SimLEARN
2022
ANNUAL REPORT

BUILDING BETTER VETERAN CARE

VA | U.S. Department of Veterans Affairs

SimLEARN
transforming healthcare through simulation

Welcome From the Executive Director

Throughout the past year, the Simulation Learning, Evaluation, Assessment, and Research Network (SimLEARN) demonstrated the necessity of simulation-based training for optimizing health outcomes for our Veterans. As 'normalcy' returned to our personal lives and professional operations, SimLEARN capitalized on opportunities to spread awareness of the critical benefits that simulation-based education offers. With diligence, prescience and purpose, each of our portfolios delivered on our mission through a variety of in-person events, novel partnerships, mock-scenarios, training sessions and industry conferences. These efforts contribute to placing simulation at the forefront of Veterans Health Administration (VHA) priorities.

For example, the Office of Healthcare Innovation and Learning's (OHIL) Summer Immersive Summit (SIS) was hosted at the VHA National SimLEARN, Validation, Evaluation, and Testing (SimVET) Center (NCS) and focused on the accelerating field of immersive technology through data-driven means. The summit incorporated participants outside of Veterans Affairs (VA) and the government, allowing even external audiences to see, in-person, SimLEARN's innovative approach to patient outcomes through extended reality (XR). Additionally, the SLICE & Simulation Showcase, in August, brought leaders from across the enterprise together to present data-driven simulation solutions to improve the Veteran health care experience.

The importance of utilizing data as a compass for our program cannot be understated. Data collection is a key process that informs each of our next steps. As a data-centered program,

SimLEARN not only uses data for the simulation scenarios that we build to improve workflows and decrease latent patient safety issues, but also to make VHA health care facilities as efficient and agile as possible. We observed that many facilities had different ways of collecting or looking at data and deciding what was most important. As we become more uniform by limiting variation and increasing consistency across the VHA, we can drive not only the work of SimLEARN forward, but also the work of other entities, ensuring that we are moving together toward a common mission and vision.

Intricately related to data utilization is our achievement in establishing simulation validation in assessing systems implementation. We accomplished this by observing the electronic medical health record implementation in various VA facilities. This work is building a foundation for SimLEARN to validate and evaluate any new systems or equipment that comes into VA.

Throughout the past year, we have worked to strengthen the network of simulation entities throughout VHA. We have certified over 85 VHA facilities as SimLEARN Innovation Center for Education (SLICE) to distribute and locally execute national SimLEARN products and scenarios. As we continue into 2023, we hope to inspire the growth of simulation throughout the VHA with a drive to innovate in the health sphere, ensure safety in our facilities and enhance the total Veteran health care experience.
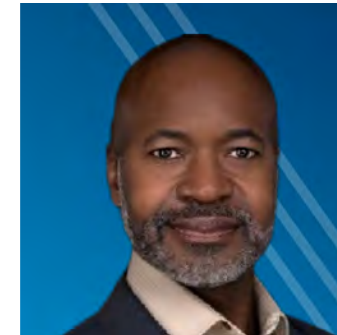
ERIC BRUNS, MBA
Executive Director, Simulation Learning, Evaluation, Assessment, and Research Network (SimLEARN)

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EXECUTIVE LEADERSHIP

ERIC BRUNS, MBA

Executive Director, Simulation Learning, Evaluation, Assessment, and Research Network (SimLEARN)

Eric is the Executive Director of SimLEARN where he develops strategies for using simulation-based clinical education products to drive the innovation of health care, making the VA a high-reliability organization. Eric is a retired career Army officer with over 25 years of valiant service to the Nation where he served as an air defense officer responsible for the implementation of warfare simulations programs. Eric served as the Associate Director for the Events Division of the VHA Employee Education System (EES) where he addressed education needs for VHA clients.

DR. SCOTT WILTZ, MD

Medical Director and SimVET Portfolio Lead

As the Medical Director for SimLEARN, Dr. Wiltz serves as clinical lead for the program and develops and manages relationships between SimLEARN and VA national leaders, academia and the private sector. Additionally, Dr. Wiltz leads SimVET, which test drives clinical software applications and medical devices in a fail-safe simulated clinical environment. Through his clinical expertise and work with SimVET, Dr. Wiltz works to remove barriers to care both between organizations and for Veterans.

