

MILITARY CONSTRUCTION, VETERANS AFFAIRS, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2017

WEDNESDAY, JULY 13, 2016

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:31 a.m., in room SD-124, Dirksen Senate Office Building, Hon. Mark Kirk (chairman) presiding.

Present: Senators Kirk, Hoeven, Boozman, Capito, Cassidy, Tester, and Udall.

DEPARTMENT OF VETERANS AFFAIRS

STATEMENT OF HON. LAVERNE H. COUNCIL, ASSISTANT SECRETARY FOR INFORMATION AND TECHNOLOGY AND CHIEF INFORMATION OFFICER

ACCOMPANIED BY:

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OPENING STATEMENT OF SENATOR MARK KIRK

Senator KIRK. This hearing is to review the Department's health record and progress towards full interoperability with the Department of Defense (DOD).

Last year for the first time, the GAO put veterans' healthcare on its high risk list for programs that are likely to experience fraud, waste, abuse, and mismanagement. The Government Accountability Office (GAO) cited information technology challenges, one of the five reasons why veterans' healthcare was on this list.

I want to share with you my vision for going forward here, that we are aiming for. Whenever a soldier, sailor, airman leaves Active Duty and becomes a veteran, we should have a 100-percent seamless transmission of their health records to the VA.

Here is a data point. We have about 250,000 servicemembers leave the DOD and become veterans every year. That works out to about 700 per day, a data flow which is well within the possibility of everybody to cover.

We want to make sure there is a seamless continuity of care. I have a friend now who is navigating the Department of Veterans Affairs (VA) disability system, she was deployed in Iraq, and had

38 separate combat events, and wanted to make sure all of those are documented and transferred and are in her disability petition.

Number two, we should also use the combined size of the DOD and VA in the marketplace to establish a worldwide standard for health medical records, encompassing 22 million people. I figure about 2 million come from DOD and 25 million come from VA. To have that 27 million people all as a core of people covered by one electronic health record (EHR) standard, all open source code would allow us to make sure that the industry now has one Federal standard.

The rock candy mountain here is to make sure the system is covering so many patients that the industry follows, and we make sure the medical record industry is established along the lines of a U.S. Code and U.S. standards.

In my State of Illinois, we have Motorola that made the Android System all open source code. Luckily for them, it was the right decision. The marketplace developed 70,000 apps for the Android system to make it the most flexible and user friendly in the world. We want to make sure that open source environment allows us to create medical records for people with U.S. standards.

I think we are on our way towards a several billion dollar industry now based on this work between DOD and VA.

I just talked yesterday with the leading company that is in this space. They told me when I talked with Judy Faulkner who is one of the founders of a company called Epic that now employs 5,000 people in Tammy Baldwin's State—they cover a vast number of the patients' medical records in my State of Illinois.

She said there are really exciting things in this field to gather all those data and do analytics on that. She was particularly excited about Epic's sepsis analytics, which she said could be traced to the saving of 54,000 lives, patients who are liable for sepsis.

Using these analytics, we could reach a new 22nd century level of care for veterans. I want to make sure analytics are a deep part of this electronic healthcare revolution that we have for VA and DOD.

Let me turn it over to my good friend, Mr. Tester.

STATEMENT OF SENATOR JON TESTER

Senator TESTER. Thank you, Mr. Chairman. Thank you for your leadership on this subcommittee. We very much appreciate it. Thank you, Secretary Council, and Ms. Melvin, and Dr. Thompson for being here today for this hearing, I appreciate the work you do.

We all know and we agree that accountability of VA is critically important, whether we are talking about delivering quality and timely care or whether we are talking about IT initiatives such as electronic health records and scheduling systems. We live in the 21st century, and our IT systems should reflect that.

I do look forward to hearing from you about the progress made and the challenges involved with VistA, electronic health record systems, and other key IT programs. We are obviously very interested in the direction VA is heading in terms of modernizing VistA, and whether we are talking about going to a commercial off-the-shelf system or developing a hybrid of the two. Whatever decision is made, we will have long-ranging ramifications not only for the

VA and veterans but also for the American taxpayer who will have to foot this bill.

Although we are focused on electronic health records, we realize that EHR is only one component of a much broader IT modernization effort and conversation. Electronic record sharing is a great asset for both clinicians and patients, but only if the veteran can get an appointment in the first place, and that remains a huge challenge for many veterans in my State and across this country.

In fact, scheduling difficulties are the top complaint that I hear from folks in Montana, and I hear a lot of them. I can tell you that the current system is not going to cut it, so I am concerned that the current medical appointment scheduling system plan is on hold, if it is not the right plan, then it should be revised or replaced, but it cannot be put on the back burner. We need to fix it. We need to fix it today.

So, I look forward to hearing about how the VA is working to devise and implement a better plan, and when that will happen. Cybersecurity is another urgent priority. As the VA's IT system has to provide for greater interoperability among VA providers, private sector providers, and the Department of Defense, cybersecurity must also evolve and adapt.

The challenges facing the VA are formidable, and they are only going to become more complicated with time.

I am also a member of the Senate Veterans' Affairs Committee, and I am proud that Committee has advanced legislation, the Veterans First Act, that includes a lot of critical provisions to empower the VA to better serve our veterans. As we all know, that bill is being held up, just the latest example of Senate dysfunction. Nonetheless, Congress can actually be a constructive partner in this effort.

As the pressure grows on the VA to provide seamless medical record sharing and scheduling, I fully expect you to keep us apprised of your efforts and your challenges. That line of communication is critical as we move forward, and it is critical today.

Again, I want to thank you for your service, and I look forward to hearing your testimony. Once again, thank you, Mr. Chairman.

Senator KIRK. Thank you. We want to welcome our witnesses here. We have Valerie Melvin, the Director of Information Management and Technology Resources Issues at the Government Accountability Office; and Dr. Lauren Thompson, Director of the DOD/VA Interagency Program Office in the Department of Defense; and the Honorable LaVerne Council, with the Department of Veterans Affairs, the VA's Chief Information Officer. We also have Mr. David Waltman and Dr. Jonathan Nebeker, both with the Veterans Health Administration (VHA).

Let's proceed and have Ms. Council begin.

SUMMARY STATEMENT OF HON. LAVERNE H. COUNCIL

Ms. COUNCIL. Chairman Kirk, Ranking Member Tester, distinguished subcommittee members, thank you for the opportunity to discuss how the Office of Information and Technology (OI&T) is transforming technology that we deliver to support our veterans.

I am joined today by Mr. David Waltman, who is VHA's Chief Information Strategy Officer, and Dr. Jonathan Nebeker, VHA's Deputy Chief Medical Informatics Officer.

As described in our media review, we have shifted our focus to outcomes versus activity by emphasizing transparency, accountability, innovation, and team work. We are building on the legacy of VHA innovations and maintaining a united partnership between medicine and technology. Through implementation of a prioritized set of strategic initiatives across our now, near, and future time horizons, we are focused on providing a consistent high quality experience to our users and veterans.

We are evolving into a dynamic proactive posture. We are leaning forward, simplifying and standardizing our infrastructure through buy first and Cloud-based delivery models, utilizing Cloud-based technology will allow us to buy IT services while consolidating our infrastructure and driving the market to facilitate innovation.

Through implementation of our new strategic sourcing function, we will be poised to take advantage of a wealth of innovation that already exists in the marketplace to reduce development overhead costs and speed delivery of services to our veterans.

For the first time, we have IT portfolios in place for all administrations. We have filled all of our new IT account managers or ITAM positions. The ITAMs keep us connected to our partners and ensure that we are meeting their needs.

I am proud to report that over the last year, VA's OI&T's rating was upgraded from 19th to 5th, out of 24 Federal agencies, in the recently released OMB Benchmarks for IT Customer Satisfaction.

We have made strong headway toward modernizing how the VA does business but we are also recognizing that change is not easy and modernization is not a one time act. It requires a relentless focus on execution and constant emphasis on impactful outcomes.

In addition, we are transforming OI&T's leadership team, with 74 percent of OI&T's executive leadership being in new roles or they are new to the agency.

We are on track with our plans to close 100 percent of the Office of Inspector General's (OIG's) 2015 recommendations by the end of 2017, of our Federal Information Security Modernization Act (FISMA) material weakness, and in July 2015, VA had 267,000 accounts with elevated privileges, which allows special access to VA systems. We have reduced that number of accounts by 95.5 percent, exceeding all original expectations.

To reduce complexity and manage access, we are standardizing our device policy to no more than two devices, such as a Smartphone and laptop for each staff member. Since March 2015, our team has identified, corrected and remediated 21 million critical and high vulnerabilities utilizing Nexus monthly scans and enterprise patching.

We have developed an IT/non-IT policy to ensure IT dollars are spent appropriately. We have reduced the number of applications by 500 percent, closing off any potential path for attackers. We have our quality and compliance function, and we are finalizing our governance, structure and strategic sourcing function.

OI&T is committed to safeguarding our veterans' information, and tools, technology, and people of the highest caliber are required. We have increased our cybersecurity funding to \$370 million, and I would like to thank this subcommittee for helping us to fully resource our cybersecurity capability for the very first time.

We recognize that effective cybersecurity requires vigilance and a security conscious culture. We take security risks seriously. We are addressing all key FISMA findings, and we are prioritizing our efforts to close the most critical risks first.

We know that a veteran's complete health history is critical to providing seamless, high-quality integrated care and benefits. We are happy to say on April 8, we certified an interoperative with DOD in accordance with the National Defense Authorization Act's (NDAA's) section 713(b)(1), well ahead of the December 2016 deadline.

Last year on July 6, 2015, I was sworn in as the Assistant Secretary and CIO of OI&T. After 1 year, I have learned a lot about the purpose, passion, and drive it takes to make change in a governmental agency. I have also experienced the true grit of the people who are dedicated to the mission of serving our veterans.

Mr. Chairman and members of the subcommittee, thank you again for the opportunity to discuss our progress with you. I look forward to continuing the conversation, and am happy to take any questions you might have at this time.

[The statement follows:]

PREPARED STATEMENT OF HON. LAVERNE H. COUNCIL

Good morning,

Chairman Kirk, Ranking Member Tester, distinguished members of the subcommittee, thank you for the opportunity to discuss the progress that the Department of Veterans Affairs (VA) is making towards modernizing our information technology (IT) infrastructure to provide the best possible service to our VA business partners and our Nation's veterans. I will also discuss scheduling, medical record sharing, and cyber security initiatives at the Department.

In order to successfully carry out these major IT initiatives and the department's consolidation of community care programs, VA will need a digital health platform and IT solutions that will meet the evolving needs of our veterans, as well as support our streamlined business processes.

I am joined by Mr. David Waltman, VHA's Chief Information Strategy Officer, and Dr. Jonathan Nebeker, VHA's Deputy Chief Medical Informatics Officer.

The Veterans Health Administration (VHA) and the Office of Information & Technology (OI&T) are essential partners in delivering quality service to our veterans. Meeting the demands of 21st century veterans requires an interconnected system of systems, based on a single platform, which supports an electronic health record (EHR) as one of several components.

IT plays a critical role in enabling care for our Nation's veterans. VA's current EHR modernization efforts focus on delivering the tools for clinicians to provide more comprehensive, patient-centered care and will support VA's progress to a digital health platform.

We have made substantial progress in delivering new capabilities leveraging VistA, the VA Health System's EHR, while also strategizing for our future needs. Our efforts to modernize the VA's EHR and our plans for the digital health platform are not mutually exclusive. The success of the digital health platform is not dependent on any particular EHR.

VISTA EVOLUTION/INTEROPERABILITY

Current State of VistA Evolution

VistA Evolution is the joint VHA and OI&T program for improving the efficiency and quality of veterans' healthcare by modernizing VA's health information systems, increasing data interoperability with the Department of Defense (DOD) and network

care partners, and reducing the time it takes to deploy new health information management capabilities. We will complete the next iteration of the VistA Evolution Program—VistA 4—in fiscal year 2018, in accordance with the VistA Roadmap and VistA Lifecycle Cost Estimate. VistA 4 will bring improvements in efficiency and interoperability, and will continue VistA's award-winning legacy of providing a safe, efficient healthcare platform for providers and veterans.

VA takes seriously its responsibility as a steward of taxpayer money. Our investments in VistA Evolution continue to make our veterans' EHR system more capable and agile. VA has obligated approximately \$510 million in IT Development funds to build critical capabilities into VistA since fiscal year 2014, when Congress first provided specific funding for the VistA Evolution program. In addition, VA has obligated \$151 million in IT Sustainment funds and \$110 million in VHA funds for VistA Evolution. The VHA funding supports the operational resources needed for requirements development, functional design, content generation, development, training, business process change, and evaluation of health IT systems.

It is important to note that VistA Evolution funding stretches beyond EHR modernization. VistA Evolution funds have enabled critical investments in systems and infrastructure, supporting interoperability, networking and infrastructure sustainment, continuation of legacy systems, and efforts—such as clinical terminology standardization—that are critical to the maintenance and deployment of the existing and future modernized VistA. This work was critical to maintaining our operational capability for VistA. These investments will also deliver value for veterans and VA providers regardless of whether our path forward is to continue with VistA, a shift to a commercial EHR platform as DOD is doing, or some combination of both.

Interoperability

We know that a veteran's complete health history is critical to providing seamless, high-quality integrated care and benefits. Interoperability is the foundation of this capability as it enables clinicians to provide veterans with the most effective care and makes relevant clinical data available at the point of care. Access to accurate veteran information is one of our core responsibilities. The Department is happy to report that, thanks to a joint VA and DOD effort, on April 8, 2016, we jointly certified, to the House and Senate Committees on Appropriations, Armed Services, and Veterans' Affairs that we have met the interoperability requirement of the fiscal year 2014 National Defense Authorization Act (NDAA) Section 713(b)(1). We have not stopped our modernization efforts, as we envision further enhancements that we know are necessary for greater efficiency.

