

DRIVING TECHNOLOGY MODERNIZATION AT VA

— 2018 YEAR IN REVIEW —

OFFICE OF INFORMATION AND TECHNOLOGY

VA



U.S. Department of Veterans Affairs

Office of Information and Technology

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LETTER FROM THE EXECUTIVE

From the very day I embarked on this stewardship of the Department of Veterans Affairs (VA) Office of Information and Technology (OIT), I challenged myself and my leadership team to consider our position at VA, to consider the enormous gravity of exercising prudence on behalf of the Veteran and the taxpayer—to take a hard look at the value we were getting from our IT spend.

From that day on, we've continued to build on this organization's transformation detailed in the previous two Years in Review, turning our attention in 2018 to IT modernization. This 2018 Year in Review details the remarkable progress our team has achieved toward enabling the exceptional customer service experience our Veterans deserve. While navigating continuously evolving technology and emerging cyber threats, OIT also provides IT support every day to the Nation's second-largest Federal workforce, protection for VA's critical IT infrastructure, and innovative tools that Veterans use to manage their health and benefits.

Just this past year, VA unveiled a new way for employees to receive swift IT support through a cloud-based IT Service Management Tool tailored for VA called YourIT Services. This platform also provides new tools to help quickly identify IT issues that could directly impact Veteran care or services, and then prioritizes resources to those issues for swift resolution. We've also leveraged Artificial Intelligence (AI) to further improve our customer service and help us identify issues and trends before they impact our employees and the customer service they in turn provide our Veterans.

More than simply improving our customer service, we also changed the way we did business. We embraced our core values of transparency, accountability, innovation, and teamwork and sought to create an example of responsible government stewardship and public service. We broke down siloes and brought IT organizations together to collaborate with our business partners and help drive technology solutions created with Veterans, not simply for Veterans.

Moving to the Cloud represents one example of how innovation at VA drives responsible stewardship. OIT recently moved a very large, complex application called Identity Access Management (IAM)—tools that protect and authenticate Veteran and employee information—from a 3rd party IBM data center to the secure VA Enterprise Cloud (Microsoft Azure). This "cloud-first" move alone is expected to lead to approximately \$11M potential cost avoidance annually, promoting better stewardship of taxpayer dollars.

*We broke down siloes ... to collaborate with our business partners and help drive technology solutions created **with Veterans, not simply for Veterans.***

Additionally, VA's multi-year effort to upgrade its network infrastructure and consolidate data centers to support this cloud-first strategy across the second largest network in the entire U.S. Federal Government has resulted in the consolidation of 78 data centers in Fiscal Year 2018.

These measures contribute to further modernization-based cost avoidance from other VA efforts. Since the beginning of the calendar year 2018, OIT has realized \$100 million in cost avoidance by implementing its fiduciary responsibilities outlined by the accountability and authority the Federal Information Technology Acquisition Reform Act (FITARA) extends to federal chief information officers.

VA's IT organization is also working to manage and leverage data across VA so that if a Veteran makes an update in one place, such as a VA website or a health appointment, it's immediately available across all of VA's websites and platforms, reducing common frustrations voiced by Veterans in the past. But moving to the cloud and managing data are just a few pieces of the larger IT Modernization underway at VA. OIT is also improving VA's cybersecurity, digitizing VA's business processes, decommissioning legacy systems, and migrating many VA services to the cloud, actions that will promote flexibility and drive further cost savings at VA.

Finally, as VA begins transitioning from a legacy electronic health record (EHR) to a new, commercial EHR, this IT Modernization also extends VA an opportunity to rapidly scale health IT innovation across the entire organization as VA moves to a single, cloud-based instance of its EHR, compared to the more than 130 instances of VA's current EHR.

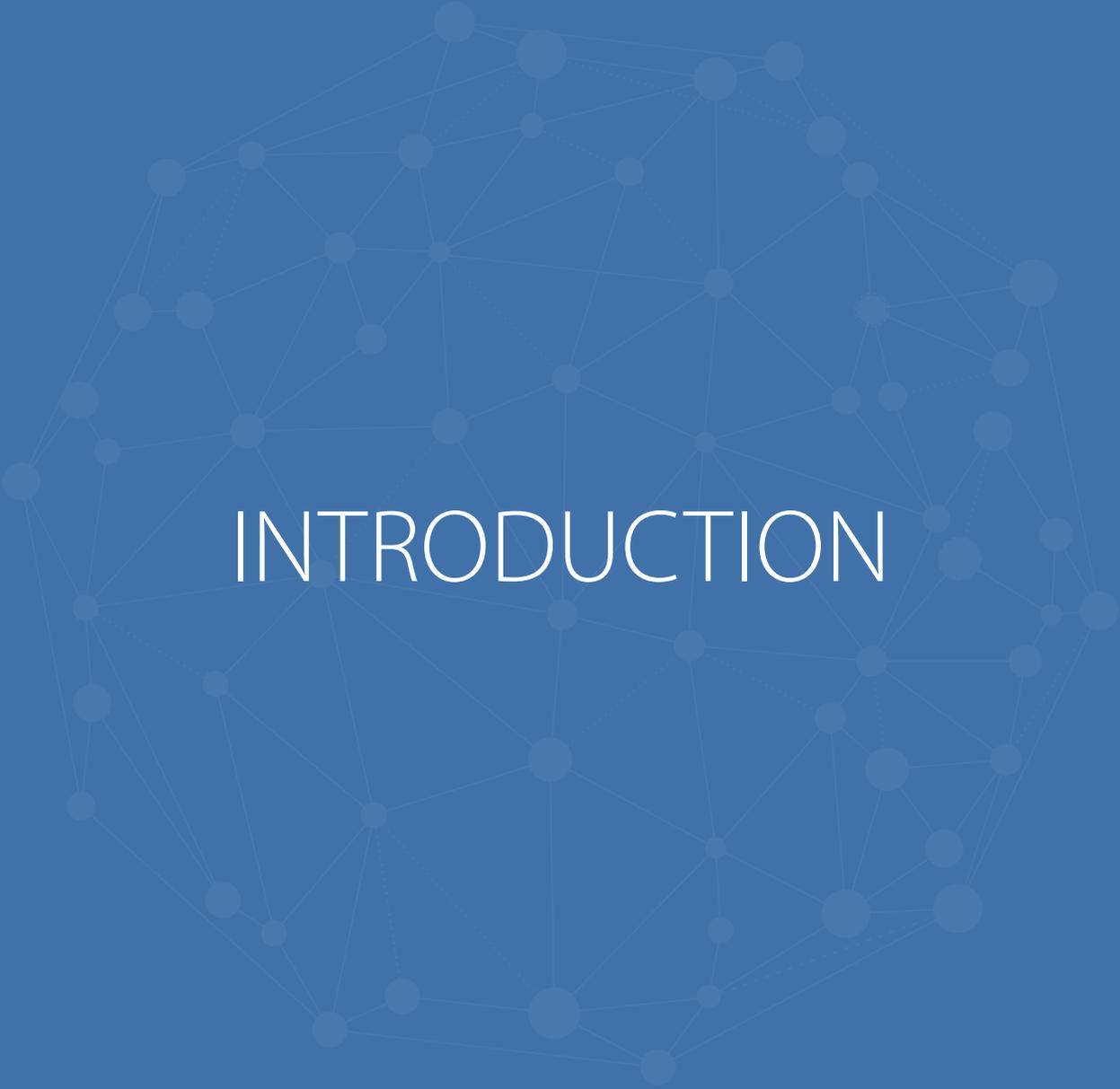
EHR Modernization will finally deliver the interoperability and seamless exchange of information between the Department of Defense and VA. Our Veterans will have one health record, from the time they enter active duty, through the rest of their life journey.

I'm grateful for the opportunity to have led this organization for most of this past year, and I invite you to read on for more exciting details about what we've been up to in 2018. Thanks to the steadfast dedication of VA's IT workforce—a majority of whom are Veterans themselves—during a time of constant technological change and transition, VA is well on its way to realizing its vision of a world-class IT organization that provides a seamless, unified Veteran experience.



CAMILO J. SANDOVAL

Sandoval serves as the Executive-in-Charge for the Office of Information and Technology, and prior to that, as Senior Advisor to the Under Secretary for Veterans Health Administration overseeing electronic health record (EHR) modernization efforts to improve the quality, safety, and efficiency of Veteran patient care. Prior to joining the Department, he had an extensive career in private enterprise focused on the financial capital markets, healthcare investment banking, and digital mobile payments. He led large cross-functional teams working closely with corporate executives to provide strategic solutions to complex senior-level challenges, including new product commercialization, risk management, and information technology. Camilo is a proud veteran of the United States Air Force, and a graduate of Indiana University where he received his MBA in Finance & Strategy. He is bilingual and fluent in Spanish and has a working knowledge of Japanese.



INTRODUCTION

VA'S IT MODERNIZATION STRATEGY

When Secretary Wilkie joined VA this year, he remarked that customer service is VA's prime directive. As a customer service-oriented organization ourselves, we couldn't agree more. Everything we do enables the technology that VA uses to deliver that exceptional customer service experience our Veterans deserve. From the work our employees do in the field to issue equipment and provide technical support for our systems, to the work we're doing at VA Central Office to transform our business processes and drive IT modernization—every single aspect of our work has a direct impact on VA's ability to provide care and benefits for our Veterans. Our 2018 IT Modernization strategy reflects this connection to VA's Strategic Plan and we measure our progress based on the value we bring to the Secretary's priorities and VA's strategy.

VA'S IT MODERNIZATION COMMITMENT TO OUR CORE VALUES

Our core principles—transparency, accountability, innovation, and teamwork—are words that appear often in our reports, our presentations, and our communication with our business partners. We chat with employees about these principles as we conduct town halls around the country. We devote senior leadership meetings to them. We weave them into our interviews with the press and our testimony in Congress.

During a sweeping information technology (IT) transformation that we kicked off in 2015, we called them our “core DNA.” But that did not give a complete picture of how hard it is to institutionalize a change in mindset in an organization as large, as diverse, and as geographically dispersed as ours.

So, we find ourselves continually reinforcing them, learning, growing—all the while remaining steadfast in our commitment to these principles while understanding they aren't “automatic.”