LISA BAKER, BSN, MED

Director, Clinical Learning and Innovation; National Program Director, Resuscitation Education and Innovation

Ms. Lisa Baker serves as the National Program Director for Resuscitation Education and Innovation (REdI) and as the Director of Clinical Learning and Innovation. In these roles, Ms. Baker is responsible for enterprise-wide oversight and support of a robust resuscitation portfolio, the design and distribution of standardized simulation-based training through innovative learning platforms and leveraging interprofessional simulation education and expertise through collaborative engagement with VA Medical Centers.

DR. JONATHAN BORGWING

Associate Director for Learning Management

Dr. Borgwing is responsible for the oversight of development, delivery and evaluation of simulation-based training projects and national curriculum as well as the SimLEARN Innovation Centers for Education (SLICE) Network. Before joining the Department of Veterans Affairs, Dr. Borgwing served in several educational leadership positions within the United States Army Intelligence Center of Excellence at Fort Huachuca, Arizona as a Department of the Army civilian and is an Army Veteran.

FRANKLIN ESPINAL, PMP

Associate Director for Support Operations

In his role, Franklin provides vital resources to SimLEARN, which includes activity coordination, facility and logistics management, administrative functions and audiovisual production. In addition, Franklin supports SimLEARN's marketing, communications and IT management to further the development and distribution of simulation training. Franklin retired from the United States Air Force after completing 23-years as a Medical Service Corp Officer, and he previously served as the Executive Assistant for the Deputy Chief Learning Officer (DCLO) for the Veterans Health Administration, Employee Education System (EES).

LEANN SCHLAMB, MSN, EDS

Former Associate Director Assessment Collaboration and Outreach

LeAnn has served with Veterans Affairs since August 2008. As Associate Director for ACO, she focused on system assessment pre- and post-construction, using process simulation, quality improvement, collaboration and field-based simulation education. She expanded and supported simulation education opportunities throughout the VA enterprise for improved Veteran outcomes by ensuring the standardization of best practices, embracing opportunities for innovation and using the VA resource network.

TRACEY ROBILOTTO, DNP, APRN, ACNS-BC

Associate Director REdI Program

Dr. Robilotto joined SimLEARN in 2011, coming from the Cleveland VAMC where she was the Intensive Care Unit, Progressive Care and Emergency Department Nurse Educator. Dr. Robilotto has 33 years of clinical experience focusing on intensive care including cardiothoracic surgery and trauma care. She spent five years providing cardiothoracic intensive care and gained cutting-edge experience at the worldwide health care leader Cleveland Clinic and University Hospitals Cleveland before joining the VHA in 2004.

BRIAN K. STEVENSON, FACPPM, FACCOR

Associate Director, USN Veteran SimVET Integrations, SimVET, SimLEARN (14HIL2)

Brian has 23 years of experience as a VA employee with a focus on federal acquisition, program management, technology innovation implementation and scale, informed integrations using simulation, computer electronics and entertainment-based technologies.

DR. BONNIE HAUPT, DNP, RN, CNL, CHSE

Former Associate Director for Clinical Training and Engagement

Bonnie empowered enterprise simulation teams through providing and sustaining high-quality education aimed at improving Veteran outcomes. At all levels of the enterprise the Clinical Training and Engagement team mentors and supports simulation champions and their teams, building relationships through collaboration, and promoting national programs.

SimLEARN at a Glance

SimLEARN is the VHA's program for simulation in health care training, serving the largest integrated health care system in the world. SimLEARN provides an ever-growing body of curricula and best practices that improve health care for our Nation's Veterans. The use of innovative technologies in a safe learning environment enhances diagnostic, procedural and communication skills to support quality care and the best possible outcomes.

Structurally, SimLEARN is divided into portfolios, and each one uses its unique capabilities and tools to better health outcomes for Veterans. These portfolios are Learning Management (LM), Clinical Training and Engagement (CTE), Assessment, Collaboration and Outreach (ACO), Resuscitation Education and Innovation (REdI), Support Operations (SO), Simulation Validation, Evaluation and Testing (SimVET) and SimVET Integrations.