For front-line healthcare teams, the two most exciting products from VistA Evolution are the Joint Legacy Viewer (JLV) and the Enterprise Health Management Platform (eHMP). JLV is a clinical application that provides an integrated, chronological display of health data from VA and DOD providers in a common data viewer. VA and DOD clinicians can use JLV to access, on demand, the health records of veterans and Active Duty and Reserve servicemembers. JLV provides a patient-centric, rather than facility-centric view of health records in near real time. Veterans Benefits Administration (VBA) offices have access to JLV and can use it to expedite claims in certain situations.

As of July 7, 2016, JLV had more than 198,000 authorized users in VA and DOD together, including 158,159 authorized VA users. The team is authorizing several thousand new users in VA each week. In VA, more than 11,000 VBA personnel are authorized to use JLV to help process claims.

The process for granting access to JLV is both simple and secure. JLV allows us to monitor access and usage by capturing logins, records viewed, activities by users, and transactions per hour. In the interest of privacy, security, and safety, JLV is restricted to healthcare providers and benefits administrators. Beneficiaries cannot access JLV, but this in no way affects their rights to copies of their health records upon request. We simultaneously maintain tight controls over the system and ensure efficient access to clinicians and benefits administrators who need it to do their jobs.

JLV has been a critical step in connecting VA and DOD health systems, but it is a read-only application. Building on the interoperability infrastructure supporting JLV, the Enterprise Health Management Platform (eHMP) will ultimately replace our current read-write point of care application. The current application, called the Computerized Patient Record System, or CPRS, has been in use since 1996. CPRS served VA for many years as an industry leading point of care tool for providers, but it has many limitations for modern care delivery.

eHMP will overcome these limitations, and provide a modern web application and clinical data services platform to support veteran-centric, team-based, quality driven

care. eHMP will also natively support interoperability between VA, DOD and community health partners. We are deploying an initial read only version of eHMP now, and will begin deploying eHMP version 2.0 with write-back capabilities in the second quarter of fiscal year 2017. Clinicians will be able to write notes and order laboratory and radiology tests in version 2.0. eHMP 2.0 will also support tasking for team-based management and communication with improved tracking to ensure follow through on tasks.

Veterans will benefit from eHMP in several ways. For example, eHMP will provide a complete view of a veteran's health history from all available VA, DOD and community provider sources of information. This will help providers develop a more complete picture of a veteran's history, enabling better treatment decisions.

The veteran's voice will also be front and center in eHMP. Veterans' goals and preferences for care will become part of the information all providers see. eHMP will also provide a feature dedicated to recording and maintaining a veteran's service history, including duty locations and what type of work they performed during their service. This information could then be used in proactively identifying veterans who may be at risk for certain health issues, or eligible for medical care based on locations or times in which they served.

Veterans will also benefit from VA care teams who can work together more efficiently and effectively using the care coordination and task management tools eHMP will provide. For example, if a veteran is referred for a particular test or consultation with a specialist, workflow management tools in eHMP will ensure the right activities have taken place in advance of the referral. This will help reduce wasted or unneeded appointments, save time for both veterans and providers. In turn, if providers are more efficient, they are able to serve more veterans, which will have an overall positive impact on veteran access to care. All of these efforts align with the goals outlined by the Federal Health Information Technology Strategic Plan 2015–2020 and Connecting Health and Care for a Nation: A Shared Nationwide Interoperability Roadmap, produced by the Office of the National Coordinator for Health Information Technology (ONC) in collaboration with VA, DOD and other partners.

Upon completion, eHMP will support the following capabilities:

- Veteran-centric healthcare.*—eHMP will allow clinicians to tailor care plans to specific clinical goals and help veterans achieve their healthcare goals.
- Team-based healthcare.*—eHMP will provide an interoperable care plan in which clinical care team members, including the patient, will understand the goals of care and perform explicit tasks to execute the plan. eHMP will also monitor tasks that are not completed as specified and escalate them to the appropriate team.
- Quality-driven healthcare.*—eHMP will support the diffusion of best practices, including evidence-based clinical process standardization. eHMP will collect data on how clinicians address conditions and power analytics to generate new evidence for better care and best practices.
- Improved access to health information.*—eHMP will integrate health data from VA, DOD, and community care partners into a customizable interface that provides a holistic view of each veteran's health records.

Fundamentally, our efforts to improve information systems are about data, not software. Regardless of the software platform, we need to be able to access the right data at the right time. Health data interoperability with DOD and network providers is important— but it is equally important to understand that this is just one aspect of having a comprehensive profile to streamline and unify the veteran experience.

Using eHMP as a tool, healthcare teams will better understand veterans' needs, coordinate care plans, and optimize care intensity in VA and throughout the high-performing network of care.

LOOKING TO THE FUTURE

Modernization is a process, not an end, and the release of VistA 4 in fiscal year 2018 will not be the "end" of VA's EHR modernization. VA has always intended to continue modernizing VA's EHR, beyond VistA 4, with more modern and flexible components.

Technology and clinical capabilities must consistently evolve to meet the growing needs of our veterans. The VistA Evolution program is just that—an evolving capability that is an invaluable part, but not the end of VA's EHR modernization.

Digital Health Platform

Due to the expansion of care in the community, a rapidly growing number of women veterans, and increased specialty care needs, the need for more agility in our EHR has never been greater. We are looking beyond what VistA 4 will deliver in fiscal year 2018, and we are evaluating options for the creation of a Digital Health Platform to ensure that we have the best strategic approach to modernizing our EHR for the next 25 years.

The VA healthcare system must keep the veteran experience at its core and incorporate effective clinical management, hospital operations capability, and predictive analytics. We do not have all of this today with VistA.

To prepare for this new era in connected care, VA is looking beyond the EHR to a digital health platform that can better support veterans throughout the health continuum. These factors drive the need for continuous innovation and press us to plan further into the future.

The EHR is the central component of the digital health platform. However, an EHR by itself does not have all of the capabilities required to manage care in the community, respond to the changing needs of the veteran population, support clinical management, and provide the best overall veteran experience with the VA healthcare system.

We have conducted a business case outlining our vision for the digital health platform. Our goal is to have a modern and integrated healthcare system that would incorporate best-in-class technologies and standards to give it the look, feel, and capabilities users have come to expect in the private sector.

The digital health platform will be agile, and will leverage international open-source standards such as the Fast Healthcare Interoperability Resources (FHIR) framework.

FHIR converts granular health data points into standardized data formats already well known to healthcare IT application developers. The main goal of FHIR is to simplify implementation without sacrificing information integrity. VA is working with standards organizations and industry partners to further refine FHIR to allow the level of interoperability necessary for the functionality described above.

Health Level 7 International (HL7), a not-for-profit American National Standards Institute (ANSI)-certified standards developing organization, developed FHIR. HL7 has produced healthcare data exchange and information modeling standards since its founding in 1987. Emerging industry practices and lessons learned from previous standards frameworks informed HL7's development of FHIR.

The digital health platform will be a system of systems. It is not dependent on any particular EHR, and VA can integrate new or existing resources into the system without sacrificing data interoperability. One of the digital health platform's defining features will be system-wide cloud integration, a marked improvement over the more than 130 instances of VistA that we have today.

OI&T and VHA have agreed upon a strategy to guide the formal planning of modernizing VA healthcare delivery beyond the conclusion of VistA 4 in fiscal year 2018. Our vision calls for a digital health platform that will go beyond EHR modernization to create a better overall experience for the veteran throughout the continuum of care. We continue to work closely with VHA to formulate our approach and apply the rigor of formalized program planning, and will keep this subcommittee updated as the process unfolds.

SCHEDULING

We recognize the urgent need for improvement in VA's appointment scheduling system. We are evaluating the Veteran Appointment Request (VAR) application and the VistA Scheduling Enhancement (VSE) through simultaneous pilot programs. We are testing VAR at two facilities. We have been testing VSE at 10 locations, and are in the training phase for national deployment of VSE.

VAR is a new veteran facing capability allowing veterans to directly request primary care and mental health appointments as face-to-face, telephone, or video visits by specifying three desired appointment dates. The software allows established primary care patients to schedule and cancel primary care appointments directly with their already-assigned Patient Aligned Care Team provider.

We are testing VAR at two facilities in the VA New England Health System (Veterans Integrated Service Network (VISN) 1)—the VA Connecticut Healthcare System (West Haven) and the VA Boston Healthcare System (Jamaica Plain).

VSE updates the legacy command line scheduling application with a modern graphical user interface. This capability reduces the time it takes schedulers to enter new appointments, and makes it easier to see provider availability. VSE provides critical, near-term enhancements, including a graphical user interface, aggre-

gated facility views, profile scheduling grids, single queues for appointment requests, and resource management reporting.

Our 10 VSE Initial Operational Capability sites are:

1. Charles George VA Medical Center in Asheville, North Carolina
2. West Palm Beach VA Medical Center in West Palm Beach, Florida
3. Chillicothe VA Medical Center in Chillicothe, Ohio
4. VA Hudson Valley Health Care System in New York
5. Louis Stokes Cleveland VA Medical Center in Cleveland, Ohio
6. VA New York Harbor Health Care System in New York, New York
7. VA Salt Lake City Health Care System in Utah
8. VA Southern Arizona Health Care System in Tucson, Arizona
9. James H. Quillen VA Medical Center in Mountain Home, Tennessee
10. Washington, DC VA Medical Center in Washington, DC

VA schedulers tell us that they need a system focused purely on scheduling. VSE and VAR pilots are available now and show positive results in meeting the business requirements of our partners. In contrast, the Medical Appointment Scheduling System (MASS) project includes additional features that add complexity, leading us to put MASS on a strategic hold while our team ensures that we meet all requirements without undue processing difficulties. VA will carefully measure the results of the VSE pilot to determine the best use of resources that will meet veteran needs. VA is working hard to ensure that every technological tool and improvement makes judicious use of taxpayer dollars while providing solutions that support today's veterans' needs.

ENTERPRISE CYBERSECURITY STRATEGY

OI&T is facing the ever-growing cyber threat head on—we are committed to protecting all veteran information and VA data and limiting access to only those with the proper authority. This commitment requires us to think enterprise-wide about security holistically. We have dual responsibility to store and protect veterans records, and our strategy addresses both privacy and security.

In order to achieve and maintain the highest level of security, we need the active participation of everyone who accesses VA systems. We are providing comprehensive education to ensure that all VA employees remain vigilant. We have updated our National Rules of Behavior and our annual security training, and we are emphasizing continuous engagement with our employees. Information security poses constant challenges, and it is only through continuous reinforcement that our employees can support us in this battle.

The first step in our transformation was addressing enterprise cyber security. We delivered an actionable, far-reaching, cybersecurity strategy and implementation plan for VA to Congress on September 28, 2015, as promised. We designed our strategy to counter the spectrum of threat profiles through a multi-layered, in-depth defense model enabled through five strategic goals.

- Protecting Veteran Information and VA Data:* We are strongly committed to protecting data. Our data security approach emphasizes in-depth defense, with multiple layers of protection around all veteran and VA data.
- Defending VA's Cyberspace Ecosystem:* Providing secure and resilient VA information systems technology, business applications, publically accessible platforms, and shared data networks is central to VA's ability to defend VA's cyberspace ecosystem. Addressing technology needs and operations that require protection, rapid response protocols, and efficient restoration techniques is core to effective defense.
- Protecting VA Infrastructure and Assets:* Protecting VA infrastructure requires going beyond the VA-owned and VA-operated technology and systems within VA facilities to include the boundary environments that provide potential access and entry into VA by cyber adversaries.
- Enabling Effective Operations:* Operating effectively within the cyber sphere requires improving governance and organizational alignment at enterprise, operational, and tactical levels (points of service interactions). This requires VA to integrate its cyberspace and security capabilities and outcomes within larger governance, business operation, and technology architecture frameworks.
- Recruiting and Retaining a Talented Cybersecurity Workforce:* Strong cybersecurity requires building a workforce with talent in cybersecurity disciplines to implement and maintain the right processes, procedures, and tools.

VA's Enterprise Cybersecurity Strategy is a major step forward in VA's commitment to safeguarding veteran information and VA data within a complex environment. The strategy establishes an ambitious yet carefully crafted approach to

cybersecurity and privacy protections that enable VA to execute its mission of providing quality healthcare, benefits, and services to veterans, while delivering on our promise to keep veteran information and VA data safe and secure.

In addition, we have a large legacy issue that we need to address. In the fiscal year 2017 budget request, VA has increased requested spending on security to \$370 million, fully funding and fully resourcing our security capability for the first time. We are committed to eliminating our material weakness in fiscal year 2017, and these funds are enabling those efforts. In addition, VA is investing over \$50 million to create a data-management backbone. I want to thank this subcommittee for fully funding the President's request in this area.

IT TRANSFORMATION AND ENTERPRISE PROGRAM MANAGEMENT OFFICE

OI&T is transforming. Persistent internal challenges exist in delivering IT services, and external pressures have compelled us to change and adapt. Through the MyVA initiative, VA is modernizing its culture, processes, and capabilities to put veterans first, and is giving our team the opportunity to make a real difference in veterans' lives. This momentum is driving us to transform OI&T on behalf of our partners, our employees, and veterans.

EPMO is building our momentum in OI&T's transformation. EPMO hosts our biggest IT programs, including the Veterans Health Information Systems and Technology Architecture (VistA) Evolution, Interoperability, the Veterans Benefits Management System, and Medical Appointment Scheduling System (MASS). EPMO also supports the Federal Information Technology Acquisition Reform Act (FITARA) requirements.