These core principles are extremely important to the success of the transformation we began in 2015, and the IT modernization strategy we embarked on in 2017. Our ability to pursue and embody these core principles means the difference between an IT organization that collaborates with its business partners to create the best experience for all Veterans and VA employees—or one that becomes a roadblock to VA innovation and the VA customer experience.

We work hard every day to fulfill this vision. We as a team at OIT must continuously recommit to these core principles: transparency, accountability, innovation, and teamwork.



Here's how we define these core principles:

TRANSPARENCY: We share our successes and our failures. We tell it like it is, offering fact-based and accurate accounts instead of qualifying or glossing over the truth.

ACCOUNTABILITY: We own the issues within our environment and our organization, and we hold ourselves accountable for fixing them.

INNOVATION: We ask, “Why not?” and “What if?” We look at our environment and our Veterans’ needs and explore the art of the possible.

TEAMWORK: We work for the success of Veterans and the VA team, not the glory of the moment.

Our modernization commitment centers on these core principles to transform the way Veterans interact with VA. We envision a seamless, unified Veteran experience—similar to the experience they receive from leading tech companies in the private sector. And we’re building a modern IT infrastructure at VA. Most importantly, we’ve committed to working and building with Veterans, not just for them. We strive to fully understand Veterans’ experiences using VA’s digital tools, and we look for ways to make those tools work for them.

VA’S 2018 IT MODERNIZATION STRATEGIC GOALS

Our IT Modernization strategy centers on three strategic goals:



Stabilize and Streamline Processes



Eliminate Material Weaknesses



Institutionalize New Capabilities

Stabilizing and streamlining core processes and platforms—refocusing on our prime directive—customer service.

Eliminating Material Weaknesses—strengthening the protection of critical systems that help VA serve those who’ve protected us.

Institutionalizing new capabilities that drive improved outcomes—driving modernization and building technology with our Veterans, not simply for them.

These three goals were born from outcomes already mandated, those in progress, those we knew we needed, and those required to modernize into the Federal Government’s premier technology organization. The sections that follow describe our progress—real results, real value—against this strategy.

This is our story.



DEPARTMENT OF
VETERANS AFFAIRS

WHO SHALL
BATTLE AND
AND HIS OPP

ORGANIZATION DEVELOPMENT & ENGAGEMENT



Teamwork makes the dream work!

ORGANIZATION DEVELOPMENT & ENGAGEMENT



Teamwork makes the dream work!

WHO IS OIT?

VA'S IT EMPLOYEES REFLECT ON THE MEANING OF PUBLIC SERVICE AT VA

When thinking about the Office of Information and Technology, most people think of network servers, laptops, and useful applications. But there is much more to OIT than just the technology. OIT is filled with dedicated professionals, most of whom are Veterans themselves, working hard every day to assist VA in delivering the very best services for America's Veterans.

The following interviews with OIT professionals from VA facilities around the country showcase the impact OIT initiatives have on Veteran services as well as a few personal stories. They also show that working at OIT is not just about systems, software, hardware, and applications—our employees feel a personal connection and commitment to our Nation's Veterans that VA serves.

You get very close to the Veterans when you work with them in a place [like this]. When I see them in the hallway, I don't ever pass a Veteran without smiling, or saying "Hi," or thanking them for their service. If it wasn't for them, we wouldn't be here, so they are top of mind to all of us.

Barbara Romeo, an IT Specialist from the Orlando VA Medical Center



These are not just numbers, these are real lives, real stories, real people. And we've just got to do the best we can every day for our Nation's Veterans. It's just the right thing to do.

San Francisco-based IT Specialist Felicia Fisher



These stories also reflect OIT Executive in Charge Camilo Sandoval's personal commitment to connecting OIT's work to the real needs of America's Veterans. "We are an organization committed to IT excellence, driven by our vision of a world-class IT organization that provides a seamless, unified Veteran experience through the delivery of state-of-the-art technology."

INVESTING IN OUR PEOPLE

We recognize our greatest asset is our people. So, in addition to our IT Modernization, we're modernizing our workforce. Workforce development is critical in an IT world that's continually evolving, and OIT's nearly 8,000 employees—a majority of whom are Veterans themselves—must have the necessary resources to continue their education and evolve their careers to keep pace in this shifting IT landscape. We must also work to recruit and retain the talent VA needs to drive exceptional customer service to our Veterans.

THIS YEAR, WE:

Awarded 100+ applications for the Student Loan Repayment Program, easing employees' student loan debt they've incurred building the skills required for this new environment. They've invested in VA, so we're investing in them.

Implemented an OIT Human Capital Recruitment initiative that has shown immediate improvement in hiring trends through LinkedIn Recruitment Initiative and Resume Mining.

Established Talent Acquisition Cell to broaden outreach through:

- » Department of Labor Workforce Recruitment Program to attract Schedule A candidates and recent graduates
- » OIT-wide Vets 2 Feds global recruitment
- » OIT Info Security/Cyber Security Incentive Pay.

Established Human Capital Management as a customer-centric organization with a "Customer First: Process Improvement" focus.

VA MOVES UP **BEST** PLACES TO WORK

THIS YEAR, VA MOVED UP 11 POSITIONS, FROM NUMBER 17 TO NUMBER 6, IN PARTNERSHIP FOR PUBLIC SERVICE'S BEST PLACES TO WORK IN THE FEDERAL GOVERNMENT INDEX.



OIT EMPLOYEES PROVIDE EMERGENCY COMMUNICATIONS DURING DISASTER SITUATIONS

Plum cases arrive, each lined with foam rubber nestling a super-hotspot capable of providing network access for up to 30 computers. Communications technicians set up satellite technology and begin transmitting signals to geostationary satellites to establish phone lines and internet connections spanning oceans and thousands of miles. Infrastructure operations personnel begin connecting devices into available networks.

These quiet professionals are not actors in an action film; this is the real-life work of the Office of Information Technology (OIT) Enterprise Command Operations (ECO) Enterprise Command Center (ECC) Disaster Recovery – Continuity of Operations (DR-COOP) team. VA's DR-COOP travels across the United States responding to any disaster situation that threatens vital VA operations.

Working closely with the VHA Office of Emergency Management (OEM); the Office of Operations, Security, and Preparedness (OSP); OIT End User Operations (EUO); and OIT Infrastructure Operations (IO), DR-COOP fields reports and orders from the various offices. Thinking quickly on their feet, they go to work rerouting lines of communication to circumvent downed lines. They also coordinate restoration of VA systems and network connections so that healthcare providers can regain access to electronic health and pharmacy records required for Veterans to receive the care and medication they need. The temporary emergency lines of communication are then made available to Veterans who need to contact loved ones.

After Hurricane Michael made landfall on the Florida panhandle on October 10, 2018, DR-COOP supported emergency communications to re-establish Veteran healthcare and counseling as well as outreach to affected local clinics. The team set up mobile operations in the parking lot of a large local retailer. There, they provided laptops, man portable unit (MPU) very small aperture terminals (VSATs) for emergency satellite communications, and long-term evolution (LTE) wireless routers to connect to the VA network, working closely with Biloxi, MS, VA staff. DR-COOP also collaborated with major cell phone service providers, arranging for a mobile network unit to restore service. In addition, the team set up patient care equipment and provided situation reports to the Integrated Operations Center (IOC) and OIT leadership. Through it all, DR-COOP met the IT needs of the Panama City East and Marianna Community-Based Outpatient Clinics while also supporting two Mobile Medical Units (MMUs), a mobile canteen, a mobile pharmacy, and a Mobile Vet Center (MVC).

While VA works year-round to develop disaster plans, it isn't possible to anticipate every factor. "We know things are going to break, we just don't know what or where. We plan the best we can to anticipate the people and equipment likely to be needed during a particular response, but no two events are ever the same, so we need to be ready for anything," said Rick Zigrosser, Acting Manager of DR-COOP.

DR-COOP's work is vital to supporting continuity of VA operations and demonstrates to Veterans that their needs are our priority even in disaster situations. As VA strives to continually improve customer service, OIT will do whatever we can to provide essential IT and communications services wherever and whenever Veterans need them.

GULF COAST
TEAM





\$4.103B BUDGET

6000+ APPROVED TOOLS IN TECHNICAL REFERENCE MODEL **130+ INSTANCES OF VISTA**

60% VETERANS 7,861 EMPLOYEES
8,000 CONTRACTORS

3,000+ ACTIVE CONTRACTS TO DATE

200 DEVELOPMENT PROJECTS

194 PROJECTS SHARED WITH OPEN SOURCE COMMUNITY SINCE JANUARY 2016

WHAT IS OIT?

2,929,087 TROUBLE TICKETS SINCE JANUARY 2018

274 DATA CENTERS 875 APPLICATIONS

39 PRIORITIZED CYBERSECURITY PROJECTS TO MITIGATE CYBERSECURITY VULNERABILITIES

581,918,890 BLOCKED MALWARE ATTEMPTS IN 2018

353M+ DOCUMENTS AND 2.3B IMAGES IN VBMS

523 TOTAL HPI INCIDENTS SINCE JANUARY 2018

1.5M DATA ELEMENTS EXCHANGED BETWEEN DOD AND VA DAILY

361 INFORMATION SYSTEM SECURITY OFFICERS

422K+ DOD/VA PHYSICIANS ACCESSING SHARED DATA

16M PATIENTS SUPPORTED BY IT SYSTEMS



2018 KEY ACCOMPLISHMENTS



THE NEW VA.GOV

Launched in November, the new **personalized** VA homepage serves as a single “front door” for the **top 80%** of tools Veterans say are most important to them.

ONEVA PHARMACY

With a Veteran’s pharmacy information now available across the entire enterprise, **OneVA Pharmacy** ensures Veterans have access to the care they need, **wherever they are**.

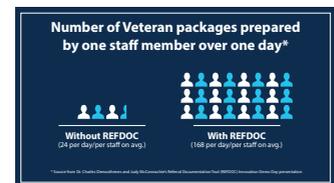


VA VIDEO CONNECT

Veterans can now attend medical appointments and speak to their care providers wherever they are, through a secure, remote, video platform. Over **32,000 Veterans** have already received care through VA Video Connect.

