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**"OVERSIGHT HEARING ON THE VETERANS' HEALTH
INFORMATION SYSTEMS AND TECHNOLOGY ARCHITECTURE (VistA)"**

**HOUSE COMMITTEE ON VETERANS' AFFAIRS
SUBCOMMITTEE ON TECHNOLOGY MODERNIZATION**

March 7, 2023

INTRODUCTION

Good Afternoon, Chairman Rosendale, Ranking Member Cherfilus-McCormick, and distinguished Members of the Subcommittee. Thank you for the opportunity to testify today about the Department of Veterans Affairs' (VA) Veterans Health Information Systems and Technology Architecture (VistA). I am accompanied today by Charles C. Hume, Chief Informatics Officer, Veterans Health Administration, Dr. Thomas O'Toole, Deputy Assistant Under Secretary for Health for Clinical Service, Veterans Health Administration, Ms. Zhuchun "Emily" Qiu, Director of Health Informatics, Office of Information and Technology, and Mr. Michael Giurbino, Director, Health Infrastructure and Systems Management, Office of Information and Technology.

OVERVIEW

VA is committed to providing exceptional care, services, and a seamless, unified experience to Veterans. The Office of Information and Technology (OIT) collaborates with the Veterans Health Administration (VHA) and various VA offices to achieve this mission through the delivery of state-of-the-art technology, including a modernized Electronic Health Record (EHR).

Today, VistA and its integrated systems provide an integrated EHR for Veteran care and services, supporting over 150 applications, including the operations of more than 1,500 VA facilities. There are 133 instances of VistA nationwide that share standard functionality but have data and workflow tailored to the needs of each VA Medical Center and its patient population. Like any IT system, VistA requires updates and maintenance to keep it functioning at a high level. Critical upgrades to the system could be extremely costly over the years, and maintenance costs are even higher. Often, it becomes more expensive to maintain a legacy system than to replace it. VistA itself is written in an old programming language, Mumps. There are few Mumps programmers today, Mumps is not taught in computer science classes, and the pool of Mumps programmers shrinks every year as they retire. VA is fortunate to have dedicated Mumps programmers supporting VistA. They understand millions of lines of code developed over 45 years and VA's clinical business processes. They are

committed to enabling clinicians and supporting Veteran outcomes. We've been able to retain them, and their knowledge, much longer than a typical workforce. However, approximately 70 percent of our Mump programmers today are retirement eligible, and we have few options to hire or contract additional ones.

VistA has served VA and Veterans for over 45 years and we are aware of its limitations. It doesn't have modern capabilities like Artificial Intelligence/Machine Learning, mobile and web access, and capabilities providers and Veterans expect and deserve from a modern cloud-native EHR. VistA is a member of VA's expansive and complex ecosystem of software and infrastructure. The size and complexity of that technology ecosystem has nearly doubled in the last five years, and most of that growth was in modern cloud-native applications. Mumps programmers are increasingly challenged keeping VistA integrated in a growing ecosystem that is architected very different from the system designed 45 years ago. While technology is a challenge, so also are the dated skills of the VistA programmers. These challenges compound every year.

To modernize VA's legacy EHR systems and achieve interoperability with DoD and community care providers, VA is transitioning to a new EHR solution. In May 2018, VA awarded Cerner a contract to replace VistA with a Commercial Off the Shelf (COTS) solution, Cerner Millennium, which is also currently being deployed by DoD. During implementation of the new EHR solution, VA will need to maintain VistA systems for a period of time. This ensures that current patient records remain accessible and that there will be no interruption in the delivery of quality care.