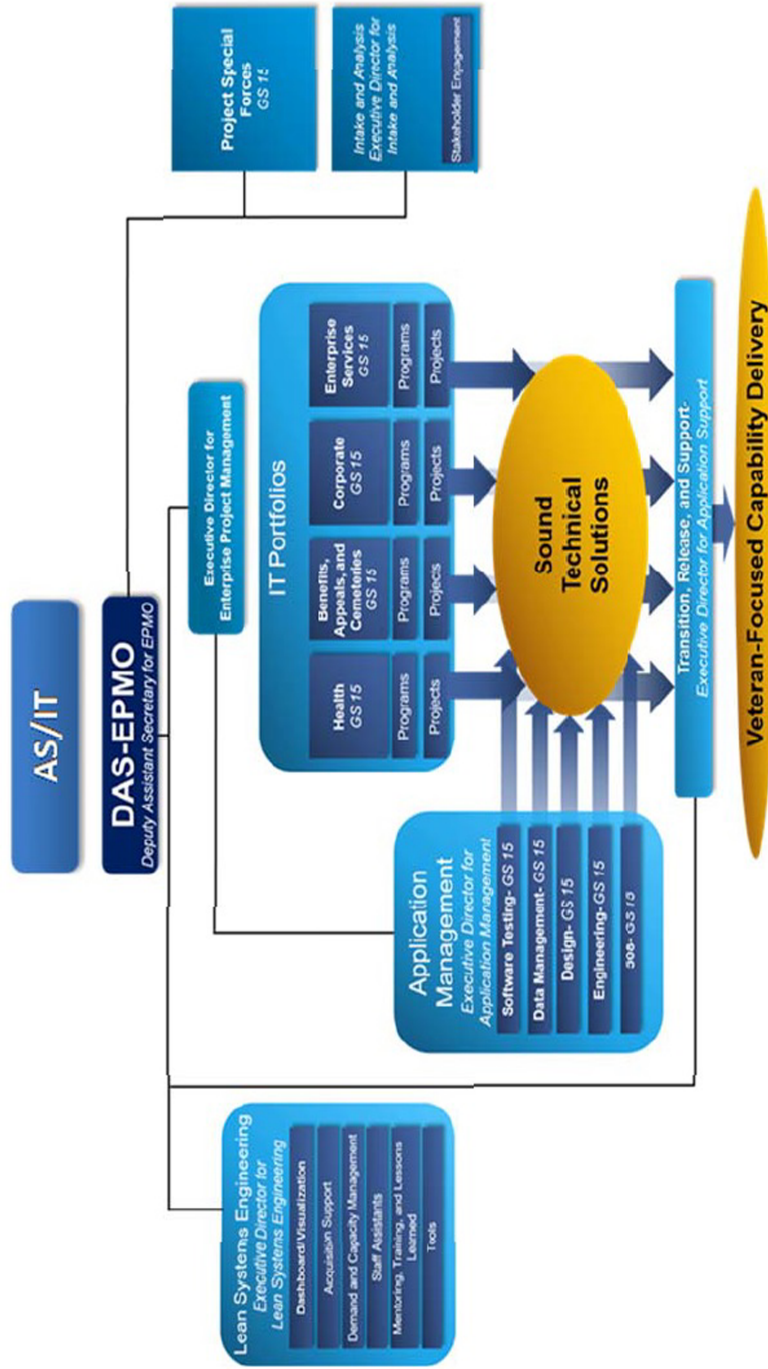


Fig. 1 – EPMO Organizational Chart

EPMO ensures alignment of program portfolios to strategic objectives and provides visibility and governance into the programs.

For enterprise initiatives, EPMO helps program and project teams to better develop execution plans, monitor progress, and report the status of these programs and projects. EPMO enables partnerships with IT architects for enterprise collaboration and serves as a program/project resource for the delivery of enterprise and cross-functional programs. This helps identify Shared Services Enterprise Programs and will help plan resource requirements with portfolios and architecture.

EPMO has already produced results. The Veteran-focused Integration Process (VIP) is a project-level based process that replaces the Program Management Accountability System (PMAS). VIP streamlines IT product release activities and increases the speed of delivering high-quality, secure capabilities to veterans. VIP is revolutionary because it utilizes a single release process—designed to eliminate redundancy in review, approval, and communications—that all VA organizations will follow by the end of 2016. These releases are scheduled on a 3-month cadence—an improvement over the previous 6-month standard—and allow greatly needed IT services to be delivered to veterans more frequently.

VIP reduces overhead and is more efficient and cost effective than PMAS. VIP's efficiencies include reducing the review process from 10 independent groups with 90 people to a single group of 30 people focused on ensuring that products meet specified, consistent criteria for release.

VIP focuses on *doing* rather than *documenting*, with a reduction of artifacts from more than 50 to just 7, plus the Authority to Operate, and the shift from a 6-month to a 3-month delivery cycle. Further, as a guarantee to our work, EPMO will ensure that product teams stay assigned to their projects for at least 90 days after the final deployment.

CONCLUSION

VA is at a historic crossroad and will need to make bold reforms that will shape how we deliver IT services and healthcare in the future, as well as improve the experiences of veterans, community providers, and VA staff. Throughout this transformation, our number one priority has and will always be the veteran—ensuring a safe and secure environment for their information and improving their experience is our goal.

As with all issues, VA strongly values the input and support of all its stakeholders. We realize the vital role they play in assisting us in providing timely, high-quality care to veterans, and we look forward to continued open dialogue.

This concludes my testimony, and I am happy to answer your questions.

Senator KIRK. Thank you. We will hear from Valerie Melvin, Director, Information Management and Technology Resources Issues, U.S. Government Accountability Office.

GOVERNMENT ACCOUNTABILITY OFFICE

STATEMENT OF VALERIE C. MELVIN, DIRECTOR, INFORMATION MANAGEMENT AND TECHNOLOGY RESOURCES ISSUES

Ms. MELVIN. Good morning, Chairman Kirk, Ranking Member Tester, and members of the subcommittee. Thank you for inviting me to testify today. VA's electronic health records system, VistA, is essential to the healthcare of veterans, and the Department has been taking steps over many years toward modernizing the system.

Also, for almost two decades, it has been working with DOD to advance electronic health record interoperability between their systems. However, while the Department has made progress in these efforts, significant IT challenges have contributed to our designating VA's healthcare as high risk, as you mentioned earlier.

At your request, my testimony today summarizes key findings and concerns about the Department's efforts based on previous reports that we have issued and VA's actions in response to our recommendations.

With regard to electronic health record interoperability, we have consistently pointed to a troubled path toward achieving this capability. Since 1998, VA has undertaken a patchwork of initiatives with DOD to increase health information exchange between their systems. These efforts have yielded increasing amounts of standardized health data, and made an integrated view of the data available to clinicians.

Nevertheless, a modernized VA electronic health record system that is fully interoperable with DOD's system is still years away.

In 2011, VA and DOD announced that they would develop one integrated system to replace both Departments' separate systems, and thus sidestep many of their previous challenges to achieving interoperability. However, after 2 years and approximately \$564 million reportedly spent, the Departments abandoned this plan, saying separate systems with interoperable capabilities between them could be achieved faster and at less overall cost.

Yet, as VA and DOD have proceeded on separate paths, we have continued to highlight three primary concerns with their approach. First, the Departments have lacked outcome-oriented goals and metrics to clearly define what they aim to achieve from their interoperability efforts. Thus, an important question remains as to when VA intends to define the extent of interoperability it needs to provide the highest quality of patient care, and when the Department intends to achieve this with DOD.

VA concurred with our recommendation that it develop such goals and metrics, and subsequently said it is defining an approach for identifying health outcome-oriented metrics and baseline measurements.

Second, VA's plan to modernize VistA raises concerns about duplication with DOD's system acquisition. The Departments have identified 10 areas in which they have common healthcare business needs, and a study has identified over 97 percent of inpatient requirements for electronic health record systems as being common to both Departments.

Further, despite our recommending that it do so, VA has yet to substantiate its claim that modernizing VistA, together with DOD acquiring a new system, can be achieved faster and at less cost than a single joint system. Thus, an important question that remains as to how VA and DOD can continue to justify the need for separate systems.

Finally, while VA has begun implementing VistA modernization plans, it is doing so amid uncertainty about its approach. A recent independent assessment of its health IT raised questions about the lack of any clear advances in the Department's efforts over the past decade, and recommended that VA assess its alternatives for delivering modernized capabilities.

Nevertheless, the Under Secretary for Health has maintained that the Department is following through with plans to complete a modernized system in fiscal year 2018, while the CIO has indicated that VA is reconsidering how best to meet its needs.

Thus, with regard to VA's electronic health record interoperability and system modernization efforts, uncertainty and important questions remain about what the Department is prepared to accomplish, in what timeframes, and at what costs.

This concludes my oral statement. I would be pleased to respond to your questions.

[The statement follows:]

PREPARED STATEMENT OF VALERIE C. MELVIN

GAO HIGHLIGHTS

Highlights of GAO-16-807T, a testimony before the Subcommittee on Military Construction, Veterans Affairs, and Related Agencies, Committee on Appropriations, U.S. Senate.

WHY GAO DID THIS STUDY

VA operates one of the Nation's largest healthcare systems, serving millions of veterans each year. For almost two decades, the department has undertaken a patchwork of initiatives with DOD to increase interoperability between their respective electronic health record systems. During much of this time, VA has also been planning to modernize its system. While the department has made progress in these efforts, it has also faced significant information technology challenges that contributed to GAO's designation of VA healthcare as a high risk area.

This statement summarizes GAO's August 2015 report (GAO-15-530) on VA's efforts to achieve interoperability with DOD's electronic health records system. It also summarizes key content from GAO's reports on duplication, overlap, and fragmentation of Federal Government programs. Lastly, this statement provides updated information on VA's actions in response to GAO's recommendation calling for an interoperability and electronic health record system plan.

WHAT GAO RECOMMENDS

In prior reports, GAO has made numerous recommendations to VA to improve the modernization of its IT systems. Among other things, GAO has recommended that VA address challenges associated with interoperability, develop goals and metrics to determine the extent to which the modernized systems are achieving interoperability, and address shortcomings with planning. VA generally agreed with GAO's recommendations.

View GAO-16-807T. For more information, contact Valerie C. Melvin at (202) 512-6304 melvinv@gao.gov.

ELECTRONIC HEALTH RECORDS

VA'S EFFORTS RAISE CONCERNS ABOUT INTEROPERABILITY GOALS AND MEASURES, DUPLICATION WITH DOD, AND FUTURE PLANS

WHAT GAO FOUND

Even as the Department of Veterans Affairs (VA) has undertaken numerous initiatives with the Department of Defense (DOD) that were intended to advance the ability of the two departments to share electronic health records, the departments have not identified outcome-oriented goals and metrics to clearly define what they aim to achieve from their interoperability efforts. In an August 2015 report, GAO recommended that the two departments establish a timeframe for identifying outcome-oriented metrics, define related goals as a basis for determining the extent to which the departments' systems are achieving interoperability, and update their guidance accordingly. Since that time, VA has established a performance architecture program that has begun to define an approach for identifying outcome-oriented metrics focused on health outcomes in selected clinical areas and has begun to establish baseline measurements. GAO is continuing to monitor VA's and DOD's efforts to define metrics and report on the interoperability results achieved between the departments.

Following an unsuccessful attempt to develop a joint system with DOD, VA switched tactics and moved forward with an effort to modernize its current system separately from DOD's planned acquisition of a commercially available electronic health record system. The department took this course of action even though, in May 2010, it identified 10 areas of healthcare business needs in common with those of DOD. Further, the results of a 2008 study pointed out that more than 97 percent of inpatient requirements for electronic health record systems are common to both departments. GAO noted that the departments' plans to separately modernize their systems were duplicative and recommended that their decisions should be justified

by comparing the costs and schedules of alternate approaches. The departments agreed with GAO's recommendations and stated that their initial comparison indicated that separate systems would be more cost effective. However, the departments have not provided a comparison of the estimated costs of their current and previous approaches. Further, both departments developed schedules that indicated their separate modernization efforts will not be completed until after the 2017 planned completion date for the previous joint system approach.

VA has developed a number of plans to support its development of its electronic health record system, called VistA, including a plan for interoperability and a road map describing functional capabilities to be deployed through fiscal year 2018. According to the road map, the first set of capabilities was delivered by the end of September 2014 and included a foundation for future functionality, such as an enhanced graphical user interface and enterprise messaging infrastructure. However, a recent independent assessment of health information technology (IT) at VA reported that lengthy delays in modernizing VistA had resulted in the system becoming outdated. Further, this study questioned whether the modernization program can overcome a variety of risks and technical issues that have plagued prior VA initiatives of similar size and complexity. Although VA's Under Secretary for Health has asserted that the department will complete the VistA Evolution program in fiscal year 2018, the Chief Information Officer has indicated that the department is reconsidering how best to meet its future electronic health record system needs.

Chairman Kirk, Ranking Member Tester, and members of the subcommittee:

Thank you for inviting me to testify at today's hearing on the Department of Veterans Affairs' (VA) electronic health record system—the Veterans Health Information Systems and Technology Architecture (VistA)—and the department's progress toward achieving interoperability with the Department of Defense (DOD). For almost two decades, VA has been working with DOD to advance electronic health record interoperability between their systems, in an attempt to achieve the seamless sharing of healthcare data and make patient data more readily available to healthcare providers, reduce medical errors, and streamline administrative functions. Also, for much of this same time period, VA has been planning and taking steps toward the modernization of its electronic health record system, with the intent of ensuring that the department can effectively deliver care for the millions of veterans and others that it serves.

Since 2001, we have issued a number of reports that addressed VA's progress, in conjunction with DOD, toward achieving interoperable electronic health records between their separate systems,¹ as well as its project with DOD to jointly develop a shared electronic health record system.² In addition, we have reported on actions that VA has taken with regard to modernizing its electronic health record system.³ While the department has made progress in these efforts, it has also faced significant information technology challenges that contributed to our designation of VA healthcare as a high risk area.⁴

At your invitation, my testimony today summarizes our key findings and concerns from this overall body of work. Specifically, in developing this testimony, we relied on our previous reports, as well as information that we obtained and reviewed on VA's actions in response to our previous recommendations. The reports cited throughout this statement include detailed information on the scope and methodology for our reviews.