REFDOC

This **web-based tool** allows VA providers to quickly transmit Veteran health records securely, electronically, to **community health providers**—**boosting performance by 700%**



MOBILE SCHEDULING ENHANCEMENTS

The VA Appointments app, deployed in November 2017, allows Veterans to **self-schedule** primary care, audiology, optometry and mental health appointments online. This app also earned VA a **FedHealth IT Innovation Award**.

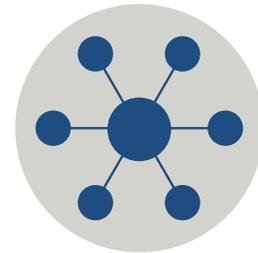


VETTEXT

VetText is an SMS reminder system that texts Veterans with appointment reminders they can add to their devices. They can also cancel appointments as easily as tapping “send.” Over **18M reminders** have been sent to **3.2M Veterans** to-date.

VA PROFILE

For the first time ever, VA has a master record of Veterans’ **authoritative contact information**. Veterans can input their information once, and it’s automatically **updated across all of VA’s systems**.



YOURIT SERVICES

VA’s new **cloud-based, self-service** IT support portal provides VA employees **convenient ways to connect** with IT support, request equipment, and communicate with the employee servicing their request. To-date, YourIT Services has resolved **over 1 million tickets**.

IFAMS

VA’s new cloud-based financial management system **modernizes mission-critical accounting functions** and promotes data integrity, sound financial practices, **transparency**, and alignment with the Federal budget cycle.



B+ IMPROVED FITARA SCORE TO B+

X CLOSED 23 GAO FINDINGS AND 11 IG FINDINGS

\$ \$100M COST AVOIDANCE THROUGH STRATEGIC SOURCING AND EXECUTIVE REVIEWS

A FEW AWARDS FROM 2018

2018 FedHealthIT 100

FedHealthIT, a premier resource for senior government and industry executives of the Federal Health community, recognized several OIT leaders for their leadership and their willingness to challenge conventional wisdom and give back to the larger Federal Health IT and Consulting communities.

OIT winners included:

- » **Paul A. Tibbits, MD**, Executive Director for OIT Electronic Health Records Modernization Integration (also earned the Lifetime Achievement Award)
- » **Alan Constantian, Ph.D**, Deputy Chief Information Officer and head of the Account Management Office
- » **John Windom**, Executive Director, Office of Electronic Health Records Modernization
- » **John Short**, Chief Technology and Integration Officer, Office of Electronic Health Record Modernization
- » **Charles Worthington**, Chief Technology Officer
- » **Aaron J. Drew, Ph.D**, Chief Architect, Financial Management Business Transformation.

2018 FEDHEALTHIT COMMUNICATIONS SERVICE AWARDS

In addition to the OIT leaders, FedHealthIT also recognized these OIT staff for outstanding Health IT communications services:

- » **Tim Cox**, Director of OIT's IT Strategic Communication team
- » **Nicole Gilbride** of Office of Electronic Health Records Modernization Communications

2018 FEDHEALTHIT IMPACT AWARD

FedHealthIT also recently recognized a Senior Health Advisor in OIT:

- » **Gita Uppal**, the Senior Health Advisor in OIT's Account Management Office, received the FedHealthIT IMPACT award celebrating outstanding female leaders. Ms. Uppal received the award at FedHealthIT's first-ever Women in Leadership Impact Conference and Awards Ceremony in October, which recognizes women "who are visionary leaders, that are relentless, and passionate about driving change within health IT."

2018 CIO 100 AWARDS

The **VA White House Hotline**, **Access to Care**, and **YourIT Services Tool** all earned the 2018 CIO 100 Award

2018 FEDERAL COMPUTER WEEKLY FED 100

Gary Stevens, Deputy Chief Information Security Officer and **Jack Bates**, Director of the Business Intelligence Service Line

2016 WORKFORCE OPTIMAS

(Awarded this year) **Jim Trinka**, Chief Learning Officer

2017 GCN DIGIT

(Awarded this year) **Access to Care** program

2017 GCN RISING STARS

(Awarded this year) **Ruchika Croall**, Director of Enterprise Program Management Office Information Assurance

2017 CORPORATE UNIVERSITY BEST IN CLASS AWARDS

(Awarded this year) **Chief Learning Office/IT Resource Management Office**

2018 SERVICE TO AMERICA MEDAL—MANAGEMENT EXCELLENCE

Marcella Jacobs, Director of the VA Digital Service, and the VA Digital Service Team





STABILIZING AND
STREAMLINING CORE
PROCESSES AND PLATFORMS

DRIVING IMPROVED OUTCOMES FOR VA

In 2016, OIT embarked on a sweeping IT transformation to collaborate with our business partners and create the best experience for all Veterans. We stood up the Enterprise Program Management Office (EPMO), a control tower for all IT solutions in development. We realigned our service delivery folks in the field to the IT Operations and Services (ITOPS) organization to standardize our customer service

and bolster visibility of trending IT challenges at VA. EPMO manages the lifecycle of our technologies, from the original business request through the transition, release, and sustainment phases. ITOPS implements those technologies and provides technical support to manage them. We've since built on that transformation with a focus on IT modernization—*creating a VA IT organization that stands toe-to-toe with the top tech companies in private industry.*

ACCELERATING VA IT MODERNIZATION THROUGH DEVOPS

This year, we accelerated this IT modernization, announcing the integration of the EPMO and ITOPS divisions into one Development Operations (DevOps) environment.

In a world in which IT and business processes change at a moment's notice, teams need to align staff efficiently and adapt quickly to changing needs and requirements. It isn't enough to just be agile; adherence to Agile methods such as Scrum, XP, or Kanban will only take an organization so far. Agile success requires more than just development and testing. It requires true collaboration between the development and operations teams throughout the entire deployment pipeline. Shifting to a DevOps culture and framework fundamentally changes the way we operate.

DevOps is entirely about delivering the best outcomes at the best value to our customers.

CHALLENGING CONVENTIONS AT VA

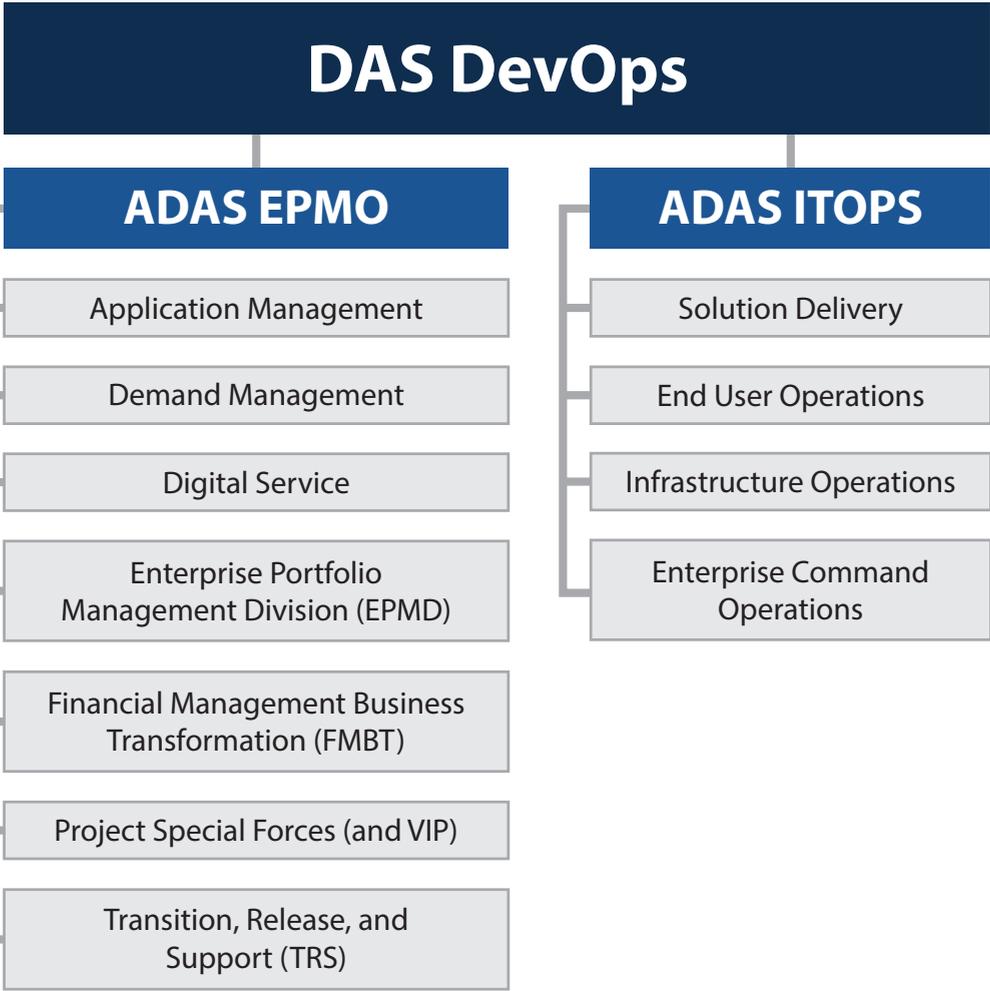
PEOPLE—VA OIT is committed to a culture where collaborative, high-trust teams can pursue innovation, without fear of condemnation, and where standardized

processes are practiced. This objective is achieved by (1) institutionalizing predictable development, delivery, and deployment activities, and (2) establishing self-organizing teams that have a shared purpose and are afforded the autonomy to master leading practices, while pursuing continuous improvement.

In the past, our IT team structures encouraged functional specialization and optimization of individual steps of a process, but not so much organizational collaboration. This not only impedes cultural change, but also makes it more difficult to hold individuals responsible for service delivery outcomes.

To change this, our new DevOps structure requires our staff at each step of the development process to work together to champion products throughout the lifecycle. In other words, developers can no longer hand their work off to testers, and testers can no longer hand off their work to operators to deal with any release crises. Those integrated project teams must be mindful of operational requirements from release planning, logging, and exception handling—





to monitoring, service management, and security. When planning, teams must incorporate requirements, such as system stability, availability of test data, suitability of the solution to its operating environment, and performance. The delivery outcomes improve because many parts of the organization are collaborating early and often, and the whole group feels a sense of responsibility for the final product.