FUTURE VISTA DEVELOPMENT

VA recognizes the planned Electronic Health Record Modernization (EHRM), Financial Management Business Transformation (FMBT), and Supply Chain Modernization (SCM) efforts will take years to scale across the enterprise. During this time, maintaining Vista is necessary to ensure VA preserves the standard of care in the interim and continues innovation to serve the Veteran. VA embraces the responsibility to consistently and constantly drive modernization and look for efficient ways to sustain VistA. Some of the key strategies include:

- **Development, Security, and Operations Approach** – OIT shifted to a DevSecOps approach focused on collaboration, innovation, agile principles, and automation—so that it can develop, enhance, maintain, and roll out better, more secure products at a faster pace than using the existing separate development and operations processes.
- **VistA Standardization** – VAMCs are required to run the nationally released “Gold” version of VistA. In addition to having a common set of software routines for each VistA instance, there are some additional normalization activities, including work on terminology extensions, to account for local differences that will need to be addressed to ensure standardization of the VistA database and file system.

- **Merging Resources** – OIT continues merging VistA teams and resources for maximum efficiency throughout VA.
- **Maintain excellent customer support** – OIT will continue to respond to patient safety issues; hiring and retention of VistA support resources; maintaining security and compliance (scans, remediation, Section 508 compliance, Authority to Operate, etc.); refreshing hardware (life-cycle upgrades, hardware, cloud migration etc.); and maintaining software versions and upgrades.

VistA enhancements require enabling teams to work in a development paradigm using modern tools and practices such as automation of testing, integration, and deployment of code. VistA enhancements share VistA data and applications through Application Programming Interfaces (APIs) that use modern messaging standards. This approach accelerates integration and supports innovation in the short term. It also facilitates migration to target solutions like EHRM, FMBT and SCM in the long-term.

CLOUD MIGRATION

On June 22, 2019, one instance of VistA, at Valley Coastal Bend, was successfully migrated to VA's Enterprise Cloud (VAEC) which is the future direction for VistA instance maintenance until they are subsumed by Cerner Millennium. Since then, a total of 20 VistA sites were successfully migrated to the VAEC and an additional 54 VistA site migrations are planned for FY23. VA is taking advantage of cloud-based infrastructure management practices and leveraging cloud native features including security, monitoring, backups, and scalability. As part of the current VistA Cloud Migration Project, the VistA software platform is also being upgraded to IRIS for Health 2022.1.

COSTS OF SUSTAINMENT

For the purposes of ensuring uninterrupted health care delivery, VA will continue to use VistA until all legacy systems are replaced by the new solution. Below are the current costs to operate, maintain, and upgrade VistA in each of the last five fiscal years. The below costs reflects a steady increase year-over-year:

- Total FY 2018: VistA cost \$417,730,309
- Total FY 2019: VistA cost \$634,138,491
- Total FY 2020: VistA cost \$720,312,589
- Total FY 2021: VistA cost \$841,426,084
- Total FY 2022: VistA cost \$890,098,856

Currently, there is no VistA sustainment cost reduction directly tied to the new EHR solution rollout. VistA must run without service degradation to support EHR migration and overall VA modernization. VistA clinical modules that are deemed redundant when the EHR migration is complete will be decommissioned. However, VistA modules that are not replaced by the EHR must be performant and maintained until replacement capabilities are developed. The cost to maintain VistA will increase as we must include development for new capabilities and interfaces, Congressional

mandates, cloud costs, hiring and retention of VistA support resources, and maintenance. To continue fulfilling our commitment to ensure uninterrupted care and benefit delivery to Veterans, VA must continue to use VistA.

CONCLUSION

As VistA functionality is replaced by a COTS solution and other systems, VA can decommission VistA products as appropriate. Until the new EHR solution is implemented across VA's enterprise, VistA remains VA's authoritative source of Veteran data. Sustaining VistA for the duration of our EHRM effort ensures that Veterans continue receiving uninterrupted care and services while VA looks to the future and improves the Veteran experience.

Chairman Rosendale, Ranking Member Cherfilus-McCormick, and Members of the Subcommittee, thank you for the opportunity to appear before you today to discuss OIT's progress toward VistA transition. I look forward to continuing working with this Subcommittee and address our greatest priorities. This concludes my testimony, and I look forward to answering your questions.