Since January 2023, P90 interruptions have been reduced by 55 percent and met the contractual obligation each month, with an average below 3.5 since May 2023, and with Block 9 improvements it was 2.53 in September 2023.

Third, P99 user interruptions requires that 99 out of 100 users must average fifty or fewer daily interruptions. Since January 2023, P99 interruptions have been reduced by 31 percent and met the contractual obligation each month, with an average at 26 or below since May 2023, and with Block 9 improvements it was 19.89 in September 2023.

Reset/Future Work:

While significant progress toward system stability has been made over the last year and a half, the work of continuous improvements for the federal enclave, as with any system of its size and complexity, is and will be ongoing.

As we look ahead and leverage the foundational work from the last eighteen months, the focal points of the next phase of continuous improvement effort will be across six key areas: architectural changes; product improvements; release management; testing and testing automation, change management, and the ongoing effort to move to Oracle Cloud Infrastructure (OCI).

While such work is incremental in nature, the continuous progress will be reflective in both the upcoming Block 10 upgrade and the deployment of the system at Lovell Federal Health Care Center (FHCC) in North Chicago in March 2024.

Block 10

Building off the success and leveraging lessons learned from the Block 9 upgrades in August 2023, Block 10 – scheduled for February 2024 – includes over 30 tracking actions reflecting our key areas of focus. These enhancements will continue to improve change controls, layer in additional third party testing, expand testing environments to troubleshoot issues before they are problems, and continue to reduce manual steps in the process.

Lovell Federal Health Care Center

We continue to be highly focused on the success of the deployment of the system at Lovell FHCC. This includes continued checks on the capacity of the system across all components of the federal enclave, weekly internal readiness reviews across teams, interface validation and enhanced testing to account for the unique aspects of deploying at a joint facility.

Closing:

Oracle is committed to working with VA and DoD to continue to improve the performance of the EHR system and ensure that it is prepared for additional scaling when VA resumes deployments. Thank you for the opportunity to provide this update on system performance and uptime, and please let us know if there are any follow-up questions.