CULTURE—Changing the culture means challenging conventional thinking. *It doesn't just mean keeping the lights on or keeping the trains running on time.* A true DevOps environment is a change of IT culture that demands strategic risk and investment decisions to achieve rapid IT service delivery, in a lean and Agile systems-oriented approach.

DevOps extends Agile methods and responsibilities beyond development and testing to include collaboration with operations personnel. This collaboration entices teams to reduce feedback loops, enhance product testability, improve product delivery predictability, and define success in terms of shared product deployment and quality goals, rather than hand-off completion.

TECHNOLOGY—Changing our IT culture is not enough. We need to reimagine the way we test—and we also need end-to-end visibility into our tools and interfaces at the program level. To achieve this, our integrated team is developing a deployment pipeline that provides visibility into all build, deploy, test, and release activities. It will also deliver actionable feedback so that staff can resolve problems quickly, with minimal intervention.

That kind of integration and collaboration enables both Continuous Integration (CI) and Continuous Delivery (CD) practices. CI improves the flow of work from developers and testers through operations to the customer; enables timely, frequent feedback from customers and operations to developers and testers; and improves team member coordination while standardizing predictable development, delivery, and deployment activities.

An exceptional customer service experience begins with a fundamental understanding of the needs of the user.

CD extends CI practices by automating the deployment of CI build products to downstream production-like environments that test the system the way it will be operated in real life. This shortens feedback loops and makes certain that we do not promote and test builds that seem to work in test environments yet fail when deployed

to the field and across VA. When this entire process is automated, culminating in the actual deployment of the product to the field, this is called “Continuous Deployment”—an end-to-end automation and feedback practice, from development, to testing, to deployment to the production environment.

PROCESS—No organizational realignment comes without some level of uncertainty and friction. To reduce that friction, we are instituting effective processes that provide the kind of feedback that helps us prevent new and recurring problems and enables us to detect, remediate, and mitigate the roadblocks that inevitably arise. Those Agile processes will also allow us to create quality at the source, helping us fend off expensive and disruptive unplanned work. These kinds of processes must include automation of error-prone and laborious manual tasks, test suite automation, shared goals and rewards for development and operations personnel, and continuous production monitoring.

DESIGNING WITH THE CUSTOMER, INSTEAD OF FOR THE CUSTOMER

Elements of the DevOps environment noted above, namely CI, CD, and Continuous Deployment, focus on integrating the customer’s experience as a key process, from beginning to end, versus bolting on fixes or enhancements at the end. They allow us to succeed in areas where legacy methods have failed in the past, bringing our IT organization closer to the VA customer, the user. *An exceptional customer service experience begins with a fundamental understanding of the needs of the user—but that understanding cannot simply begin and end as a conversation between the VA business partner and the IT project owner; the customers’ needs must be integrated at every step of the development, testing, deployment, and operations cycle.*



This new DevOps environment facilitates that seamless, continuous exchange of customer feedback, enabling our IT organization to design, deliver, and support solutions that meet our customers' needs—solutions created with the customer, not for the customer.

YOURIT SERVICES—A NEW APPROACH TO IT SUPPORT

When VA employees contact their information technology (IT) customer service help desk, they expect their call to be answered quickly and their IT issues resolved swiftly. This is exactly the customer service experience OIT envisions. But many people are probably unaware of the intricate array of people, processes, and modernization necessary to realize this vision. It begins with leadership who bring a vision for and commitment to customer service—VA's prime directive. It also requires a strong, purpose-driven team of knowledgeable help desk staff who can respond to a host of issues involving hardware, software, applications, system access, security. *Additionally, the team must be equipped with the right tools to process tens of thousands of calls, while treating each customer like they are the only caller.*

These are the exact elements that have made the IT Operations and Services Enterprise Service Desk (ESD) team, led by Enterprise Command Operations Acting Executive Director Lynette Sherrill, so successful this year.

Continuing to drive new capabilities while also streamlining core processes, ESD exceeded their service speed and quality goals for their most recent reporting period. For speed of service, the goal for average caller wait time to speak to an ESD agent was 45 seconds, but *ESD answered calls in an average of only 35 seconds.* For quality of service, the team targeted a goal of resolving 95% of issues the first time that customers contacted ESD—the team smashed that target and *resolved almost 99% of issues at first contact.*



Further, with the aim of resolving 80% of issues without having to transfer the call to other technical staff, the ESD team exceeded that goal by *resolving just under 85% of issues without transferring the call.*

OIT understands that the speed and quality of ESD's service has a real impact on the ability of our business partners to provide the care our Veterans deserve. So we innovated YourIT Services in 2018—an IT service request management tool—in early 2018, which not only bolstered help desk capabilities, but also improved analytical capabilities, helping us quickly respond to—and even anticipate—IT issues. This modernization even includes a dashboard showing “just-in-time services,” key services that help us drive rapid solutions to immediate customer needs, but which had proven difficult to track in the past.

Responding to a tremendous range of IT problems and questions VA-wide represents a complex undertaking, given the sheer volume of calls and number of customers. ESD typically fields over 40,000 calls every week, serving as the help desk for nearly 400,000 staff and contractors employed at VA facilities across the country, all of whom rely on ESD's customer service to solve the IT challenges that impede VA's ability to serve our Veterans.

Speaking about her team's latest accomplishments, Ms. Sherrill said, "We have a fabulous team that works hard to deliver exceptional customer service, no matter the challenge. Our team knows that we're not only helping customers solve specific IT problems, but we're also helping VA elevate the customer service experience for our Veterans and their families."



Enterprise Service Desk Technician and Veteran Thrives with VA

When VA employee Deidre Dockery called the Enterprise Service Desk (ESD) to resolve connectivity issues with her Government Furnished Equipment, Brett Smith, a Veteran and ESD Tier 1 Agent, worked swiftly to resolve Ms. Dockery's technical issues. Mr. Smith's excellent service was so noteworthy that Ms. Dockery complimented his performance to Mr. Smith's supervisor.

In subsequent conversations resulting from Ms. Dockery's positive feedback, a story emerged of one Veteran's successful journey through hard times to a promising career in IT, highlighting what Veterans and VA can accomplish through effective partnerships. Mr. Smith graduated from the Health Care for Homeless Veterans (HCHV) program, a VA outreach program that aims to reduce homelessness among Veterans through treatment and rehabilitation services.

Upon his successful completion of the HCHV program, Mr. Smith joined General Dynamics and now supports the ESD as a member of VA's contract workforce, helping to modernize VA through its move to managed services for customer support. Mr. Smith is grateful for the services he received from VA that enabled his reentry into the IT workforce; he is even more grateful to be serving VA, noting, "this job gave me an opportunity to pay forward the service I was provided through the [HCHV] program."

OFFICE 365—VA UPGRADES TO THE LATEST BUSINESS APPLICATIONS

OIT's roll-out of Office 365 ProPlus in 2017 and 2018 has successfully brought VA employees the latest versions of Microsoft productivity applications like Outlook, Word, Excel, PowerPoint, OneNote, and Access, as well as Skype for Business. An upcoming migration of email inboxes to the cloud-based Exchange Online will further enhance VA employee productivity, increasing mailbox storage space to 100 gigabytes while adding significant email attachment capacity.

Over the course of the past 18 months, OIT has deployed upgrades to Office 365 ProPlus for more than 400,000 devices servicing employees and contractors around the country. A high intensity effort requiring careful execution to avoid disrupting the services VA employees provide to Veterans, the Office 365 ProPlus team is already getting feedback from satisfied customers. "Just want to give a shout out to your OIT support staff for a great job of making it extremely easy to upgrade our MS Office software through self-service," a senior VA executive recently wrote OIT Executive in Charge Camilo Sandoval. "The instruction they provided was easy to follow and worked perfectly. This is the best experience that I have had in getting VA software updates."

As the Department continues pursuing IT modernization, customer service experiences like these remain central to the focus of our work in OIT—collaborating with our VA business partners to create the best experience for all Veterans.

MOBILE DEVICE REFRESH ENHANCES PRODUCTIVITY FOR EMPLOYEES ON-THE-GO

VA employees rely heavily on their mobile devices to perform a variety of work functions. This is why VA's Office of Information and Technology (OIT) is investing in hardware, software, and security upgrades to continue to equip stakeholders across the department to perform their roles serving Veterans.

The effort includes migrating 40,000 users from the end-of-life Good application to BlackBerry Work and working with the Office of Information Security on security policy updates in preparation for the next iOS release for Apple iPhones. OIT's Information Technology Operations and Services Solutions Delivery (SD) Mobile and Endpoint Engineering team is managing the effort, working closely with the Telecommunications Business Office (TBO), who upgrade users to newer devices.

All these moves, undertaken as part of OIT's continued modernization efforts, allow VA to take important steps toward implementation of the native email client on iOS devices and secure certificate-based authentication (CBA) to access VA resources. OIT is also working with the VA cloud team to move these services to the VA Enterprise Cloud environment. The ability to authenticate using CBA means employees will no longer have to rely solely on laptop or desktop computers to access the VA network. These changes also improve overall security and provide additional reporting capabilities. Moving the services to the cloud increases flexibility to expand the environment quickly and is cost-effective since cloud charges are based on actual (not anticipated) usage.

Describing this initiative, SD IT Specialist Chad Oglesbee said, “Authenticating via CBA will improve access and security for all mobile device users. It brings VA resources to employees’ fingertips while on the go without compromising the security of the device or the security of the VA network. Whether that’s a home-based provider accessing patient records while in the patient’s home or an executive checking reports while waiting at the airport.”

VA ONE + ONE POLICY IMPROVES ACCOUNTABILITY, AVOIDS MILLIONS IN COSTS

As a steward of taxpayer dollars and Veterans’ trust, VA takes careful steps to manage its own resources responsibly and more efficiently. Thanks to the new VA IT *One + One Device Policy*, which improves how VA manages its IT hardware and licenses, we have the potential to realize millions of dollars of cost avoidance that frees up resources we can reinvest to improving the Veteran experience.