¹GAO, *Electronic Health Records: Outcome-Oriented Metrics and Goals Needed to Gauge DOD's and VA's Progress in Achieving Interoperability*, GAO-15-530 (Washington, D.C.: Aug. 13, 2015); *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, GAO-11-318SP (Washington, D.C.: Mar. 1, 2011); *Electronic Health Records: DOD and VA Should Remove Barriers and Improve Efforts to Meet Their Common System Needs*, GAO-11-265 (Washington, D.C.: Feb. 2, 2011); *Electronic Health Records: DOD and VA Interoperability Efforts are Ongoing; Program Office Needs to Implement Recommended Improvements*, GAO-10-332 (Washington, D.C.: Jan. 28, 2010); *Electronic Health Records: DOD and VA Have Increased Their Sharing of Health Information, but More Work Remains*, GAO-08-954, (Washington, D.C.: July 28, 2008); and *Computer-Based Patient Records: Better Planning and Oversight By VA, DOD, and IHS Would Enhance Health Data Sharing*, GAO-01-459 (Washington, D.C.: Apr. 30, 2001).

²GAO, *Electronic Health Records: VA and DOD Need to Support Cost and Schedule Claims, Develop Interoperability Plans, and Improve Collaboration*, GAO-14-302 (Washington, D.C.: Feb. 27, 2014).

³GAO, *Veterans Affairs: Health Information System Far from Complete; Improved Project Planning and Oversight Needed*, GAO-08-805 (Washington, D.C.: Jun. 30, 2008).

⁴GAO, *High Risk Series: An Update*, GAO-15-290 (Washington, D.C.: Feb. 11, 2015).

The work upon which this statement is based was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

BACKGROUND

VA operates one of the largest healthcare systems in America, providing care to millions of veterans and their families each year. The department's health information system—VistA—serves an essential role in helping the department to fulfill its healthcare delivery mission. Specifically, VistA is an integrated medical information system that was developed in-house by the department's clinicians and information technology (IT) personnel, and has been in operation since the early 1980s.⁵ The system consists of 104 separate computer applications, including 56 health provider applications; 19 management and financial applications; 8 registration, enrollment, and eligibility applications; 5 health data applications; and 3 information and education applications. Within VistA, an application called the Computerized Patient Record System enables the department to create and manage an individual electronic health record for each VA patient.

Electronic health records are particularly crucial for optimizing the healthcare provided to veterans, many of whom may have health records residing at multiple medical facilities within and outside the United States. Taking these steps toward interoperability—that is, collecting, storing, retrieving, and transferring veterans' health records electronically—is significant to improving the quality and efficiency of care. One of the goals of interoperability is to ensure that patients' electronic health information is available from provider to provider, regardless of where it originated or resides.

Since 1998, VA has undertaken a patchwork of initiatives with DOD to allow the departments' health information systems to exchange information and increase interoperability.⁶ Among others, these have included initiatives to share viewable data in the two departments' existing (legacy) systems, link and share computable data between the departments' updated health data repositories, and jointly develop a single integrated system that would be used by both departments. Table 1 summarizes a number of these key initiatives.

TABLE 1: HISTORY OF THE DEPARTMENTS OF VETERANS AFFAIRS' AND DEFENSE'S ELECTRONIC HEALTH RECORD INTEROPERABILITY INITIATIVES

Initiative	Year begun	Description
Government Computer-Based Patient Record.	1998	This interface was expected to compile requested patient health information in a temporary, "virtual" record that could be displayed on a user's computer screen.
Federal Health Information Exchange.	2002	The Government Computer-Based Patient Record initiative was narrowed in scope to focus on enabling the Department of Defense (DOD) to electronically transfer service members' health information to the Department of Veterans Affairs (VA) upon their separation from active duty. The resulting initiative, completed in 2004, was renamed the Federal Health Information Exchange. This capability is currently used by the departments to transfer data from DOD to VA.
Bidirectional Health Information Exchange.	2004	This capability provides clinicians at both departments with viewable access to records on shared patients. It is currently used by VA and DOD to view data stored in both departments' health information systems.
Clinical Data Repository/Health Data Repository Initiative.	2004	This interface links DOD's Clinical Data Repository and VA's Health Data Repository to achieve a two-way exchange of health information.

⁵VistA began operation in 1983 as the Decentralized Hospital Computer Program. In 1996, the name of the system was changed to VistA.

⁶DOD uses a separate electronic health record system, the Armed Forces Health Longitudinal Technology Application, which consists of multiple legacy medical information systems developed from customized commercial software applications.

TABLE 1: HISTORY OF THE DEPARTMENTS OF VETERANS AFFAIRS' AND DEFENSE'S ELECTRONIC HEALTH RECORD INTEROPERABILITY INITIATIVES—Continued

Initiative	Year begun	Description
Virtual Lifetime Electronic Record.	2009	To streamline the transition of electronic medical, benefits, and administrative information between the departments, this initiative enabled access to electronic records for service members as they transition from military to veteran status and throughout their lives. It also expands the departments' health information-sharing capabilities by enabling access to private-sector health data.
Joint Federal Health Care Center.	2010	The Captain James A. Lovell Federal Health Care Center was a 5-year demonstration project to integrate DOD and VA facilities in the North Chicago, Illinois, area. It is the first integrated Federal healthcare center for use by beneficiaries of both departments, with an integrated DOD–VA workforce, a joint funding source, and a single line of governance.

Source: GAO summary of prior work and department documentation | GAO–16–807T.

In addition to the initiatives mentioned in table 1, VA has worked in conjunction with DOD to respond to provisions in the *National Defense Authorization Act for fiscal year 2008*,⁷ which required the departments to jointly develop and implement fully interoperable electronic health record systems or capabilities in 2009. Yet, even as the departments undertook numerous interoperability and modernization initiatives, they faced significant challenges and slow progress. For example, VA's and DOD's success in identifying and implementing joint IT solutions has been hindered by an inability to articulate explicit plans, goals, and timeframes for meeting their common health IT needs.

In March 2011, the secretaries of VA and DOD announced that they would develop a new, joint integrated electronic health record system (referred to as iEHR). This was intended to replace the departments' separate systems with a single common system, thus sidestepping many of the challenges they had previously encountered in trying to achieve interoperability. However, in February 2013, about 2 years after initiating iEHR, the secretaries announced that the departments were abandoning plans to develop a joint system, due to concerns about the program's cost, schedule, and ability to meet deadlines. The Interagency Program Office (IPO), put in place to be accountable for VA's and DOD's efforts to achieve interoperability,⁸ reported spending about \$564 million on iEHR between October 2011 and June 2013.

In light of VA and DOD not implementing a solution that allowed for the seamless electronic sharing of healthcare data, the *National Defense Authorization Act for fiscal year 2014*⁹ included requirements pertaining to the implementation, design, and planning for interoperability between the departments' electronic health record systems. Among other actions, provisions in the act directed each department to (1) ensure that all healthcare data contained in their systems (VA's VistA and DOD's Armed Forces Health Longitudinal Technology Application, referred to as AHLTA) complied with national standards and were computable in real time by October 1, 2014; and (2) deploy modernized electronic health record software to support clinicians while ensuring full standards-based interoperability by December 31, 2016.

In August 2015, we reported that VA, in conjunction with DOD, had engaged in several near-term efforts focused on expanding interoperability between their existing electronic health record systems. For example, the departments had analyzed data related to 25 "domains" identified by the Interagency Clinical Informatics Board and mapped health data in their existing systems to standards identified by the IPO. The departments also had expanded the functionality of their Joint Legacy Viewer—a tool that allows clinicians to view certain healthcare data from both departments in a single interface.

More recently, in April 2016, VA and DOD certified that all healthcare data in their systems complied with national standards and were computable in real time. However, VA acknowledged that it did not expect to complete a number of key ac-

⁷Public Law No. 110–181, § 1635, 122 Stat. 3, 460–463 (2008).

⁸The *National Defense Authorization Act for fiscal year 2008* called for the departments to set up an interagency program office to be a single point of accountability to implement fully interoperable electronic health record systems or capabilities by September 30, 2009. This office was chartered in January 2009.

⁹Public Law No. 113–66, Div. A, Title VII, § 713, 127 Stat. 672, 794–798 (Dec. 26, 2013).

tivities related to its electronic health record system until sometime after the December 31, 2016, statutory deadline for deploying modernized electronic health record software with interoperability. Specifically, the department stated that deployment of a modernized VistA system at all locations and for all users is not planned until 2018.

TOGETHER WITH DOD AND THE INTERAGENCY PROGRAM OFFICE, VA NEEDS TO
DEVELOP GOALS AND METRICS FOR ASSESSING INTEROPERABILITY

Even as VA has undertaken numerous initiatives with DOD that were intended to advance electronic health record interoperability, a significant concern is that these departments have not identified outcome-oriented goals and metrics to clearly define what they aim to achieve from their interoperability efforts, and the value and benefits these efforts are expected to yield. As we have stressed in our prior work and guidance,¹⁰ assessing the performance of a program should include measuring its outcomes in terms of the results of products or services. In this case, such outcomes could include improvements in the quality of healthcare or clinician satisfaction. Establishing outcome-oriented goals and metrics is essential to determining whether a program is delivering value.

The IPO is responsible for monitoring and reporting on VA's and DOD's progress in achieving interoperability and coordinating with the departments to ensure that these efforts enhance healthcare services. Toward this end, the office issued guidance that identified a variety of process-oriented metrics to be tracked, such as the percentage of health data domains that have been mapped to national standards. The guidance also identified metrics to be reported that relate to tracking the amounts of certain types of data being exchanged between the departments, using existing capabilities. This would include, for example, laboratory reports transferred from DOD to VA via the Federal Health Information Exchange and patient queries submitted by providers through the Bidirectional Health Information Exchange.

Nevertheless, in our August 2015 report, we noted that the IPO had not specified outcome-oriented metrics and goals that could be used to gauge the impact of the interoperable health record capabilities on the departments' healthcare services. At that time, the acting director of the IPO stated that the office was working to identify metrics that would be more meaningful, such as metrics on the quality of a user's experience or on improvements in health outcomes. However, the office had not established a timeframe for completing the outcome-oriented metrics and incorporating them into the office's guidance.

In the report, we stressed that using an effective outcome-based approach could provide the two departments with a more accurate picture of their progress toward achieving interoperability, and the value and benefits generated. Accordingly, we recommended that the departments, working with the IPO, establish a timeframe for identifying outcome-oriented metrics; define related goals as a basis for determining the extent to which the departments' modernized electronic health record systems are achieving interoperability; and update IPO guidance accordingly.

Both departments concurred with our recommendations. Further, since that time, VA has established a performance architecture program that has begun to define an approach for identifying outcome-oriented metrics focused on health outcomes in selected clinical areas, and it also has begun to establish baseline measurements. We intend to continue monitoring the department's efforts to determine how these metrics define and report on the results achieved by interoperability between the departments.

VA'S PLAN TO MODERNIZE VISTA RAISES CONCERN ABOUT DUPLICATION WITH DOD'S
ELECTRONIC HEALTH RECORD SYSTEM ACQUISITION

Following the termination of the iEHR initiative, VA moved forward with an effort to modernize VistA separately from DOD's planned acquisition of a commercially available electronic health record system. The department took this course of action even though it has many healthcare business needs in common with those of DOD. For example, in May 2010, VA (and DOD) issued a report on medical IT to Congressional committees that identified 10 areas—inpatient documentation, outpatient documentation, pharmacy, laboratory, order entry and management, sched-

¹⁰GAO, *Electronic Health Record Programs: Participation Has Increased, but Action Needed to Achieve Goals, Including Improved Quality of Care*, GAO-14-207 (Washington, D.C.: March 6, 2014); *Designing Evaluations: 2012 Revision*, GAO-12-208G (Washington, D.C.: Jan. 31, 2012); *Performance Measurement and Evaluation: Definitions and Relationships*, GAO-11-646SP (Washington, D.C.: May 2, 2011); and *Executive Guide: Effectively Implementing the Government Performance and Results Act*, GAO/GGD-96-118 (Washington, D.C.: June 1, 1996).

uling, imaging and radiology, third-party billing, registration, and data sharing—in which the departments have common business needs.¹¹ Further, the results of a 2008 study pointed out that over 97 percent of inpatient requirements for electronic health record systems are common to both departments.¹²

We also issued several prior reports regarding the plans for separate systems, in which we noted that the departments did not substantiate their claims that VA's VistA modernization, together with DOD's acquisition of a new system, would be achieved faster and at less cost than developing a single, joint system. Moreover, we noted that the departments' plans to modernize their two separate systems were duplicative and stressed that their decisions should be justified by comparing the costs and schedules of alternate approaches.¹³

We recommended that VA and DOD develop cost and schedule estimates that would include all elements of their approach (i.e., modernizing both departments' health information systems and establishing interoperability between them) and compare them with estimates of the cost and schedule for developing a single, integrated system. If the planned approach for separate systems was projected to cost more or take longer, we recommended that the departments provide a rationale for pursuing such an approach.

VA, as well as DOD, agreed with our recommendations and stated that an initial comparison had indicated that the approach involving separate systems would be more cost effective. However, as of June 2016, the departments had not provided us with a comparison of the estimated costs of their current and previous approaches. Further, with respect to their assertions that separate systems could be achieved faster, both departments had developed schedules which indicated that their separate modernization efforts are not expected to be completed until after the 2017 planned completion date for the previous single-system approach.

VA HAS BEGUN TO IMPLEMENT VISTA MODERNIZATION PLANS AMID UNCERTAINTY ABOUT ITS APPROACH; THE DEPARTMENT IS CURRENTLY RECONSIDERING HOW TO PROCEED

As VA has proceeded with its program to modernize VistA (known as VistA Evolution), the department has developed a number of plans to support its efforts. These include an interoperability plan and a road map describing functional capabilities to be deployed through fiscal year 2018. Specifically, these documents describe the department's approach for modernizing its existing electronic health record system through the VistA Evolution program, while helping to facilitate interoperability with DOD's system and the private sector. For example, the VA *Interoperability Plan*, issued in June 2014, describes activities intended to improve VistA's technical interoperability,¹⁴ such as standardizing the VistA software across the department to simplify sharing data.

In addition, the *VistA 4 Roadmap*, last revised in February 2015, describes four sets of functional capabilities that are expected to be incrementally deployed during fiscal years 2014 through 2018 to modernize the VistA system and enhance interoperability. According to the road map, the first set of capabilities was delivered by the end of September 2014 and included access to the Joint Legacy Viewer and a foundation for future functionality, such as an enhanced graphical user interface and enterprise messaging infrastructure.