MISSION

Set the standard for innovative health care education solutions through simulation-based clinical capabilities that impact enterprise-wide outcomes.

VISION

Be the indispensable asset to the enterprise and its partners that provides world-class services to all Veterans through innovation and simulation education.

PURPOSE

Provide an ever-growing body of curricula and tools that improve Veteran well-being through simulation-based innovation and technologies delivered in a safe learning environment.

WE ARE...

AMPLIFYING OUTCOMES

REIMAGINING LEARNING

TRANSFORMING SIMULATION

ENHANCING VETERAN HEALTH

SimLEARN
HIGHLIGHTS

Over the past year, each of SimLEARN's portfolios extended their reach, expanded their capabilities and delivered the services required to progress simulation as an indispensable tool for bettering the care our Veterans receive. Here is just a sample of their work.

SIMULATION VALIDATION, EVALUATION, AND TESTING (SimVET)

Until now, the VHA had no mechanism to test drive health care solutions with frontline staff in a hospital environment. The SimVET team is working on a number of solutions to make processes and procedures more efficient and agile for care givers. Currently, SimVET is optimizing dictation software to ensure that clinicians can afford to spend their time focusing on patient care.

SimVET INTEGRATIONS

Formerly the Emerging Healthcare Technology Integration (EHTI) portfolio, SimVET Integrations looks to incorporate the most up-to-date technologies into the SimLEARN program and VA ecosystem. This year, the team successfully integrated the current state (VistA/CPRS) and desired state (Cerner Millennium) electronic health records (EHRs) at the National SimVET Center (NSC), in support of SimVET and other SimLEARN-based programs.

LEARNING MANAGEMENT (LM)

LM develops, maintains and manages the SimLEARN Innovation Centers for Education (SLICE) network. It provides nationally accredited simulation programs that can be leveraged at local facilities, simulation resources such as scenarios and national accreditations of simulation sites. LM is looking to bring the number of SLICE network sites, known as cells, from 17 to 85 cells by the end of the fiscal year, which will be a five-fold increase. The team is well on its way with 66 established cells, each offering the eight courses that are integrated throughout the SLICE network.

ASSESSMENT COLLABORATION AND OUTREACH (ACO)

ACO advanced its offerings and furthered its mission by bringing more tools to more professionals in the health care community.

This past year:

- Six hospital activations were accomplished with 294 threats identified

- 98 local sites participated in the Cardiac Toolbox program with 438 enrolled in courses
- 125 work/patient flow efficiencies, emergency response, equipment and other latent safety threats were identified via their Simulation-Based Healthcare Design Testing (SbHDT) program

CLINICAL TRAINING AND ENGAGEMENT (CTE)

CTE provides clinical simulation expertise to VHA and external stakeholders, ultimately contributing to better clinical performance. Not only did CTE initiate go-green initiatives, upgrade its Out of Operating Room Airway Management (OOORAM) courses and assist in a variety of events, but CTE now provides courses in 99% of SLICE sites, expanding their expertise to cells across the country.

RESUSITATION EDUCATION AND INNOVATION (REdI)

REdI is a leader in providing lifesaving trainings for VHA employees and directly contributes to VA's capability to provide world-class care to those in cardiac arrest. REdI has trained over 250,000 VA staff members, and this year, 58 VA medical facilities fully adopted the Resuscitation Quality Improvement (RQI) program embracing low dose, high frequency training to ensure mastery in the performance of critical lifesaving skills.

SUPPORT OPERATIONS (SO)

SO serves as the backbone of SimLEARN, ensuring that items from day-to-day operations to marketing enhance the presence and posture of SimLEARN. This year, on the marketing side, SO accomplished a greater web presence than in previous years with 43,000 unique page views. On the operations side, SO made the remarkable achievement of 100% accountability when it comes to equipment tracking and maintenance.

SIMVET

iEX
2022 VHA INNOVATION EXPERIENCE

TALKS

MISSION

To test drive health care solutions with frontline staff in a simulated hospital environment.

VISION

Nothing should touch a Veteran until it has been validated as safe and effective through simulation.