On August 31, 2018, OIT implemented the VA IT *One + One Device Policy* to more efficiently allocate equipment and reduce the number of devices or licenses to purchase and manage. The policy leverages a matrix that sorts user roles and needs, and then tailors IT hardware or VA-provided cell phones accordingly. Although some targeted exemptions are permitted, this policy standardizes the way VA equips employees and contractors to perform their work on behalf of VA and our Veterans. This approach also enables OIT to better predict and plan for customer support needs, and contributes to substantial cost avoidance. For example, OIT has a current inventory of approximately 350,000 laptops and workstations assigned to unique users. Reducing that inventory by just five percent could enable VA to avoid approximately \$12M in hardware costs alone.

The *One + One* policy adds up to big benefits that directly support VA’s mission. For VA employees and contractors, the policy tailors our IT resources to their role-specific needs and improves our customer service so we can better equip them to offer the seamless, unified experience that our Veterans have earned.

TELEPHONY MODERNIZATION—ANSWERING THE CALL FOR VA INNOVATION

When most people think about modernizing an organization as large as VA, thoughts naturally turn to big IT projects like the Electronic Health Record. But true modernization touches every aspect of how VA processes information, including the way we field calls from our Veterans through telephone networks used by VA Medical Centers (VAMCs) around the country. The Unified Communications Infrastructure Support (UCIS) team is one such team working hard to prepare VA for the next generation of IT services and VA customer service.

Working under the Infrastructure Operations (IO) group within the IT Operations and Services (ITOPS) division, UCIS is modernizing VA telephony systems across the country. A diligent team led by J.R. Carter reviewed eight different phone system brands used by VAMCs and prioritized those systems most in need of an update. Then they worked with the facilities to identify modern, secure phone systems that could deliver advanced data and telephony services that improve delivery of Veteran care and services.

For example, VA nurses in Portland, Oregon can now receive calls anywhere during their rounds, and even receive patient vital signs on their phones via a secure app, thus eliminating the need to be at specific workstations and allowing them to more immediately address Veteran patient needs.



“Phone systems need to operate and coordinate together to transform and empower our business activities,” said Sean Mitts, Acting Director of the UCIS team. “But legacy phone systems are a barrier to enterprise transformation.”

UCIS also recently secured \$23 million in dedicated investment that will equip 29 VAMCs and multiple cemetery and pharmacy sites with updated telephony, video teleconferencing, and call center capabilities by the end of 2019. The projected investment includes the purchase and deployment of 64,630 phones, over 180 voice gateways and enough licensing to support over 2,500 call center agents.

The efforts of the UCIS represent more than just replacing old equipment; they prepare VA to deliver better services to Veterans and to be the top customer service agency in the Federal Government. This new telephony platform allows VA to seamlessly integrate voice, video, messaging, and conferences into one convenient solution across many devices in nearly any location. The investments will also empower stronger call center capabilities so that phone attendants across the country can handle call surges outside of their own geographical area. Further, these investments will help VA avoid nearly \$40 million in maintenance costs for older networking equipment, some of which was well past their operational lives.

“This initiative will transform VA’s ability to respond to ever-changing Veteran needs, now and in the future,” Mr. Mitts said. UCIS is effectively contributing to VA’s ongoing modernization initiatives and generating results that address business needs, reduce organizational costs, and empower VA employees to deliver exceptional service to our Nation’s Veterans.

STREAMLINING BENEFITS COMMUNICATION WITH VETERANS

VA’s IT modernization efforts in 2018 have focused on using resources more efficiently, on finding the best value to the Veteran and to the taxpayer for VA’s IT spend. A large part of this modernization has included an aggressive focus on collaborating with our business partners throughout VA to streamline the tools that facilitate disability compensation, pension benefits, and appeals for our Veterans—ensuring they are processed timely, securely and cost-effectively.

VA and Veterans are already realizing early benefits of this IT Modernization. Through a strong partnership between the Veterans Benefits Administration (VBA), OIT, and the Government Printing Office (GPO), VA launched the Centralized Benefits Communications Management (CBCM) program in January 2018. This program streamlines and centralizes printing and distribution of correspondence, improving VA’s speed and efficiency in communicating with Veterans, as well as enhancing the security and privacy of their information.

On August 29, 2018, the CBCM program achieved a major milestone with the *transmission of its 3.5 millionth letter* at a notable cost avoidance to VA of *more than \$4.8 million*. More importantly, this program frees up *307,000 labor hours*—time associated with manually printing and mailing individual letters—and time that can be reinvested in streamlining Veterans’ claims.

This Veteran-focused partnership between OIT, VBA, and GPO has also helped VA establish practices and tools that enhance our ability to identify potential challenges with distribution, such as address changes or integration with sister-agency databases, and then rapidly scale solutions across the entire Department.

VA ENTERPRISE CLOUD AND DATA CONSOLIDATION—EARLY DATA POINT TO CLOUD SAVINGS

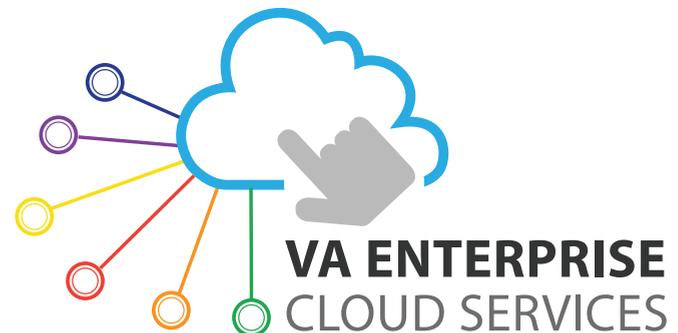
OIT's IT modernization approach focuses on managing data, improving VA's cybersecurity, digitizing VA's business processes, decommissioning legacy systems, and migrating many VA services to the cloud, actions that will promote flexibility and cost savings at VA—savings that can be reinvested into services that directly enhance the Veteran experience.

Migrating key IT applications and services to the cloud is already generating real benefits for VA. OIT recently moved a very large, complex application called Identity Access Management (IAM)—tools that protect and authenticate Veteran and employee information—from a 3rd party IBM data center to the secure VA Enterprise Cloud (Microsoft Azure). The “cloud-first” move alone is expected to lead to approximately *\$11M potential cost avoidance* annually, promoting better stewardship of taxpayer dollars.

Additionally, VA's multi-year effort beginning in 2017 to upgrade its network infrastructure and consolidate data centers to support this “Cloud-first” strategy across the second largest network in the entire U.S. Federal Government, has resulted in the consolidation of *24 data centers to-date*, and VA is on track to consolidate *68 more*.

These measures contribute to further modernization-based cost avoidance from other VA efforts. Since the beginning of the year, OIT has realized *\$100 million in cost avoidance* by implementing its fiduciary responsibilities outlined by the accountability and authority the Federal Information Technology Acquisition Reform Act (FITARA) extends to federal chief information officers.

Reflecting over the last year's accomplishments, OIT's Executive in Charge Camilo J. Sandoval said, “From the very day I embarked on this stewardship of VA's IT organization, I challenged myself and my leadership team to consider our position at VA, to consider the enormous gravity of exercising prudence on behalf of the Veteran and the taxpayer—to take a hard look at the value we were getting from our IT spend.”



A network diagram consisting of numerous nodes (circles) of varying sizes connected by lines. The nodes are arranged in a roughly circular pattern, with some nodes being larger than others. The connections are a mix of solid and dotted lines, creating a complex web of relationships. The entire diagram is set against a solid blue background.

ELIMINATING MATERIAL WEAKNESSES

VISUALIZING CYBERSECURITY



Blocked 3,875,020,770 intrusion attempts



Blocked 749,535 outgoing unencrypted emails



Blocked 581,918,890 suspected malware attempts



Raised FITARA score to a B+



Blocked 5,770,740,121 malicious emails



Received an overall FISMA risk rating of "Managing Risk," the highest rating possible.



Contained 8 infected medical devices



Prioritized 39 Cybersecurity projects to mitigate cybersecurity vulnerabilities



ENTERPRISE CYBERSECURITY STRATEGY PROTECTS THOSE WHO PROTECTED US

VA has an important mission that includes protecting the personal information of Veterans and mission critical data. The creation of the Enterprise Cybersecurity Strategy (ECSS) provides the approach to securely achieving this mission. The ECSS aligns with VA's mission, core values, and the ChooseVA modernization initiative and aligns to VA efforts to implement the National Institute of Standards and Technology (NIST) Risk Management Framework (RMF) and the NIST Cybersecurity Framework, to improve information security and strengthen risk management processes to reduce VA's cybersecurity risk.

VA, its core constituents, and external partners are subject to a wide variety of cyber threats. Given the high degree of connectivity, interdependence, and reliance on integrated open platform technology, meeting cybersecurity challenges requires strategic attention and collaboration across the entire VA ecosystem. The purpose of the ECSS is to guide enterprise-wide cybersecurity planning and risk-based decision-making. The ECSS directs VA leadership to act as cybersecurity resource stewards to identify and articulate requirements, standards, and opportunities for transformative cybersecurity improvements. The ECSS promotes collaboration, enables data protection, and provides resiliency in the face of a broad spectrum of threats through the realization of the following strategic cybersecurity goals.

PROTECT VETERAN INFORMATION AND VA DATA

Data protection is an essential VA function that involves people, processes, and technology. VA must identify its high-value assets (HVA); understand its business processes and system interactions so that security and privacy

protections can be applied commensurate with risk; and enhance awareness of safe information handling practices so that the VA workforce, Veterans, partners are equipped to help protect VA data and Veteran information.

DRIVE RESILIENT VA CYBERSPACE ECOSYSTEM

VA needs to maintain critical functions in the face of inevitable breaches. While defense in depth remains essential, VA also needs to be resilient. Implementing the appropriate policies, procedures and technologies provides VA with the ability to maintain continuity of operations both during and after a cyber event, as well as evolving VA's resiliency to better adapt to advanced cyber threats.

PROTECT VA INFORMATION SYSTEMS AND INFRASTRUCTURE

VA identifies and strengthens its mission critical systems and infrastructure, modernizes IT, and employs an integrated, resilient architecture. VA is also committed to leveraging cloud and federal shared services. VA not only integrates cybersecurity protections into VA information systems and networks, but also verifies that business associates are appropriately implementing protections within their systems.