Another interoperable capability that is expected to be incrementally delivered over the course of the VistA modernization program is the enterprise health man-

¹¹Department of Defense and Department of Veterans Affairs Joint Executive Council and Health Executive Council, *Report to Congress on Department of Defense and Department of Veterans Affairs Medical Information Technology*, required by the explanatory statement accompanying Department of Defense Appropriations Act 2010 (Public Law 111-118).

¹²Booz Allen Hamilton, *Report on the Analysis of Solutions for a Joint DOD-VA Inpatient EHR and Next Steps*, Task Order W81XWH-07-F-0353: Joint DOD-VA Inpatient Electronic Health Record (EHR) Project Support, July 2008.

¹³GAO, *Electronic Health Records: VA and DOD Need to Support Cost and Schedule Claims, Develop Interoperability Plans, and Improve Collaboration*, GAO-14-302 (Washington, D.C.: Feb. 27, 2014). See also GAO, *2014 Annual Report: Additional Opportunities to Reduce Fragmentation, Overlap, and Duplication and Achieve Other Financial Benefits*, GAO-14-343SP (Washington, D.C.: Apr. 8, 2014), and *2015 Annual Report: Additional Opportunities to Reduce Fragmentation, Overlap, and Duplication and Achieve Other Financial Benefits*, GAO-15-404SP (Washington, D.C.: Apr. 14, 2015).

¹⁴Technical interoperability refers to the ability of multiple systems to be able to transmit data back and forth.

agement platform.¹⁵ The department has stated that this platform is expected to provide clinicians with a customizable view of a health record that can integrate data from VA, DOD, and third-party providers. Also, when fully deployed, VA expects the enterprise health management platform to replace the Joint Legacy Viewer.

However, a recent independent assessment of health IT at VA reported that lengthy delays in modernizing VistA had resulted in the system becoming outdated.¹⁶ Further, this study questioned whether the VistA Evolution program to modernize the electronic health record system can overcome a variety of risks and technical issues that have plagued prior VA initiatives of similar size and complexity. For example, the study raised questions regarding the lack of any clear advances made during the past decade and the increasing amount of time needed for VA to release new health IT capabilities. Given the concerns identified, the study recommended that VA assess the cost versus benefits of various alternatives for delivering the modernized capabilities, such as commercially available off-the-shelf electronic health record systems, open source systems, and the continued development of VistA.

In speaking about this matter, VA's Under Secretary for Health has asserted that the department will follow through on its plans to complete the VistA Evolution program in fiscal year 2018. However, the Chief Information Officer has also indicated that the department is taking a step back in reconsidering how best to meet its electronic health record system needs beyond fiscal year 2018. As such, VA's approach to addressing its electronic health record system needs remains uncertain.

In summary, VA's approach to pursuing electronic health record interoperability with DOD has resulted in an increasing amount of standardized health data and has made an integrated view of that data available to department clinicians. Nevertheless, a modernized VA electronic health record system that is fully interoperable with DOD's system is still years away. Thus, important questions remain about when VA intends to define the extent of interoperability it needs to provide the highest possible quality of care to its patients, as well as how and when the department intends to achieve this extent of interoperability with DOD. In addition, VA's unsuccessful efforts over many years to modernize its VistA system raise concern about how the department can continue to justify the development and operation of an electronic health record system that is separate from DOD's system, even though the departments have common system needs. Finally, VA's recent reconsideration of its approach to modernizing VistA raises uncertainty about how it intends to accomplish this important endeavor.

Chairman Kirk, Ranking Member Tester, and members of the subcommittee, this concludes my prepared statement. I would be pleased to respond to any questions that you may have.

Senator KIRK. Thank you. Dr. Thompson, we will hear your statement.

DEPARTMENT OF DEFENSE

STATEMENT OF DR. LAUREN THOMPSON, DIRECTOR, DOD/VA INTER-AGENCY PROGRAM OFFICE

Dr. THOMPSON. Chairman Kirk and Ranking Member Tester, thank you for the opportunity to address the Subcommittee on Military Construction and Veterans Affairs. I am honored to represent the Department of Defense and Department of Veterans Affairs as Director of the DOD/VA Interagency Program Office, or IPO.

As part of the current strategy to achieve the President's goal of electronic health record interoperability and modernization, the IPO was re-chartered in 2013 to serve as the single point of accountability for identifying, monitoring, and improving the health

¹⁵The enterprise health management platform is a graphical user interface that is intended to present patient information to support medical care to the veteran from a standardized set of information, regardless of where the veteran receives care. Clinical information captured at the point of care is made available to all authorized providers across the enterprise.

¹⁶*Independent Assessment of the Health Care Delivery Systems and Management Processes of the Department of Veteran Affairs, Integrated Report* (Sept. 1, 2015).

data standards to create seamless integration of health data between the DOD, the VA, and private healthcare providers.

Health data interoperability is essential to improving the care delivered to our servicemembers, veterans, and their beneficiaries. Working closely with the Office of the National Coordinator for Health Information Technology (ONC) and standards development organizations, the IPO helps identify, implement, and map the appropriate national standards associated with both Departments' electronic health record systems.

Assisting the Departments with their interoperability and modernization milestones, the IPO serves as a central resource as DOD and VA develop, adopt, and update a technical framework that is clinically driven to align identified standards with approved use cases.

To that end, the IPO monitors industry best practices and provides technical guidance to facilitate data interchange between the Departments. We also serve as a conduit for the Departments' engagement with ONC and standards development organizations to facilitate knowledge sharing on a national level.

We have been integrated into ONC's planning for a national health IT ecosystem and we are key contributors in the development of ONC's nationwide interoperability roadmap that seeks to advance nationwide health IT.

The IPO also plays an important role in monitoring the progress that DOD and VA continue to make in enhancing their interoperability efforts. Specifically, we have established a health data interoperability metrics dashboard to identify Department-specific targets for transactional metrics and trends.

In addition to these efforts, last year the Government Accountability Office recommended that DOD and VA adopt outcome oriented metrics to provide a basis for assessing and reporting on the progress of the Departments' interoperability efforts. We concurred with GAO's guidance, and I am pleased to report that we have made substantial progress addressing the recommendations.

Specifically, we have been working closely with ONC, DOD, VA, and other public and private partners to develop outcome oriented metrics that not only measure the impact interoperability has on healthcare but specifically focuses on the impact interoperability has on patients and providers.

The IPO is fully committed to assisting DOD and VA as they continue to enhance health data interoperability between their electronic health record systems and the private sector, which will serve as the foundation for a patient-centric healthcare experience, seamless care transition and improved care for our servicemembers, their families, and our veterans.

Again, thank you for the opportunity today, and I look forward to your questions.

[The statement follows:]

PREPARED STATEMENT OF DR. LAUREN THOMPSON

Chairman Kirk and Ranking Member Tester, thank you for the opportunity to address the Subcommittee on Military Construction and Veterans Affairs. I am honored to represent the Departments of Defense and Veterans Affairs as the Director of the DOD/VA Interagency Program Office (IPO).

As part of the current strategy to achieve the President's goal of electronic health record interoperability and modernization, the IPO was rechartered in 2013 to serve as the single point of accountability for identifying, monitoring, and approving the health data standards to create seamless, integration of health data between DOD, the VA, and private healthcare providers.

As you know, DOD and VA are two of our Nation's largest healthcare systems, and share more health data than any two other major systems. Currently, the Departments share more than 1.5 million data elements daily, and more than 100,000 DOD and VA clinicians are able to view the real-time records of the more than 7 million patients who have received care from both Departments.

Health data interoperability is essential to improving the care delivered to our servicemembers, veterans, and their beneficiaries. Working closely with the Office of the National Coordinator for Health Information Technology (ONC) and Standards Development Organizations, the IPO helps identify, implement, and map the appropriate national standards associated with both Departments' electronic health record systems. These steps are vital and provide the building blocks necessary for the Departments to achieve health data interoperability as required by the fiscal year 2014 National Defense Authorization Act. In fact, earlier this year the Departments met this requirement and provided certification to Congress that their systems are interoperable with an integrated display of data.

The IPO is a collaborative entity, comprised of staff from both Departments with technical expertise in health data standards and information sharing. Assisting the Departments with their interoperability and modernization milestones, we serve as a central resource as DOD and VA develop, adopt, and update a technical framework that is clinically driven to align identified standards with approved use cases. To that end, the IPO monitors industry best practices and provides technical guidance to facilitate data interchange between the Departments. We also serve as a conduit for the Departments' engagement with ONC and Standards Development Organizations to facilitate knowledge sharing on a national level; we have been integrated into ONC's planning for a national health IT ecosystem, and were key contributors in the development of ONC's Interoperability Roadmap that seeks to advance nationwide IT interoperability.

The IPO also plays an important role in monitoring the progress that DOD and VA continue to make in enhancing their interoperability efforts. Specifically, we have established a Health Data Interoperability Metrics Dashboard to identify Department-specific targets for transactional metrics and trends. We share this and much more information with Congress in our quarterly Data Sharing Reports and regular briefs with Committee staff. In addition to these efforts, last year, the Government Accountability Office (GAO) recommended that DOD and VA adopt outcome-oriented metrics to provide a basis for assessing and reporting on the progress of the Departments' interoperability efforts. We concurred with GAO's guidance and I am pleased to report that we have made substantial progress to address this recommendation. Specifically we have been working closely with ONC, DOD, VA, and other public and private partners to develop outcome-oriented metrics that not only measure the impact interoperability has on healthcare but specifically focus on the impact interoperability has on our patients and providers.

The field of health data is constantly evolving. For the Departments to maintain and enhance the interoperability of their electronic health record systems, we must continue our collaboration with ONC and industry partners to ensure that DOD and VA map their data to the latest national standards, and that ONC and the private sector can continue to learn from our experience.

The IPO is fully committed to assisting DOD and VA as they continue to enhance health data interoperability between their electronic health record systems and the private sector. Enabling health information exchange between EHR systems in DOD, VA, and the private sector will serve as the foundation for a patient-centric healthcare experience, seamless care transitions, and improved care for our servicemembers, their families, and our veterans. As IPO Director, I am happy to answer any questions you may have on the IPO and work of DOD and VA to identify and adopt health data standards.

Again, thank you for this opportunity, and I look forward to your questions.

Senator KIRK. Thank you. Let me start with questions. I will ask LaVerne, since you have been in office for about a year now, and coming out of J&J and Dell Computer, can you give me your first impressions when you came into the VA IT business?

CIO COUNCIL IMPRESSION OF VA IT

Ms. COUNCIL. Thank you for the question. I think one of the biggest surprises was the lack of an integrated data management capability, which I think is critical to being able to share the right information, have the right analytics, and be able to disseminate the information out to everyone.

Also, the number of custom systems, having well over 800 different applications out, that tends to be a fairly high number, and most organizations might have a few but not that many, and also the age of those systems was also something that was surprising to me.

In addition, not having a program or project management office.

OVER 800 VA APPLICATIONS

Senator KIRK. Let me interrupt you to make a key point. What you are telling the committee is you have several hundred customization projects underway to current software that would make you one of the largest software development operations in the country right there at VA, not a core competency for you guys.

Ms. COUNCIL. Most of the work is managed by contractors, to your point, we have about 218 projects going on right now, and the level of customization is a concern because it does make it harder to maintain those systems.

Senator KIRK. Thank you.

Ms. COUNCIL. Thank you.

Senator KIRK. Over to you.

INTEROPERABILITY AND ENTERPRISE HEALTH MANAGEMENT
PLATFORM

Senator TESTER. Thank you, Mr. Chairman. Thank you all for your testimony. Secretary Council, you mentioned in your testimony that deployment of the Joint Legacy Viewer (JLV) has been a major step towards interoperability. As you well know, this is a read-only application, and we know the enterprise health management platform (eHMP) will eventually be a replacement, and it will bring more capabilities to add to the record, I would assume.

On April 8, you jointly certified with the DOD interoperability. Could you tell me, number one, how interoperability will be improved as you implement the enterprise health management platform?

Ms. COUNCIL. Thank you for the question. I will start and then I will pass it over to Mr. Waltman to add some more parts to it. Clearly, being able to certify interoperability of the JLV was exciting. We have to date 178,000 users of the JLV today. We have used it to support about 7 million different intentions, and going forward, the eHMP is going to augment it. David, if you want to share some information, that would be great.

Mr. WALTMAN. Thank you, Ms. Council, Senator. The enterprise health management platform is a great opportunity for us to build on the interoperable information exchange base.

Senator TESTER. I got you. Let me cut right to it, because my time is going to be limited. Right now—

INTEROPERABILITY DEFINITION

Senator KIRK. We are getting to the heart of this hearing, would you please define “interoperability” as you understand it from the NDAA?

Mr. WALTMAN. Yes, Mr. Chairman. The NDAA required us to have an exchange of all health record information between the two departments.

Senator KIRK. I will read to you Webster’s definition of “interoperability.” Interoperability is “The ability of a system to work with and use another system.”

Mr. WALTMAN. Understand.

Senator KIRK. In the case of the Joint Legacy Viewer, which is kind of a kludgy Band-Aid that we have. When I talked to Cerner, they told me it does not provide the x-ray data of a patient, so we would say now welcome to the VA, we have no x-ray data on you from all the x-rays, the Navy, the Army, Air Force did for you.

Mr. WALTMAN. Yes, Mr. Chairman. Agree and understand that definition.

Senator KIRK. I think most members of this committee would say that is not interoperable.

Mr. WALTMAN. Understand. I think that—

JOINT LEGACY VIEWER AND IMAGING ISSUES

Senator KIRK. What about CAT scans?

Mr. WALTMAN. Right. The data that we are exchanging now is all of the health record data, which includes 25 domains of standardized data where standards exist, so that includes progress notes, lab reports. It includes the reports from all of those imaging studies.