INTRODUCTION TO SIMULATION VALIDATION, EVALUATION AND TESTING (SimVET)

The SimVET portfolio is the newest service and innovation model for the SimLEARN program. Sponsored by the NSC, SimVET envisions a health care environment in which no medical services are issued for Veterans unless they prove to be safe and effective through simulation. By incorporating VA facilities, staff and program offices, as well as Veteran perspectives, SimVET supports VHA modernization efforts to become a high-reliability organization (HRO) by test driving clinical software applications and medical devices in a fail-safe simulated clinical environment. Ultimately, Veteran wellbeing is at the heart of SimVET's, often behind the scenes, efforts.

WHY SimLEARN CREATED SimVET

Until now, frontline medical staff have not had accessible mechanisms to provide input on the best utilization of the devices, equipment and software that they use daily. Via simulation, SimVET allows VHA to trial health care solutions to find the tools that will be most valuable to Veteran outcomes. By replicating complex care environments such as intensive care units (ICU), community-based outpatient clinics (CBOC) and community living centers (CLC), SimVET develops use case scenarios to analyze health care solutions for usability, patient safety, clinical workflow impact and technical feasibility.

> " *SimVET is bringing the best tools to the best people to deliver the best care.* "
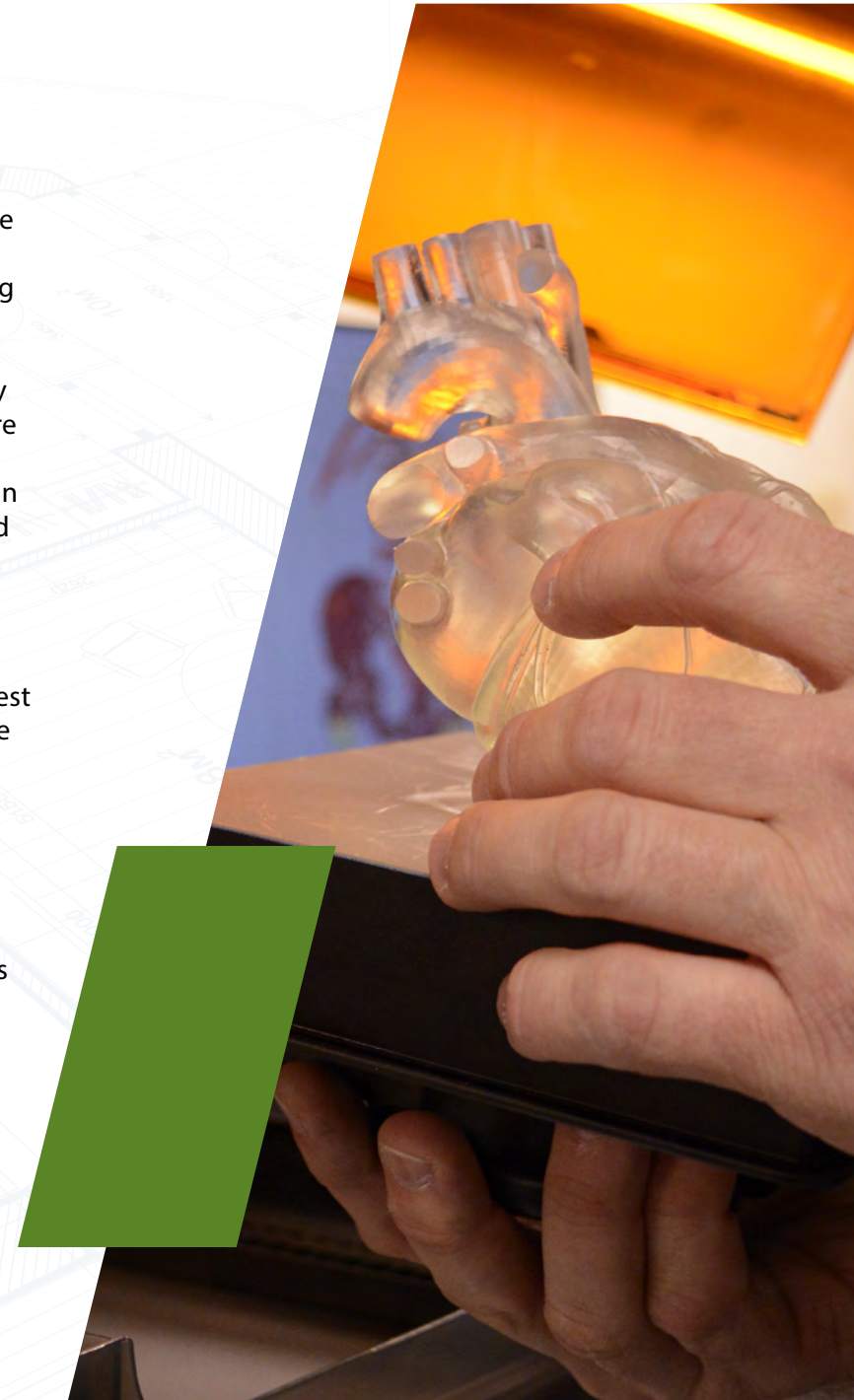
IMMEDIATE SimVET
PRIORITIES