ENSURE SECURE OPERATIONAL ENVIRONMENT THAT SUPPORTS EFFECTIVE OPERATIONS

For VA to operate effectively in the cyberspace domain, a secure operational environment is necessary. Such an environment is realized through efficient, agile acquisitions that help VA keep pace with evolving cyber threats and technological innovations, operates transparently and, to the extent possible, seamlessly; and is enabled by integration of information security capabilities and outcomes across enterprise governance, business operations, and technology architecture frameworks.

RECRUIT, DEVELOP, AND RETAIN A TALENTED CYBERSECURITY AND PRIVACY WORKFORCE

Strong cybersecurity capabilities require a cybersecurity workforce that is agile, multifunctional, dynamic, and flexible to adapt to an ever-changing threat environment. VA's workforce planning capability and framework provide VA the data it needs to make fact-based decisions on cyber and privacy workforce recruitment, development, and retention.

STREAMLINING AUTHORITY TO OPERATE (ATO) PROCESS BUILDS SECURITY AND ACCOUNTABILITY INTO VA SYSTEMS

VA distributes Authority to Operate (ATO) clearances to business partners to give them a “green light” to develop systems, products, and processes intended for use at VA. These ATOs are the front-line defense that certify that all applicable security standards are met for every VA system and are “baked” into product development. Proper planning and risk assessment ensures that VA can uphold our commitments to eliminating material weaknesses and safeguarding the sensitive Veteran information for which we are responsible.

The process of risk assessment that goes into ATO distribution can seem confusing at first glance. It involves a complex system of checks and balances that ensures that every system in VA receives the clearance that shows it is both secure and beneficial for VA's customers: our nation's Veterans. That is why the Enterprise Program Management Office (EPMO) sought to streamline the process to help ensure that the Authorizing Official (AO) is making decisions that best serve Veteran interests.

To accomplish this, in 2018 EPMO developed the Authorizing Official Summary Brief (AOSB) tool and

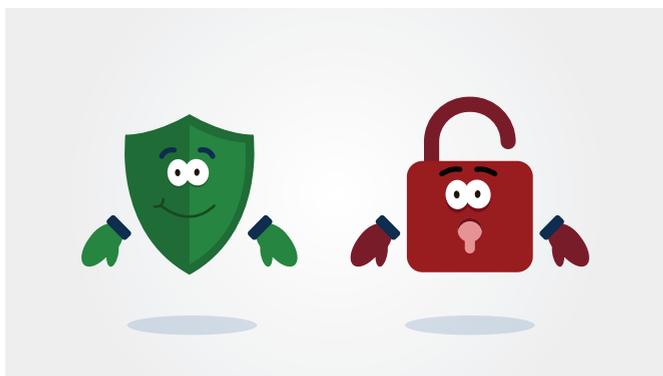
process to standardize the information sent to the AO, expediting ATO approvals. The automated form populates a template with the information needed and receives signatures from the system owners, business owners, and Information System Security Officers (ISSOs) electronically once a decision is made. The AOSB provides a constant, 360-degree visibility around what ATO is up for approval, what has been approved, and what is coming down the pipeline, ensuring everyone is on the same page when a decision is made. That is not the only benefit—Ms. Ruchika Croall, EPMO Information Assurance Director and POC for the tool, explains, “Using this tool builds accountability into the process, so [system owners] understand that receiving ATO means so much more ... if the system was breached or it impacted a Veteran, we would be responsible.”

In other words, this behind-the-scenes process at VA ensures each system—and by extension, the system owner—is being held accountable for its security, safety, and effectiveness. This process helps AOs sort through the mass of systems they see every day to find only the ones that give the most immediate, safe, and positive benefits to Veterans. It also promotes a discussion of the merits of each system and how it will impact Veterans from their point of view. By providing the AO with a better understanding of how the system will be used, the AOSB fosters an effective two-way communication between the development team and AO, which ultimately results in better, more secure products. It also helps keep us accountable to our business partners—by working to eliminate potential material weaknesses, we're ensuring that they receive only the best VA can offer and that VA makes smart business decisions.

The effectiveness of the template tool speaks for itself; we have already seen more than 298,000 system vulnerabilities identified and remediated since its inception this year, while the number of full-ATO approvals has increased by

approximately 71 percent as of November 2018. Constant improvements to the process will ensure that we deliver functionality to our Veterans quicker, making their lives and the lives of those who use the systems—doctors, clinicians, and VA employees—easier. EPMO aims to use the tool to increase the number of ATOs while simultaneously managing risk and reducing vulnerabilities.

CREATING A CULTURE OF CYBERSECURITY AT VA



During October 2018, OIT commemorated National Cybersecurity Awareness Month (NCSAM) with an annual campaign to raise awareness about the importance of cybersecurity. NCSAM was a VA-wide promotion to ensure every employee has the resources they need to stay safe and secure online, while improving workforce recognition of possible cyber-threats. NCSAM key themes focused on:

- » Increasing cybersecurity knowledge across personnel to eliminate material weaknesses
- » Protecting Veteran data and employee information to safeguard against data breaches
- » Securing critical IT infrastructure and information systems to meet binding operational directives (BOD) for enhancing email and web security.

AUTOMATING AND MITIGATING ENTERPRISE RISK

VA's recent implementation of eMASS is a web-based Government off-the-shelf, software as a service (SaaS) capability that automates a broad range of processes for comprehensive, fully integrated cybersecurity management, including dashboard reporting, workflow automation, and continuous monitoring supporting Risk Management Framework for Assessment and Authorization. eMASS provides an integrated suite of authorization capabilities to improve cyber risk management, including context to understand mission impact by establishing process control mechanisms for obtaining Authorization to Operate decisions.

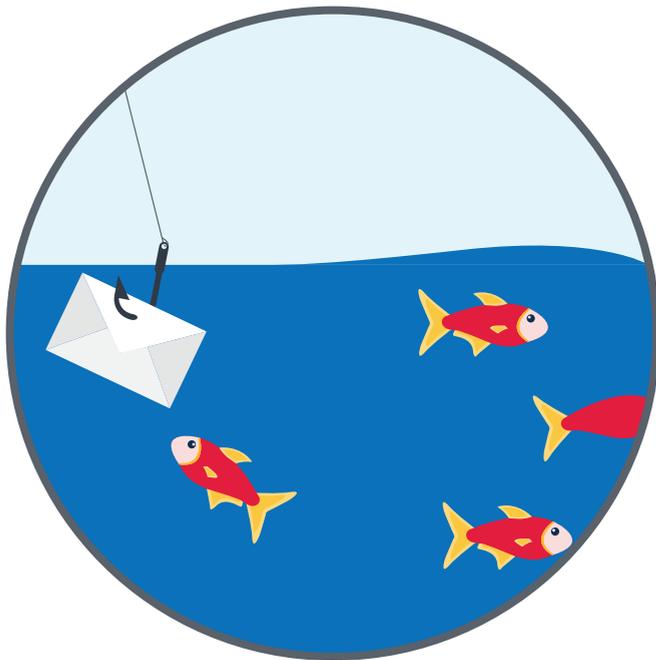
eMASS Cybersecurity Strategy empowers the cybersecurity workforce through its control-requirements wizard, intuitive user interface, robust customizable workflows, and auto-generation of security compliance package reports. This process automation enables more time spent on securing the network and not interpreting the policy. Through improved cyber-situational awareness, eMASS enables users to readily identify vulnerabilities and make decisions concerning cybersecurity personnel and program needs. Through its central management and governance of an enterprise's cyber policy, eMASS promotes speedy delivery of policy changes and dramatically improves the cycle time to effect these changes directly through to individual teams.

LEADING THE FEDERAL GOVERNMENT IN WEBMAIL SECURITY

VA knows that bad actors are always looking for ways to exploit system vulnerabilities and steal Veteran data. Some scammers even impersonate federal agencies to steal an individual's personal information and credentials. Veterans could ostensibly open a phishing email purporting to be from a VA pharmacy and respond with personal and financial information, thinking they will receive medication. Meanwhile, a bad actor is collecting personal information and payments from the Veteran, all under the guise of a legitimate email from VA.

SAFEGUARDING INFORMATION A PRIORITY FOR FEDERAL AGENCIES

The Department of Homeland Security (DHS) recognized this weakness and issued in 2017 the Binding Operational Directive 18-01 "Enhanced Email and Web Security,"—



a compulsory direction to federal, executive branch, departments, and agencies—mandating that all federal domains implement specific security standards to prevent domain name spoofing and to secure email communication.

As of October 2018, VA has successfully implemented these changes – ahead of DHS' deadline – making it much more difficult for scammers to fake official VA email addresses. Thanks to the leadership of the VA Cybersecurity Operations Center and IT Operations and Services' Security Engineering team, Veterans can trust that VA is working aggressively to ensure that email Veterans receive from va.gov email addresses are actually from VA.

"Email from malicious senders who try to impersonate VA are less likely to make it to the Veteran's inbox. As a result, Veterans can feel more confident that email coming from an official VA email account is legitimate," remarked Kevin Robins, Director of VA's Cybersecurity Operations Center, "and this team worked tirelessly with our agency partners to make that happen for our Veterans."

SETTING THE STANDARD BY PROTECTING VETERAN DATA

Not only was VA the first federal agency to achieve 100 percent compliance with the directive, DHS also asked VA to provide a brief and guidance on best practices for web and email security. VA is proud to set the standard for other agencies while staying at the forefront of protecting Veteran information from cyber threats.

Safeguarding Veteran data is an integral part of providing Veterans world-class customer service. *We fiercely protect the personal data of our Veterans, just as they have protected us.*

A network diagram consisting of numerous grey circular nodes of varying sizes, interconnected by thin grey lines. The nodes are arranged in a roughly circular pattern, with some nodes being larger than others. The background is a solid dark blue color.

INSTITUTIONALIZING NEW
CAPABILITIES THAT DRIVE
IMPROVED OUTCOMES

ONLINE SCHEDULING ENHANCES THE VA HEALTH CARE EXPERIENCE

VA Online Scheduling, formerly known as Veterans Appointment Request, is an online tool that provides Veterans greater control of their health care by showing appointment availability and allowing Veterans to book health care appointments online.