As we know, the size of data for the studies themselves is exponentially larger than—

Senator KIRK. If we had a veteran who had a spot on his lung indicating cancer, the Joint Legacy Viewer would not share that with the VA so VA would not know about that emerging cancerous situation, is that correct?

Mr. WALTMAN. I think Dr. Nebeker may be able to answer this question in a clinically precise way, but I would say there would be a radiology report from the study that was done identifying the spot, and that report is available today.

Senator KIRK. This is a narrative thing?

Mr. WALTMAN. That is correct.

Senator KIRK. I am actually talking about the imagery.

Mr. WALTMAN. Right.

Senator KIRK. Most people would think that a medical record includes x-rays that they had taken when they were in the service.

Mr. WALTMAN. Yes, and that is certainly part of the medical record, and the report that the radiologist completes after such imaging studies are done are what other providers typically use to address findings from those reports and follow their course of care.

That said, we are working and in the process now of delivering the image viewer component of the Joint Legacy Viewer, which will be available in the next release, and now the challenge there is to

make sure that we have the bandwidth and ability to exchange the images when they are needed to be exchanged for clinical purposes.

I think the point was that we wanted to ensure we have interoperability and exchange of all the clinically relevant information, so Dr. Nebeker, you may want to make a comment about images and reports and their relevance.

Dr. NEBEKER. Images are critical to the provision of medicine. In most cases the narrative is the most important part of that because as people are planning operations or leading up to an operation or planning treatment, most of us—I am a geriatrician and primary care provider as well as a consultant, I usually rely on the interpretation because I am not expert in all the various domains of radiology to make those types of calls.

Definitely for many types of operations, it is critical to have the images, so we agree with your statement.

For the interoperability, certification of interoperability, there was fairly clear instruction in the statute and also in the response, and Ms. Thompson may be able to take this on a little bit more, but interoperability is a concept. You brought up the dictionary. It is really critical to have use cases about what are the problems we are trying to solve with interoperability.

Clinicians, between VA and DOD, jointly developed a number of use cases, and the conditions for interoperability were meant for those use cases. Ms. Thompson, if you would like to elaborate.

Senator KIRK. This is the only subcommittee that has joint jurisdiction of both DOD and VA, so we are the only guys that can really ride herd on something like bringing you two together, DOD and VA together.

Senator TESTER. I just want to continue real quick. I actually am going to be very interested to hear Dr. Cassidy's questions on this because you are in the business.

You were asked a question and your response was what we are trying to solve here, what we are trying to solve here is not have to rewrite the book again. Quite frankly, where the person was hurt, how the person was hurt, the x-rays, the CAT scans, all that would be on there so that when a veteran is going to get rated, it would be a much easier process, and it would not take forever, and it would not be like a very complicated math problem. It would be right there.

The information has to be there. It is interesting that you would say the notes are more important than the pictures. I am not a doctor, but do you ever do a surgery and not look at pictures of the x-rays and that kind of stuff? You just start cutting based on notes?

Dr. NEBEKER. Yes, sir, I completely agree that for operations the pictures are critical.

FULL INTEROPERABILITY TIMETABLE

Senator TESTER. Okay, good. The question is when and at what point in time are we going to be interoperable to the point where the information that the DOD has, and by the way, if it is not good information coming to you, you do not have good information, but assuming they give you the information, you will have all the information on those medical records in your hands, when is that going to happen?

Ms. COUNCIL. The image viewer is going into deployment to get these images moved into the JLV—

Senator TESTER. When does that happen?

Ms. COUNCIL. September of this year.

Senator TESTER. You will have access to x-rays, CAT scans?

Ms. COUNCIL. Of the records that are in JLV, yes. In addition, I think it goes one step further, and the one step further is why I think enterprise data management is so important. You are both 100 percent correct.

We have to have seamless movement of that information from DOD as far as I am concerned at the Active Duty point of the enlisted person, even knowing before they become a veteran, and we have to work on that. That is one of the reasons that the enterprise level is so important versus just having a pipe that is only health.

Remember, there is much more to the veteran than just their healthcare. It is their benefits, it is their ability to use our National Cemetery System, it is all the things they have a right to, education, and we have to do a much better job of creating that seamlessness.

To your point, the semantic use of that information is that information comes one to one, and the veteran does not have anything to do to ensure that we have their data. That is the most important thing and that is what we are striving for.

Senator TESTER. I have got it. I have been here almost 10 years now, and I serve on the Senate Veterans' Affairs Committee, as does Senator Cassidy, as does Senator Murray and others, as well as Senator Boozman.

The very first meetings that I was at in Senate Veterans' Affairs, we talked about interoperability between the DOD and VA. That was in 2007. We are 10 years later. We have had incredible advances in technology, just flying up through the roof. Yet I still have the feeling—

JOINT LEGACY VIEWER LACKING ANALYTICS

Senator KIRK. If the Senator will suspend, I want to add on to that. When I talked to Cerner this morning, they talked about something that really addresses a key VA priority, which is suicide prevention. I understand from the press we had the suicide hotline that had not enough responses for people. One of my constituents had called in and also committed suicide after they called back.

The exciting thing for what Cerner told me was they had an algorithm that could predict suicide likelihood. When I talked to Cerner, they said the Joint Legacy Viewer cannot do analytics like this.

David, you are nodding your head. This critical upgrade in suicide prevention, they are not capable of doing with this Joint Legacy Viewer.

Senator TESTER. You talked about the images coming in in September. When do you get to a point where you are satisfied with the transfer of information being complete, to deal with issues like the chairman said and others?

Mr. WALTMAN. Thank you, Senator. I was nodding my head because I agree 100 percent, JLV is 100 percent incapable of those analytics. JLV, of course, was—

ANALYTIC CAPABILITY

Senator TESTER. Okay, I have you. When do we get to a point where you are capable of those analytics?

Mr. WALTMAN. That is the enterprise health management comes in, health management platform, and I will allude to the concept of the digital health platform which Ms. Council has talked about.

We need an integrated capability of all the clinical data for process management, for managing clinical pathways, clinical workflows, integrated with analytics which can use algorithms such as described by the chairman, which can predict based on the information in the record, based on pathways and courses of action available, what interventions should be taken and what the processes and care pathway should be.

Dr. Nebeker can talk in a little bit more detail about clinically what that looks like.

Senator TESTER. Do not have to do that. I asked you a question, and the question was when are you going to be able to do this. I am going to tell you I can filibuster you better than you can filibuster me. The question is pretty clear, and you are smart people. Tell me when you are going to be able to achieve this level. That is it. Is it going to be next year, 5 years, 10 years, next month?

Mr. WALTMAN. 2018.

Senator TESTER. 2018. January 1, 2018?

Mr. WALTMAN. The end of fiscal year, so middle of calendar year 2018.

Senator TESTER. When we have this hearing on July 15, 2018, you are going to be totally interoperable, absolutely there is going to be no gaps, the system is going to work?

Mr. WALTMAN. I would like to give a yes or no answer to that question but I cannot. What I can tell you is that we will have the ability to incorporate all of the information between the Departments, to use it, process with the type of algorithms that are being discussed, but I cannot say that every use case that we may have identified for use of interoperable data will be used.

Senator TESTER. Thank you. Thank you, Mr. Chairman.

Senator KIRK. Mrs. Capito.

Senator CAPITO. Thank you, Mr. Chairman. I want to thank all of you as well. I guess I am going to say I am a bit confused because Secretary Council said that on April 8, you were certified interoperable. Then Ms. Melvin said that an interoperability system is still years away. I think that was part of your statement.

Help me with those—that seems like a direct conflict there. Are we talking about the same thing? How do I square those two statements?

Ms. COUNCIL. I am going to try to simplify this and talk in normal ease versus technical ease.

Senator CAPITO. Thank you. I am grateful for that.

Ms. COUNCIL. Let me start with the concept of a system. The system, if you want to think about it, the inner workings, the system, what all works together. The data is the artifact coming out of the system, going into the system, and it actually can sit separately from the system—data, system.

I think Ms. Melvin was referring to an engaged system, being on the same system platform, and therefore, assuming interoperability would be driven by being on the same system platform.

SINGLE VA AND DOD EHR SYSTEM

Senator CAPITO. What is the objection of having a single system, as she mentioned?

Ms. COUNCIL. The reality of a single system, in order for you to ensure that you are going to drive the same level of data out of that system is that you would have to sit on the same instance, time of that system, not just the same name system, but the same capabilities, no difference in that system.

Senator CAPITO. Why can we not do that?

Ms. COUNCIL. The reality is there is no system that can support both DOD and VA at the same time, it will not scale.

Senator CAPITO. We have Amazon that can scale.

Ms. COUNCIL. At the same time, there is no system that will support all the things you have to do, the clinical management and the clinical operations at the same time.

Senator CAPITO. Ms. Melvin, do you have any comment on that?

FULL INTEROPERABILITY

Ms. MELVIN. I would start by saying that we are not trying to define what an interoperable system is for VA. We have been looking at this over the years, and as has been discussed, the question has been and what they have been working toward as we understand it is a fully interoperable capability.

When we talk about fully interoperable, we are asking them to define what they mean by the data exchange, what has to be exchanged, what capabilities and to what extent. Those are questions that have not been answered yet in terms of when you talk about full interoperability, exactly what is it.

What kind of performance measures and metrics would you put in place to know that you have gotten the full capability when you get there.

Senator CAPITO. Excuse me. For the discussion on whether your x-rays and tests and everything are a part of that, are you including that as part of defining what "interoperability" is?

Ms. MELVIN. Absolutely. It is understanding all of the medical information, all of the systems that information would have to come through, and what are they doing in the way of the exchange capability, how will they know when all of the information that they need to ensure that a patient's healthcare is fully taken care of, how will they know when they have gotten to that point or they have a system that gets to that point.

We did encourage one system, and they in fact had stated that one system was the way to go when they went with an integrated electronic health record approach in 2011.

ONE SEAMLESS SYSTEM

Senator KIRK. I would say that they are coming up with two different systems, and the only government bureaucracy that can mandate one system—my preferred outcome would be since La-

Verne owns about 20 million patients and Dr. Waltman owns about 2 million patients, that it is only this committee that can mandate a VA lead to make sure we have one seamless system.

PRIVATE PROVIDERS AND HEALTH INFORMATION EXCHANGE

Senator CAPITO. In my final 2 minutes, let me ask you, Dr. Thompson, because you mentioned private sources, so we have just created the Choice card, we now have our veterans going out to private providers because of the issue of getting an appointment timely, distance, all the things we know exist, and this has been going on in the VA system for a while, but we have expanded it by the Choice card, how is this going to be interoperable with private providers? You have no guarantee.

I will just give you an example in my State, West Virginia, we have a lot of issues with broadband deployment. We just started a broadband caucus yesterday, I did, to meet this issue. What do you anticipate in this area? That is my final question.

Dr. THOMPSON. I can speak to DOD, and I would defer to Ms. Council to speak for the VA. The DOD participates in what is called the eHealth Exchange, which is a public/private partnership of both government, including DOD, providers, and private sector providers, providing data through health information exchange organizations.

Senator CAPITO. Would you say your private providers are on the same e-records as the DOD?

Dr. THOMPSON. For those providers that are participants in eHealth Exchange, they do have access to the DOD data.

Senator CAPITO. There could be providers that were not on the eHealth Exchange?

Dr. THOMPSON. Providers who are not presently on the eHealth Exchange do not have access to that data.

Senator CAPITO. You could have an active military person go to a private physician and they could not be on this eHealth Exchange, and they would not have that data back at the DOD? Am I hearing that correctly?

Dr. THOMPSON. That is correct presently. The DOD is moving aggressively to increase the number of health information exchanges and providers that are participants.

Senator CAPITO. This layers on a whole other issue. Quickly.

Ms. COUNCIL. We do participate in HIE at the VA with over 1,500 of those in the United States. What that is is a standardized data structure, and that is what I was getting to, the data. At the end of the day, that is what you have to have to be interoperable, and you need a standard across that.

Within the United States today, the standard is called health information exchange or HIE, and we participate in those HIEs as a way to engage that information today.

Senator CAPITO. Veterans using the Choice card could go to a physician that is not in the health information exchange and therefore, their records are not interoperable with you?

Ms. COUNCIL. What we do at the VA is if they go to a doctor that is outside of our process, we will reach out to that doctor and get that information one way or the other. If we can get it electronically, we will get it.

One of the things about interoperability, and I just think it is important to remember, it has a continuum. One part of the continuum is non-electronic, which is how we moved things before, I hate to say it, but it is paper. The other one is called semantics, which is data flowing and data moving and talking to each other.

We are on that continuum constantly, and healthcare has been on that continuum constantly, moving to that standard called HIE.

Senator CAPITO. Thank you.

Senator KIRK. With everybody's indulgence, I will do a brief recess so we can make this vote. If you guys can hang loose for a second, since we are paid by the vote here.

[Recess.]

Senator TESTER. I am going to call the hearing back to order. Thank you for your patience. Senator Udall has some very important questions, and we will let him go.

APPOINTMENT SCHEDULING IMPROVEMENTS

Senator UDALL. Thank you, Senator Tester. Thank you so much, and thank you to all the witnesses for being here today, we really appreciate your service to the country and service to our veterans.

My first question revolves around the VA scheduling scandal. Ms. Council, this question is on scheduling, an issue that is critically important to the veterans in my State.

The VA Office of Inspector General recently released a report related to the scheduling scandal from 2014 substantiating claims that the managers at the VA Medical Center in Albuquerque abused scheduling software to manipulate metrics and make it appear the wait times were shorter than they actually were.

This is similar to the earlier reports of scheduling mismanagement in at least seven other States, including Illinois and Arizona.

The findings of this report confirmed allegations that the schedule was rigged to make the center look better. That is very troubling. Our veterans have earned the best care we can provide, the appointment scandal showed a disturbing disregard for health and safety of our heroes.

I have had a chance to discuss the report with the local medical center director in Albuquerque. I appreciate that since I raised these concerns the VA has taken several steps to improve access to care and reduce wait times. That includes extended hour and weekend clinics, same-day primary care clinic, hiring additional staff, and expanding the use of telemedicine.