Software Solutions:

SimVET is kicking off a full analysis of ambient dictation software for various clinical environments. This analysis and implementation will provide clinicians a technological solution that reduces their workload, relieves burden from documentation and frees up time for meaningful activities to add to the Veteran experience and improve work satisfaction.

Equipment Solutions:

SimVET will complete a vetting of Ceribell as a seizure-related early warning system in inpatient care settings. This solution is currently in place at several facilities but is not utilized to its full functions. SimVET will assess the needs, feasibility and required resources to use this product and analyze the cost-benefit-harm ratios to advise VHA on appropriate acquisition and utilization of this tool.

Process Integration:

SimVET will align to VA/VHA goals and needs for acquisition optimization and supply chain management. This strategic component of SimVET will empower frontline staff and subject matter experts (SME) to provide input to VHA/VA writ large to contribute to the ongoing effort for VHA to achieve even greater agility through standardization.

WHAT'S NEXT FOR SimVET

As SimVET becomes an established entity and grows to support a broader audience and engage a greater spectrum of staff and leaders, SimVET will become an indispensable tool for VA. The portfolio seeks to include as many perspectives as possible to leverage the experience, talents and expertise of the VHA ecosystem in order to provide the best health care solutions for Veterans as One VA.

To learn more about the SimVET Portfolio, scan the QR code.

SimVET INTEGRATIONS

INTRODUCTION TO THE SIMULATION VALIDATION, EVALUATION AND TESTING INTEGRATIONS (SimVET INTEGRATIONS)