OIT, the Veterans Health Administration (VHA), and Digital Service team members worked with Veterans and clinicians to design, test, and deploy VA Online Scheduling. Through usability testing, the team members addressed existing issues to allow Veterans to take full advantage of the tool's benefits and functionality.

The successful collaboration among OIT, VHA, and Digital Service is evident in the user counts. Over the course of 2018, Veterans have scheduled, requested, or canceled approximately 16,000 appointments per month. By streamlining the existing platform, VA was able to enhance core processes and improve the Veterans' access to care and is *empowering patients to manage their own health*.



VA STREAMLINES VETERAN CLAIMS BY MOVING AWAY FROM DECADES-OLD SYSTEM

By decommissioning an outdated paper method and moving to electronic folders in 2018, VA changed how claims applications, evidence, and correspondence were stored. Implementing this “eFolder” initiative improves the efficiency of collecting Veteran information, the ease of which that information is shared with relevant offices and administrations, and the speed at which VA can process a Veteran's claim.

This new capability provides:

- » Claims attachments compliance: Veterans' claims can be processed quicker due to the changes in how VA employees' access clinical documentation attached to claims
- » Claims processing and eligibility: Veterans' claims can be processed more accurately due to enhanced system automation and reporting capabilities
- » Digital claims accessibility: eFolder Express is part of Caseflow – a suite of applications that provides VA employees access to modernized tools for managing the Veteran benefit appeals process. When complete, Caseflow will replace the legacy Veterans Appeals Control and Locator System (VACOLS), which was designed in the 1980s.



LIGHTHOUSE OPEN API PLEDGE— SHAPING A NEW DIRECTION FOR HEALTH CARE



LIGHTHOUSE

Health care providers can now sign VA's Open Application Programming Interface (API) Pledge, a promise to work collaboratively with VA to advance the speed in which health data are shared in a manner comparable to industry standards. Following its launch at the Healthcare Information and Management Systems Society conference in March 2018, the Open API Pledge was immediately signed by 12 leading health care providers, with several more expressing interest in signing the pledge since.

"The API pledge is not only important for Veterans but is an important first step in creating seamless electronic records for all U.S. citizens," said Stephen Klasko, President and CEO of Thomas Jefferson University and Jefferson Health and current pledgee.

The Open API Pledge is another building block on the path to VA-wide modernization. By committing to an open development environment, VA fosters innovative technology solutions for Veterans and increases collaboration with key stakeholders across the health care sector to maximize interoperability.

Since launching its Lighthouse API Management Platform in March 2018, VA has delivered a developer portal, a Benefits Intake API, a Health API, and a Facilities API.

HEALTH API

The Veterans Health API was introduced on December 4, 2018 at the White House Executive Forum on Healthcare Data Interoperability, a group of senior healthcare leaders from both the public and private sectors.

Consistent with VA's Open API Pledge, the Health API conforms to the Argonaut Fast Healthcare Interoperability Resources (FHIR) API standards. VA believes that open, FHIR-based APIs are an essential component in a modern interoperability strategy, and that government and industry must collaborate to expand available FHIR resources and the utilization thereof.

"We are excited to announce this advancement in the way we deliver services," said VA Secretary Robert Wilkie. "Healthcare data interoperability plays a key role in all four of VA's top priorities, from implementing the MISSION Act and modernizing our electronic health record, to transforming our business systems and delivering better customer service. VA is proud to serve as a leader and example in this field."

VA has long been committed to providing our Veteran patients easy digital access to their own healthcare data. Since the launch of our Blue Button product in 2010, more than 2 million Veterans have downloaded over 32 million personal health data files from the VA's patient portal.

These Health APIs will power the next generation of Blue Button features by enabling Veterans to interact with their own personal health data within innovative mobile and web-based apps. Health APIs will also support new clinician-focused applications, and can also serve as a foundation for data sharing between health systems to support Veteran care.

BENEFITS API

The Benefits Intake API allows third-party organizations, such as Veteran Service Organizations (VSOs), to securely submit Veteran disability compensation and pension claims and related documents directly to VA.

Today, 65 percent of claims VA receives are in paper or fax. The Benefits Intake API was built in collaboration between VA's Office of Information and Technology, the Veteran Benefits Administration, and VSOs to help Veterans get their information to VA faster and more securely.

"We're really excited that the Benefits Intake API is live. We are on track to see about 20 percent growth each week since rolling out in beta," said the Office of Information and Technology's Executive in Charge Camilo J. Sandoval. "Our partners at the California Department of Veterans Affairs successfully sent over 1,000 documents through the API during its first few weeks, and we are actively bringing on multiple new partners." Every document received through this API saves the taxpayer money and helps us deliver a faster, accurate decision for Veterans.

"VA remains committed to providing Veterans the benefits they have earned at the highest quality," said VA Secretary Robert Wilkie. "Customer service to our Veterans is more than how we talk to each other, it also is how we present ourselves to the outside world. Using technology like this will help VA continue to improve the way we care for Veterans."

REFDOC EXPEDITES DELIVERY OF VETERAN PATIENT INFORMATION TO COMMUNITY CARE PROVIDERS

In close partnership with VHA's Office of Community Care, OIT implemented a web-based tool in 2017 to simplify and expedite the process of delivering Veteran patient information to community care providers. OIT's new capability is known as Referral Documentation (REFDOC) and the tool allows health care staff to quickly collect patient information and compile the data into a PDF file that can be easily and securely shared electronically with community care providers.

To-date, the successful deployment of REFDOC has improved care coordination, established more efficient data sharing processes, and created remarkable cost savings across the Department.



171
Nationwide Sites



1,600
Active Users



1.6 MILLION
Packages



NEW VETERANS CRISIS LINE OPENS IN TOPEKA

On May 25, 2018 VA held a ribbon cutting for the Department's third Veterans Crisis Line (VCL) in Topeka, Kansas at the Colmery-O'Neil VA Medical Center, signifying how VA is improving its service with this newest call center for Veterans, service members, and their families.

Currently, more than 500 qualified staff spread across three centers respond to calls from Veterans and their loved ones, directing callers to the care they need. Since VA launched the VCL in 2007, crisis line responders have:

- » Answered over 3.5 million calls
- » Initiated the dispatch of emergency services to callers in imminent crisis nearly 93,000 times
- » Engaged over 397,000 requests for chat services
- » Answered nearly 92,000 requests for text services.

VCL is essential to providing immediate care to Veterans in crisis, and the institutionalization or expansion of new capabilities is key to this life-saving mission.



iFAMS MODERNIZES VA'S FINANCIAL SYSTEMS

In alignment with VA's overall modernization strategy, the Department has transitioned in 2018 its Integrated Financial and Acquisition Management System (iFAMS) to the VA Enterprise Cloud (VAEC). The move is projected to result in a cost avoidance of \$300K for fiscal year 2019. Overseen by the Financial Management Business Transformation Special Program Office, iFAMS will modernize VA's financial and acquisition management by:

- » Automating and optimizing internal processes
- » Improving the Department's stewardship of taxpayer dollars
- » Reducing audit issues
- » Transferring administrative burden from employees to systems.

iFAMS represents new VA capabilities and the first of many milestones that will allow the Department to more promptly and accurately pay Veterans, vendors, stakeholders, and others. This cloud-based, unmodified, commercial off-the-shelf software solution modernizes an outdated system, strengthens VA's data integrity and financial practices, and increases transparency and alignment with the federal budget cycle.

VA VIDEO CONNECT REACHES VETERANS WHEREVER THEY ARE, WHENEVER THEY NEED IT

VA Video Connect is a new platform that allows Veterans to attend medical appointments and speak to health care professionals virtually. The telehealth solution allows Veterans to access medical expertise quickly, efficiently, and without travel. Each video session is secured through data encryption, and the VA Video Connect app is accessible on any device with an internet connection, camera, microphone, and speakers.

Currently, over 6,000 providers are using VA Video Connect for clinical visits. Since the launch of VA Video Connect in October 2017:

- » 32,000 Veterans have received care
- » 9,800 Veterans have downloaded the app via iOS devices
- » VA has been working to expand the use of telehealth services to improve access to care for Veterans, families, and their beneficiaries.



VA.GOV AND VA PROFILE DRIVE PERSONALIZED VA WEBSITE EXPERIENCE

It should not be difficult to do something as simple as updating a person's address, but for too long this was the case for Veterans using VA services and benefits. Needless to say, complicated processes like this do not reflect an organization focused on our customers' experience, so we are changing a few things.

On November 7, 2018, the new VA.gov launched as a key step in our digital modernization. Part of a VA websites consolidation working group, VA's Veterans Experience Office, the Digital Service, OIT, VBA, VHA, Office of Public and Intergovernmental Affairs (OPIA), and Veteran Outreach office teamed up to gather feedback from thousands of Veterans, service members, their families, caregivers and survivors. What we heard won't shock most. Many of our customers said they were having a frustrating experience, encountering a complicated collection of websites, forms, logins and tools. In other words, our customers struggled to find what they need. We listened. By working across VA organizational boundaries, we created the new VA.gov website as a visible shift from a process-focused organization to a user-focused one.

"Veterans, their families, caregivers and our many customers have successful online transactions in their day-to-day lives," said VA Secretary Robert Wilkie. "They should expect the same exceptional digital experience when coming to VA. Our customers will receive a more simple and intuitive experience when accessing our online front door – the new VA.gov."



The new VA.gov contains homepage content that focuses on the top 20 tasks that 80 percent of VA's customers need, the ability to login to receive a personalized experience, and easy-to-understand, plain language content. Logged in customers will find a dashboard summarizing the status of services they receive from VA, whether those services are provided by the Veterans Health Administration – such as prescription refills, or by the Veterans Benefits Administration – such as claim status. Customers can also update their contact information in one location, rather than visiting multiple VA websites or making multiple phone calls.

VA is demonstrating that it is possible for Federal agencies to give the American people the online experience they expect and deserve—starting with our Nation's Veterans. And VA is proud to be identified as the “co-lead” of the White House cross-agency priority goal on improving customer service.