However, I hear from VA employees and from veterans there is still much work to do. What steps has the Office of Information and Technology taken to eliminate opportunities to game the system, and aside from changes in traditional management practices and training, are there changes that can be made in the software to increase accountability and ensure that these work arounds are no longer possible?

Ms. COUNCIL. Thank you, Senator Udall, for the questions and the background. We agree with you that this is the most important thing, to make sure the veterans have access to the care they need.

To your point, within the VSE product, there is a capability to keep people from having to go in and change, it tracks any change that could be made, and makes sure we can see it.

In addition, there is a product we call Care Now, which is a mobile access for the veteran, which will allow them to actually schedule with a doc in real time, in a telemedicine way, but on a mobile device. We are working with the doctors now to put that into full test.

It was developed to allow the most capable way for the veteran to get help whenever they need it, primarily around mental health, but it could also be used for urgent care. It is a quite nice interactive system. We look forward to sharing that with you as we go forward, but our objective is to make it as seamless and as easy for the veteran to engage.

In addition, their ability to make appointments using a mobile device through a system called VAR, which you have also heard about, which will allow them to request when they want to come in, what date they want to come in, what time, based on what is available.

Trying to put those things in their hands using technology is core and key, but we are really excited about this Care Now application.

Senator UDALL. Thank you. One of the other things I wanted to focus on is Federal information technology management. Many of these problems are caused at least in part by legacy IT.

Ms. Council, I have been working in a bipartisan way with Senator Moran, Senator Milkulski and others on the Appropriations Committee. We want to improve the oversight of how we spend over \$80 billion annually on information technology across the Federal Government.

At a hearing following the healthcare.gov Web site debacle, we called for OMB to publish a top 10 list for the highest priority IT investments across the government. We also called for better OMB oversight of these IT projects.

According to the OMB, three of the Nation's highest priority IT projects are at the Veterans Administration. The first one, electronic health records/VistA; the medical appointment scheduling system (MASS); and third, the Veterans Benefit Management System (VBMS).

MEDICAL APPOINTMENT SCHEDULING SYSTEM

Ms. Council, I want to ask specifically about the new medical appointment scheduling system, the scheduling replacement project was terminated in September 2009 after spending an estimated \$127 million over 9 years.

What lessons has the VA learned from the failure of its previous scheduling replacement project, which was terminated at the cost I just noted?

Are you using agile or incremental development or best Federal acquisition practices for the new medical appointment scheduling system, and by what dates will the VA's three highest priority IT projects be completed? The three that I mentioned there, VistA, MASS, and VBMS.

Ms. COUNCIL. That was three questions, I want to make sure I address them properly, sir. Upon arrival in 2015, the question of scheduling was on point as what we were going to do with that.

I am going to ask David to share where we are on the scheduling process and also why we decided to do some of the things we have

done, because I think he can give the best feel on that because he has been here.

THREE HIGH RISK VA DEVELOPMENT PROJECTS

On the three key projects, however, that you mentioned, that was brought to my attention immediately upon arrival, that VistA is a 40-year-old system, what we are doing on modernization. The MASS project had just kicked in, and it was all around the scheduling issue and trying to get this right and what we were going to do against that.

The third area was VMBS, which is handling our claims business and how we are going to make that work, and some of the underlying parts of it, including the BDN system, which is over 50 years old.

When you ask when all of those are going to get done, the reality is you always are in a maintenance mode on any sustained application. I would like to say you put them in and never see them again, it is not true.

Applications always cost you, so you are always going to have maintenance, you are always going to be doing patching, you are always going to try to stay ahead of the cybersecurity issues that come with day to day issues on applications.

As far as being done and the capability, I think the reality for us as we talk about EHR and VistA in particular, there are new capabilities that have to be added.

I think the team went forward with an honest and open process for trying to decide what those could be, but we all know we are not able to move fast enough, and did not move fast enough to keep it up to speed where it needs to be, and that is why we are talking about a new platform called the digital health platform.

MASS AND SCHEDULING

On MASS and scheduling, David, if you would give the Senator some of the dates on those.

Mr. WALTMAN. Thank you. Senator, the question about MASS comes back to what Ms. Council referred to in talking about the digital health platform. We made an award of the MASS contract last fall.

That was very soon after Ms. Council and Dr. Shulkin arrived, and under their leadership, we had to look at the bigger picture and whether VistA in the go forward plan made sense.

Since MASS was to be integrated with VistA, with a specific COTS product and had a lot of expense and overhead to do that, while determining what our path forward was, the decision was made to pause MASS.

We have worked since then with the VistA scheduling enhancements, which Ms. Council mentioned, which allows us to do some of the things, auditing, lock down clinical indicated data, things like that, and we are currently working to complete that and have it deployed and is being piloted in three sites right now.

The answer to when MASS will be completed is there is not a completion date determined for that because in the context of discussing our EHR way forward and a commercial off-the-shelf sys-

tem, we have to consider whether we need to address scheduling in that context or separately.

Senator UDALL. Thank you very much, and thank you for your courtesies, Mr. Chairman.

Senator KIRK. Dr. Cassidy.

COMPREHENSIVE DEFINITIONS FOR ALL DATASETS

Senator CASSIDY. First, thank you for that reply, just so it is on the record. I learned from you earlier that VistA—VA is upgrading the VistA system but will eventually replace it with a commercial product.

I know from staff an RFI has been put out, a request for information, to understand what the commercials can do in terms of capabilities for the VA. You have mentioned the enterprise, just for context.

My head was turned around just for a little bit. One of the issues that has been raised for semantic interoperability is comprehensive definitions of all the datasets.

If we wish the VA system and the DOD system to one, talk with one another, and two, talk with providers who are outside your system, has the DOD and VA established a common set of comprehensive semantic definitions? That is my first question to Ms. Thompson, I suppose, and Assistant Secretary Council, and maybe Ms. Melvin.

Ms. COUNCIL. I will pass this over to Dr. Thompson.

Dr. THOMPSON. Thank you for the question. The IPO's role is in working with the DOD and VA for that express purpose. We work with the Office of the National Coordinator and standards development organizations to determine the health data standard that the two Departments should implement in their systems, and we work with them presently through a process of mapping to those standard definitions to ensure that the systems in place in the departments comply with those—

Senator CASSIDY. Yes or no, because that is a lot of “we’s.” Yes or no, you have established a comprehensive set of semantic definitions or no, but we are working to do so, and are committed to doing so prior to the letting of the contract, and these are or are not compatible with those who might be outside the system but yet providing for those within?

Dr. THOMPSON. Yes, sir, we have established those definitions.

Senator CASSIDY. You have established those definitions? Thank you. These are common as well with the non-DOD/VA providers?

Dr. THOMPSON. That is correct.

APPLICATIONS FOR FUTURE DIGITAL HEALTH PLATFORM

Senator CASSIDY. Secondly, for the DOD, are you all requiring—I believe Cerner is your vendor or one of your two vendors for your EHR, and do you require them to publish their APIs, and do you require they allow plug and play of any future app that might be developed that would allow someone to again put in their blood pressure monitor at home into the EHR, so I guess two questions there.

One, do you require them to publish the API, and two, do you require them to do plug and play, and three, if you do require them, do you require them to do it at a reasonable cost?

Dr. THOMPSON. If I may take those questions for the record, that program falls outside of my particular domain. I would want to make sure I am providing you with the correct information.

[The information follows:]

Unrestricted publishing of APIs is not required; however, the contract provides for all rights necessary to operate, maintain and sustain the EHR system solution; modify interfaces; perform cybersecurity and software assurance; and, train on the EHR system solution, including disclosure within or outside of the Government as necessary to perform these functions.

The contract contains requirements for the integration of future health IT applications or modules, as ordered by the Government once any such applications or modules are identified as requirements by the functional community. Further, in order to simplify the integration of possible future applications, the contract requires adherence to modular open system architecture design and development approaches.

Finally, all negotiations are conducted in accordance with FAR 15.4 which requires establishing the reasonableness of offered prices.

Senator CASSIDY. The VA, and in your RFP, because I am sure you are already thinking about it, again, are you going to require whichever vendor wins to publish the API because for some, it is not proprietary?

I have also been told they effectively limit plug and play even if somebody comes up with a lower cost app, and they limit it by basically charging so much to come up with a custom design to allow the plug that they effectively eliminate the ability to develop plug and play, so my question there.

Ms. COUNCIL. Our recommendation for a digital health platform is that it is all open source and we be able to move in and out of the platform.

Senator CASSIDY. Again, they will be required to publish their APIs as part of the RFP? I see Dr. Nebeker nodding yes.

Ms. COUNCIL. Yes, that is the expectation of our digital platform. We are asking for what is not done today because we feel it needs to be open. That is part of how you drive innovation, and that will be the best way to ensure that we have full interoperability.

Senator CASSIDY. That is good. I have also understood that under your current VistA platform that one of the problems is that each VISN has done a customization of the VistA program for their VISN.

Indeed, VISN 16 does not necessarily communicate with VISN 10 because they have both been customized, you can tell they are related, but they are first cousins, they are not one and the same.

Ms. COUNCIL. Yes, there are 130 plus and distinct instances of VistA within the VHA today.

Senator CASSIDY. So, the modernization process, are you just going to kind of okay, we have to tolerate that until we replace, or are you attempting to reconcile that?

Ms. COUNCIL. I think some of the modernization—I will pass this on—I think much of the modernization is to ensure safety, health, and the clinical side to assure we are capturing the things we need to, just to keep the system whole.

Also, there is security, things we want to make sure the system has the capability to do that might not have been thought about

40 years ago. David, if you would like to share some of the other modernization efforts.

Mr. WALTMAN. Yes, thank you. A key part of the modernization work that we are doing now that will continue into 2018 with the enterprise health management platform is to federate that information from those 130 VistA instances, as we just talked about, because you are right—

Senator CASSIDY. “Federate” implies to me they are allowed to continue to have their own domain.

Mr. WALTMAN. Until we move to a COTS solution on the digital health platform, there is not an intention to collapse all of those instances into one because of time, cost, and complexity.

Senator KIRK. Let me just jump in and have you formally define “federate.”

Mr. WALTMAN. “Federate” means that we take all of the health information from those VistAs and bring it into one place so it can be used together. That is what the DHP does.

It also allows us—we have a software development kit to do exactly what you just described, exposing the APIs, people are able to write and provide apps into the platform using that collected, assembled federated data.

DIGITAL HEALTH PLATFORM

Ms. COUNCIL. But to avoid this problem of multiple instances in the future, that is the recommendation, a digital health platform, that we can keep it on one instance, one capability, one solution, and everybody has to come to it. The fact is that 130 is what makes it slow, makes it cumbersome, makes it take a long time, and it makes it inconsistent.

To your point, moving to an open architecture that allows APIs to come in, allows us to use that information, share it, and get it back out and do it in a much more seamless area is where we want to go with DHP.

Senator CASSIDY. I am also told that Cerner has DOD, let’s imagine even that Cerner gets VA, as it turns out now, if you have one hospital at Cerner and another hospital with Cerner or Epic and Cerner, there is information blocking. Whether it is because of technological challenges or because of a proprietary instinct is a subject of debate, but nonetheless, it occurs.

What are you all doing in your RFI or RFP to ensure that we will not end up with let’s just say technological information blocking?

OPEN SOURCE APPLICATIONS

Ms. COUNCIL. The recommendation that we are making is that is not part of our process, and it will have to be interoperable and have to be open source.

This is an IT recommendation, it is so unusual because we are asking for software as a service component, which changes the way that works, and we are also saying that we would have that level of interoperability, to give you an example, you go in and you fill a prescription at Walgreens, and then you go and you try to fill that same prescription at Rite Aid, it is very hard for you to do it because they have to go get the information.

What we are saying is that would not be the case because they are all based on the same information about you, so they would each see that prescription.

GAO SKEPTICISM ON VA'S ASSERTIONS

Senator CASSIDY. I am taking more time and I apologize, but I want to ask one more question. Ms. Melvin, I was so struck by your skepticism, so we have heard the vision for the VISNs.

Nonetheless, it seems as if you are skeptical. Were you skeptical about the VistA product, coordinating outside of VA, are you skeptical about the VA itself and their vision of a commercial product being able to coordinate outside of VA?

Ms. MELVIN. The questions that we raised really deal with the fact that we have not seen clear planning across VA and DOD relative to what they are trying to achieve.

Senator CASSIDY. Let me ask, would you agree with the statement that they have worked out a comprehensive set of semantic definitions?

Ms. MELVIN. We understand they have from what they say. We are still obtaining information from them. We know they have identified some of the standards that they need. We have not seen other aspects of what they intend to do in terms of putting either the interoperable component together for their systems, between VA and DOD, or the planning that is necessary for VistA modernization.

One of the things—

Senator CASSIDY. Can I ask, have they committed to you a date on which they will provide that information?

Ms. MELVIN. No, we do not have dates yet.

Senator CASSIDY. That seems like a follow up for our committee, that we would also obtain that information because that seems like one of the key issues here, correct? I am sorry, continue.

Ms. MELVIN. One of the points I would make in going back to a statement earlier from Ms. Council where she was saying that they have not identified one system that is large enough to fit their needs, this is the kind of assertion that we would like to see, and that we think it is important for them to have the analysis and the transparency as to why a particular alternative is not sufficient for their needs.

It kind of goes to the overall concern that we have in terms of analysis, planning, looking at the alternatives, and what the departments have in fact done that support where they tend to be at this time, and then of course, the specifics for what it is they are trying to achieve, and how they will know when they get there.

Senator CASSIDY. You have been very generous with your time, thank you, Mr. Chairman.

Senator KIRK. Thank you. Mr. Boozman.

VA'S PLANNING FOR THE EHR FUTURE

Senator BOOZMAN. Thank you, Mr. Chairman. Thank you so much for having the hearing. Can somebody respond to Ms. Melvin's concern about the clear planning?

Ms. COUNCIL. Yes, I can. She is 100 percent correct in what you need to do to provide the kind of background information, and one

of the things that we have done with this recommendation is talk to industry leaders including Gardner Medical, very large medical organizations, as well as the KLAS Group, which is known as the premiere organization for EHR, and they are actually working with us to help us build that business case, look at the various options.