VETTEXT PREVENTS 100K MISSED APPOINTMENTS

Early 2018, OIT collaborated with the VHA to complete the first nationwide deployment of the VEText, a text message appointment reminder system. Veterans, who provide VA a mobile number, have the ability to receive text message reminders about upcoming health care appointments. Over 18 million text message reminders have been sent to 3.2 million Veterans to date and VHA estimates VEText has *prevented more than 100,000 missed appointments.*

SHARKTANK—TESTING INNOVATIVE IDEAS AND SAVING VETERAN LIVES IN THE PROCESS

We've cultivated a culture of IT leadership through OIT's Future Senior Leader Academy and its Future Executive Leader Academy within the Leadership Development Framework. Academy participants work together over several months to complete a project-based curriculum focusing on leadership development and organizational awareness. Participants close the program by competing in a “Shark Tank-style” competition where they pitch IT-related projects that implement, sustain, or contribute to the evolution of OIT's modernization.

One project, the Bed Management System Sepsis Alert, reduces fatalities and shortens hospital stays due to untimely treatment of sepsis in Veteran patients. Since its implementation, the alert system *decreased hospital stays by four and a half days and total health care cost per patient by an estimated \$63,824. The projected results also estimated 17 avoided patient fatalities through early intervention and a 98 percent improvement in false positive sepsis identification.*

Another initiative provides Veterans with a universal identification card that serves as both a benefits card and proof of military service, eliminating the need for Veterans to carry (and potentially lose) important identification paperwork. The card also allows Veterans to prove their status to local companies that offer Veteran discounts.

The return on investment of the academies' projects is also enormous. To date, the programs cost approximately \$500,000—dwarfed by the estimated millions in savings from projects that are currently operational.

ONEVA PHARMACY SIMPLIFIES VETERAN PRESCRIPTIONS

Imagine as a Veteran you are on a vacation with your family with the sound of waves crashing and warm sun rays peeking through the palm trees around you. Then, an alarm goes off on your phone to remind you to take your medication and when you open the bottle, you realize your prescription is running low.

Much to your chagrin, you end up sacrificing money and hours of precious vacation time to find, schedule, and visit an emergency room, urgent care center, or pharmacy clinic to obtain a new prescription.

Thanks to OneVA, the Department is making prescription refills simpler for traveling Veterans. As of June 7, 2018, OneVA Pharmacy is available and implemented at all VA medical centers (VAMC). By simply registering at a local VAMC that uses OneVA, Veterans can forego the time-consuming and convoluted process formerly required to request a new prescription.

Since going national in June 2018, pharmacists have filled 7,934 prescriptions using OneVA Pharmacy.



"Right now, throughout the entire country, you can have someone [a Veteran] living in California and travel to Florida and want to have their prescription, they can do that. [They] go to the pharmacy and use this product to get the prescription filled," said Ms. Angela Chow, an implementation manager at OIT.

OneVA's enterprise-wide solution is making it a lot easier for Veterans to take care of their health and is in step with VA's goal to modernize its electronic health record. A unified and uniform "One VA" is integral to providing Veterans and those who care for them a high-quality experience through timeliness and efficiency. The backbone to providing this enhanced experience is technology.

In fact, OneVA's production in all VA medical centers was named as one of the 18 priority initiatives by VHA and OIT leadership in their Joint Business Plan for fiscal year 2018. The Plan provides OIT account managers visibility over top technology initiatives. By working with VHA, OIT can ensure technological challenges are being addressed and goals are being met.

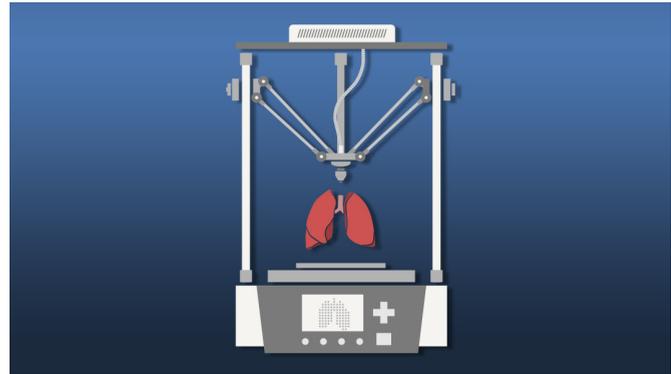
3D PRINTING CREATES ARTIFICIAL LUNG

VA pursues technology that can help us offer cutting-edge care and treatment to the Veterans we serve. As VA strives to provide world-class care and services, the advancements it has championed—from piloting the first electronic health record to being among the first in the United States to do osteointegration—have helped to change the face of technology and health care around the world.

VA recently accelerated research into the health care possibilities surrounding 3D printing (3DP) technology. The printers use blueprints created with modeling software and melted plastic “ink” to print three-dimensional objects layer by layer. These printers can create objects like made-to-fit prosthetics, artificial organs, customizable splints, orthotics, and even entire artificial limbs. 3D printers have been installed in VA hospitals in Seattle, Albuquerque, San Antonio, Boston, and Orlando.

OIT has worked closely with VHA to integrate this technology into test sites and help hospital staff adjust to using the new capabilities. Though the technology is new and has only been tested in limited capacities in a health care setting, the progress that has been made with it—both within VA and in the private sector—has dramatically impacted the way we approach health care and treatment options.

For example, VA has already made strides in developing a 3D-printed artificial lung, which is being tested at the Ann Arbor health care system in Michigan. The 3D technology allows researchers to print fine blood flow networks that closely mimic those in real human lungs—an advancement they hope will lead to the creation of effective artificial “tissue” that better filters oxygen into blood. VA hospitals have also printed customized tools such as fitted splints



for fractures and easier-to-use toggles for motorized wheelchairs, both of which have allowed more varied, personalized treatment options for Veterans.

Dr. Beth Ripley, a radiologist and chair of the VHA 3D Printing Advisory Committee at VA, believes that 3DP will support VA's vision to “provide Veterans the world-class benefits and services they have earned, and [to] do so by adhering to the highest standards of compassion, commitment, excellence, professionalism, integrity, accountability, and stewardship.” Ripley sees 3DP as a tool with great potential to accomplish VA's primary vision to provide personalized care and best-in-class customer service to Veterans.

It is only through close partnerships throughout VA that initiatives like this can move from theory and concept to reality for the Veterans we serve. Through this collaboration, the effort to pursue 3DP as health care technology may serve as a catalyst to develop new innovations, such as implantable bio-prosthetics, new assistive technology devices, and custom prosthetics or orthotics. VA hopes that 3DP will one day be available at all 168 VA hospitals across the nation to provide Veterans with the world-class benefits and services they have earned.



A network diagram consisting of numerous light purple circular nodes of varying sizes, interconnected by thin, light purple lines. The nodes are arranged in a roughly circular pattern, with some nodes being larger than others. The background is a solid, medium purple color.

**OUR WAY AHEAD:
DIGITAL TRANSFORMATION**

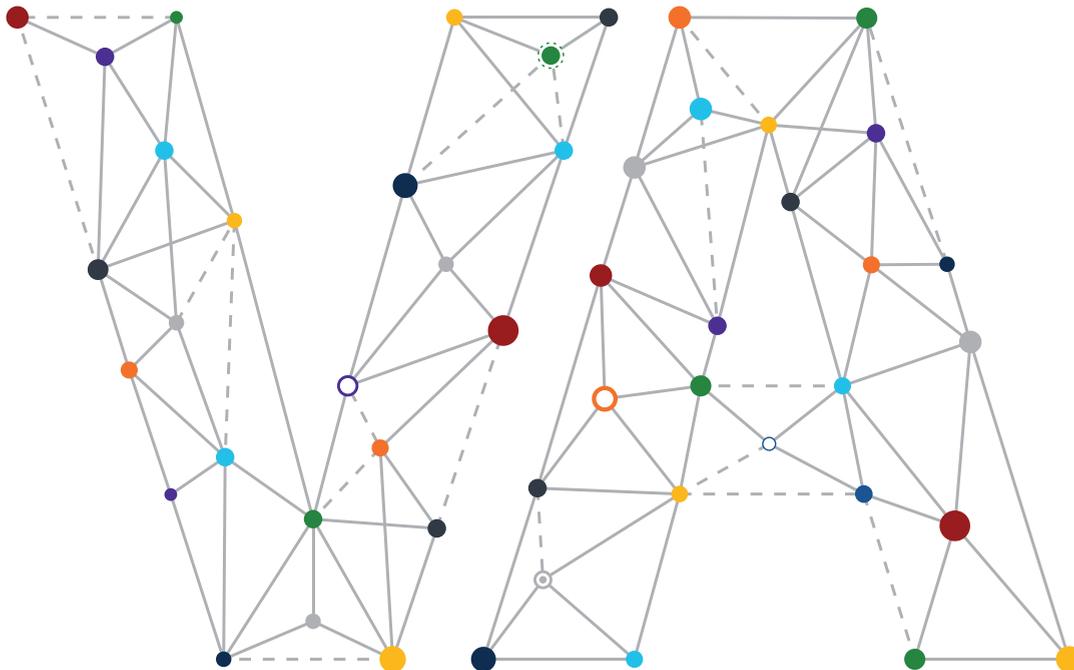
THE FUTURE OF IT AT VA—DIGITAL TRANSFORMATION

Our way forward for 2019 revolves around a new strategic goal: Digital Transformation. While this transformation revolves around digitizing VA's multitudinous business processes to streamline workflows and automate burdensome, paper-based work, Digital Transformation is more than just changing our processes.

We are only just beginning to harness the power of personalization, of APIs, and of Veteran-centered design, and will continue to challenge our industry partners and our community to ask questions and posit ideas of how to improve our Veterans' experience. We want our partners to know that *VA is open for business for those who want to join us to explore the art of the possible.*

At VA, we believe we can provide self-service tools on par with top private sector companies, and we're aggressively pursuing our vision of a VA that provides the best digital and customer experience in the Federal Government. Embracing our core principles of transparency, accountability, innovation, and teamwork—and working hard every day to reinforce these core principles at every level, in every project, to turn unique challenges into opportunities to improve the Veteran experience—will get us there.

We invite you to follow our progress as we collaborate with our business partners to create the best experience for all Veterans.



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