We have a 200-page document which they have gone through and explained to us from the industry perspective on what is out there in COTS, how well they have been received. They talked to over 2,300 providers in these areas about what they are developing, so we are leveraging an independent view as to what makes sense and what will make sense for us, and why certain things do and certain things do not.

Our objective is by the end of this year we will have a business case that the next administration or whomever is there has real data based on an independent group to understand exactly why we made the decisions we did.

ELECTRONIC HEALTH RECORDS AVAILABLE TO JLV

Senator BOOZMAN. Thank you, Ms. Council. I would like to go back to a previous discussion that I did not quite understand. You mentioned the image viewer would go on line this September for those records that are in the JLV. Which records are not in the JLV, and who are you missing?

Mr. WALTMAN. Thank you, Senator. All electronic health records that have been generated in the VA or since DOD has had electronic health records are available and accessible for JLV. That includes anything that would be in AHLTA, for example, on the DOD side, records from back to—

Senator KIRK. David, I will interrupt you since you used the term "AHLTA," that is the data processing system for DOD.

Mr. WALTMAN. Correct.

Senator KIRK. When I was at Walter Reed, the doctors and nurses said that stood for okay, let's all try again.

Mr. WALTMAN. I will not comment on that. The point is not all records that exist for every veteran are electronic, some veterans' records predate the electronic record era. The records that are electronic are in JLV. The images are in a separate image store in both the DOD and the VA, and that is the viewer that is going to allow those to be seen that we are speaking of.

Ms. COUNCIL. Lauren, did you have anything you wanted to add from a DOD point of view?

Dr. THOMPSON. No, I think that was an excellent summary. Thank you.

INDIVIDUAL SERVICE RECORDS

Senator BOOZMAN. Good, that is helpful. I was pleased to hear about the VA's goals with the electronic management platform, particularly with the proposed inclusion of the veteran's service history to include duty stations and type of work they performed during their service, which is really important.

I would like to get a better understanding of how this would work in practice. As you know, servicemembers currently face a very challenging transition from DOD to the VA.

When a servicemember separates from their Active Duty, the information populating their DD-214 is not automatically made available to the VA. It is the veteran's responsibility to make sure the VA has the appropriate documentation in order to verify their service and eligibility for VA benefits.

How would eHMP obtain the member's individual service record?

Mr. WALTMAN. Thank you, Senator. At the present time, the military history feature in the HMP is limited to being able to have a place for information the veteran provides directly. As you said, that is insufficient, and inadequate for seamless care.

It is our desire that with what we have learned about clinical record exchange, health information exchange, with building JLV, that we will be able to work with our DOD colleagues to get the electronic exchange of the service history information and be able to feed that directly into the platform.

Ms. COUNCIL. I think it is broader than just the healthcare. When we look at the totality of the veteran, we are looking at the whole veteran dataset, and our enterprise data management process is putting that backbone across VHA, VBA, NCA, so that way we have the whole look at the veteran, not just pieces and parts, and also we want to mitigate the veteran having to put information into various data marts as they have to do today.

Senator BOOZMAN. When do you anticipate the platform happening?

Ms. COUNCIL. We are beginning that process this year, laying out the architecture, bringing in leadership to guide that, as well as we have set up a governance council so there are data stewards across the organization that will be responsible for that data, and veteran data will be owned and responsible for our veteran experience team.

Senator BOOZMAN. One of the problems that we have is making sure the servicemember's history and data is accurate. What is DOD doing in regard to that? What support would DOD be providing?

Dr. THOMPSON. If I may, I would like to take that question for the record to ensure I provide you with the correct information. That falls outside of my immediate domain of health data standards.

[The information follows:]

Joint Legacy Viewer (JLV) displays servicemember information exactly as it's found in the authoritative system (Clinical Data Repository (CDR), Composite Health Care System (CHCS), Essentris, Theater Medical Data Store (TMDS), etc.). Accuracy is a critical factor DOD tests thoroughly before each release. System Integration Testing tests patient records in test authoritative data sources like the CDR. The testers validate that the data in the disparate data sources matches what is displayed in JLV. Further, the operational test report also specifies that DMIX has information accuracy.

Senator BOOZMAN. Good. Thank you, Mr. Chairman. We appreciate you all being here. This is certainly something that is frustrating in the sense that this has been going on for a long time, and as you can tell, there is uniform frustration. I know you all are frustrated, too, and working hard to get this right.

Hopefully, we will be able to follow up in the near future both in this committee and the Veterans' Committee, DOD, and make

sure that we are moving in the right direction. Thank you very much.

Senator KIRK. Mr. Hoeven.

Senator HOEVEN. Thank you, Mr. Chairman. Ms. Council, you mentioned some of the challenges with your current scheduling systems, specifically not having the capabilities to keep up with the growing Care in the Community program.

In North Dakota, where there has been some challenges with scheduling Veterans Choice appointments, currently the VA is working to implement a pilot project in our State to bring the scheduling aspect back to the VA, instead of relying on the third-party administrator, which in our case is Health Net.

NATIONAL LEVEL IN-HOUSE SCHEDULING

My questions are does VA have the IT system in place to accomplish in-house scheduling on a national level, if not, when will we see an updated scheduling system in place that is capable of managing Care for the Community appointments for Veterans Choice, and what is your near and long-term goal of modernizing your current scheduling system?

Ms. COUNCIL. The first part of that question relates to Care in the Community, which is led by Dr. Yehia, and we are very lock step on that because the Care in Community has a bigger issue with the exchange, as I think you well understand, Senator, so getting to where we can understand what appointment is needed, helping the veteran to make their appointment with the doctor, ensuring that the right referrals are happening, all the things we are doing using the health interchange that we mentioned prior to your arrival.

SCHEDULING SYSTEMS

The scheduling systems, David, I will refer those to you as far as making sure we are straight on the timing and deployment, but the objective was to put in what is called VSC, which is a scheduler that is simpler than what our CPRS system is, and I think that was really the core issue around scheduling, it was convoluted, very difficult to understand.

What you are talking about with the veteran in the community is how best we make sure we know when they want an appointment, and today we are putting in a mobile capability called VAR that will allow them to actually request on their Smartphone or a call, if they have to, if they are not using something electronic, so we could be much more responsive to them.

This is something we are working on daily. As you know, Choice has grown, and then figuring out exactly how to get these hand shakes clear is something we are very committed to. We have to do better. We have a lot more work to do there.

The Choice program and the scheduling program in general are both under engagement, and we are now testing a new scheduling capability in dual locations, looking to roll that out nationally.

Senator HOEVEN. What are those locations?

Mr. WALTMAN. Where that system is being used to see patients are at Ashville VA Medical Center, Salt Lake City, and Cleveland.

SEAMLESS CARE IN THE COMMUNITY

Senator HOEVEN. What I am after, and any one of the three of you from VA who want to take a stab at addressing it, under the old model, when a veteran wanted care, they called the VA, and they either got institutional VA care from a health center or community-based outpatient clinic (CBOC), or they got care through what was called non-VA healthcare. That was in the community.

For the most part, that system seemed to work, not everywhere in the country, but certainly in our part of the country that worked pretty well. They were getting their appointments and they were getting to the VA or to a local private provider if they needed to.

With the third-party providers in place, that system has totally bogged down Veterans Choice, which is creating a real problem. That is why we have the pilot project going in North Dakota, which will serve North Dakota and Western Minnesota. I am very appreciative the VA is doing that, and I am just trying to keep it moving along.

I think somehow nationally we have to get to a more seamless process so veterans are not held up from their appointments, so they get timely appointments, and so that the private providers get paid so they will take those veterans and take them in a timely way, and they are not trying to get payment out of the veteran then rather than the VA.

If you could just address how we are going to get there and how soon we can get there, I would appreciate it.

Ms. COUNCIL. I will come back to you on some of the business issues that are going on with some of the early pay and some of the things Dr. Shulkin and his team are doing to ensure that people get paid faster and quicker.

Getting there and completion requires that we must also sort of know what the program is going to look like in the future. As you know, that is part of the process that is currently ongoing.

We are working very aggressively. We have over 1,500 health interchanges in which information is shared with providers. We are paying early. We are paying faster. We do not want to have that sort of log jam because there has always been a referral process within the VA, but as you know with Choice, it requires that we step further.

A date certain for all completion nationally, I do not have, but I will come back to you with that.

[The information follows:]

The Community Care Scheduling pilot at the Fargo VAMC was initiated in September 2016. The Office of Community Care provided routine updates to Senator Hoeven's office. On August 31, 2016, the Senator and his staff met with VAMC leadership and the Office of Community Care to receive a status update on major milestones for the pilot. The key milestones included contract modifications to the HealthNet contract, union negotiations, process flows and standard operating procedures for implementation, and staff training.

Senator HOEVEN. It seems to me that is a real key for your data systems, to be able to get—

Ms. COUNCIL. It is.

Senator HOEVEN. Mr. Waltman or Dr. Nebeker.

Dr. NEBEKER. The level of interoperability, this is like a wonderful case for interoperability, right, to be able to schedule for a vet-

eran to come to us and say hey, look, we think we can help you better if you go across the street or more locally to your town to get an appointment, let us help you get an appointment.

Technology does exist for this, but we are analyzing the maturity of this technology to see if there is interoperability. University Health Network has some technology for this.

Also, Boston University was doing a pilot several years ago that could do this, and now with North Dakota and Louisiana State University, so we are working with these partners to assess the maturity and suitability to bring these technologies. We look forward to the lessons learned from North Dakota.

Senator HOEVEN. Mr. Waltman, anything you want to add?

Mr. WALTMAN. Thank you, Doctor, you hit the nail on the head there. That is exactly what we are after, and I appreciate you saying so. That is what will serve the veteran. It will serve them through the VA in the best way possible, but also when they need to go to a local provider either for a certain capability or just proximity, distance and time, so thank you. I think that is exactly right, that is what we need to do. I would like to thank all three of you for your work in this area.

Senator HOEVEN. Thank you, Mr. Chairman.

Senator KIRK. Thank you. I will start with my questioning, because I am pretty seized with this issue. LaVerne, when we met, I want to tell you my tale of woe, because I am so focused on this issue.

INCEPTION OF VISTA

Could you please tell the committee when VistA was started, what year?

Ms. COUNCIL. I have seen a date from 1973 to 1975, but in 1975.

HEALTHCARE ANALYTICS

Senator KIRK. I was so concerned about this, I went down to the Smithsonian and went to the Innovations Station Exhibit and took pictures of computers, like this one, the Altair 880, which is considerably younger than all the systems that you have. This was the state-of-the-art in 1975, and for \$500, I can get you one.

Is it the state of VistA, it is at this level of technology? Let me follow up. When we got to the heart of this hearing, you certified that you are interoperable based on the JLV's existence, and we now know that the JLV does not have x-rays or CAT scans, and that is interoperable from your viewpoint.

I would say you could expect some further definition from this committee on that point, that we need to move forward on this point to make sure there is no net burden on the soldier and sailor when they come out of the Service, that we 100 percent transfer data to the VA, so that VA can see all the imagery and everything.

In the case of my friend who came back from Iraq, all 38 events in her combat career are included in the record for disability adjudication.

The long term vision that I have, want to make sure that we go with a full blown Apple app on the Apps store. I talked to Cerner this morning. They said they already have several apps through the Apps store. I would like VA—remembering that the average

age of people coming out of Service is going to be about 19, if you are a full blown citizen of the 21st century, you will live on this device.

We are going to have to make sure that there is an app right there with full access to their record, including imagery, to make sure their clinicians can do the analytics.

When I got deeper into this, I realized I was going farther and farther ahead of my own constituents who may not know what analytics does for their healthcare. I would say analytics takes us to the next level.

In the case of being able to predict sepsis or suicide, in the case of Epic, they said in the case of sepsis, that was 54,000 lives that they think were saved by analytics on probability of sepsis.

When I talked to Cerner, they said the Joint Legacy Viewer cannot do analytics of the kind to take us to the next level. I want to make sure that—only this committee, I think, with jurisdiction over military construction and VA, can lean on both bureaucracies.

When I first seized with this issue, I thought let's go with a Mark Kirk version, which would be to make all narratives Microsoft Word, all images JPEG, so we force the bureaucracy to talk to itself and make sure that when you serve the United States in uniform, you can make sure that all of the work the taxpayers already paid for and your medical record is there for the VA.

Ms. COUNCIL. Sir, I think you know from our conversations that I concur with you 100 percent, and just to be clear, our certification of interoperable with JLV was against NDAA section 713(b)(1). It is not to say that it is semantically interoperable, it is not.

Senator KIRK. When you cite that section of the law, it does use the word "interoperable." I want to make sure we are not in a situation where it depends on what the definition of "is" is. We have to get away from that kind of thinking.

Ms. COUNCIL. Totally agree. I think you and I also agree on the fact that having an open platform that will allow new innovation to come to bear, allow us to really use the best and the brightest, and also do more around analytics is core and key to predictive medicine.

This is where the organization is moving, probably not moving as fast as any of us would like, but certainly we understand the value of that, and the value of supporting our veterans with the best.

Senator KIRK. Thank you. I want to go with a full blown Apple app and make sure all these 19 year olds when they come out, they just hit the application and can see a full blown record and can contact VA if they see errors.

Ms. COUNCIL. Yes.

Senator KIRK. And that we move forward on that basis. You will be getting some pretty strong recommendations from this subcommittee on that point.

ADDITIONAL COMMITTEE QUESTIONS

Let me move to closing here. I want to thank everybody for coming today, and especially my partner, Senator Tester. We will leave the record open until the close of next week. Our members may submit questions for the record.

[CLERK'S NOTE: No questions were submitted to the Department for response subsequent to the hearing.]

CONCLUSION OF HEARINGS

Senator KIRK. We stand adjourned.

[Whereupon, at 12:10 p.m., Wednesday, April 10, the hearings were concluded, and the subcommittee was recessed, to reconvene at a time subject to the call of the Chair.]