Previously the EHTI portfolio, the newly named SimVET Integrations portfolio functions primarily as a part of SimLEARN's SimVET program, which uses simulation to explore, validate, test and integrate innovative health care solutions. To best serve Veterans, SimLEARN must provide cutting-edge education and training services for clinicians, and this is where SimVET Integrations thrives. Medical technological growth and integration is a quickly evolving sphere, and SimVET Integrations not only stays abreast of the new technologies, but also ensures that SimVET meets safety, usability and clinical standards. From initial fact finding to multi-year planning, customers engage in simulation activities to inform their modernization or enhancement efforts in preparation for their technology integration journey.
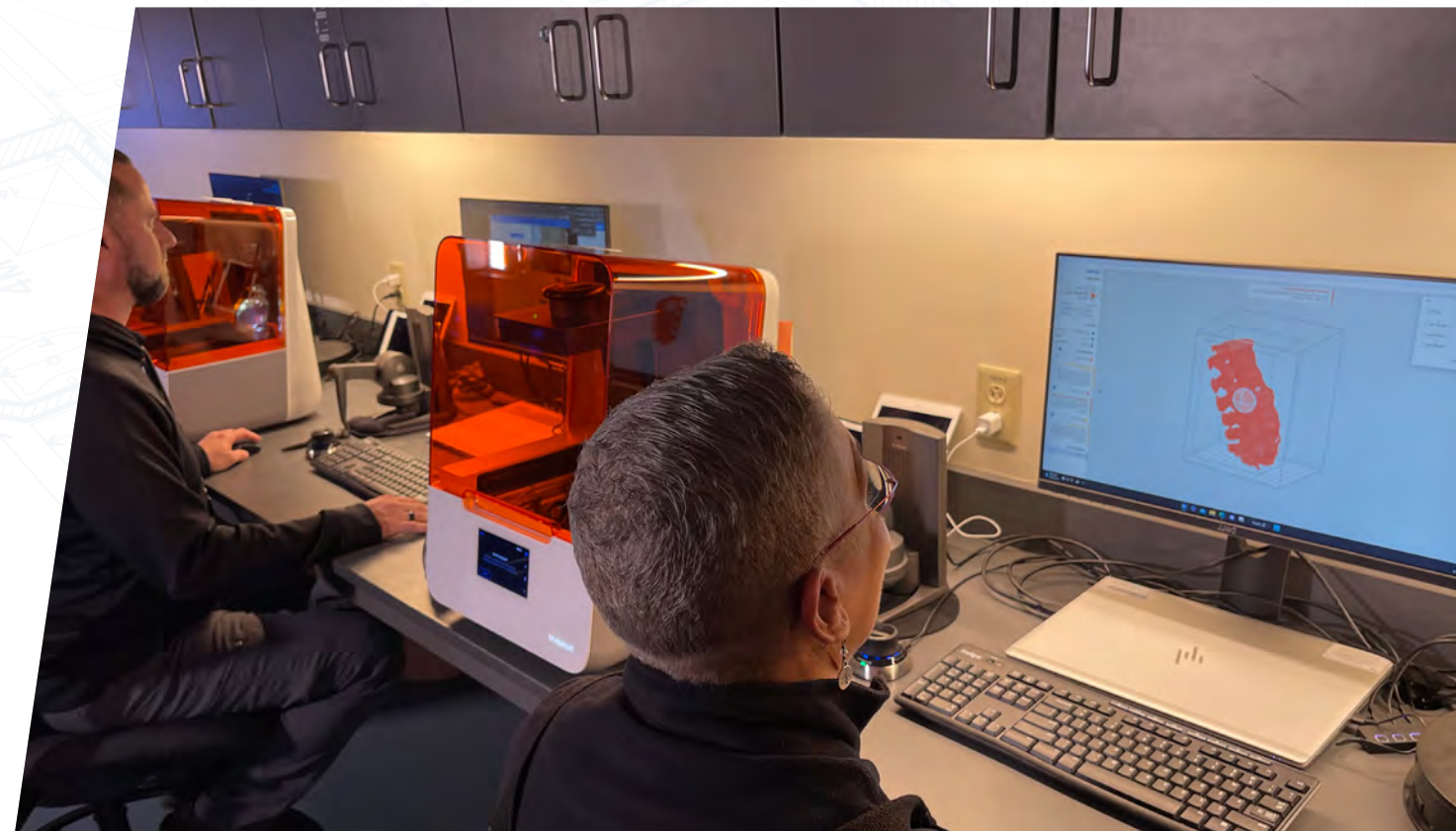
SimVET
INTEGRATIONS' DUTY

We have a duty to our Veterans to use simulation to validate future products that do what they claim, prior to procurement.

We have a duty to our Veterans to use simulation to evaluate all future technologies in order to discover best-in-class solutions for a given problem.

We have a duty to our Veterans to use simulation as a proactive risk assessment for testing future health care solution limits of use, ensuring patient safety prior to field integration.

We have a duty to our Veterans to collaborate with our academic partners to establish a proving ground for health care and science, technology, engineering, the arts and mathematics-based students to develop the health care solutions of the future.

SIMULATION MODERNIZATION PLANNING FOR LEARNING AND EVALUATION (SIMPLE) SPOTLIGHT

Created by SimVET Integration's Chief Medical Officer (CMO), Dr. Laura Kim, the Clinical Technology Assessment Model guides our work. Recently, SimVET Integrations Associate Director, Brian Stevenson, enacted CTAM to enable the NSC to make an informed acquisition decision based on a capabilities checklist of needs and wants to modernize all its programs to 21st century efficiencies. Simulation Platform for Learn and Education (SIMPLE) is an integrated project team (IPT) that aims to assist all SimLEARN programs with the difficult process of identifying, validating, evaluating and testing frontier simulation solutions prior to, or just after, market availability. This fortifies SimLEARN's status as an industry influencer and early adopter of simulation technology horizons.

SIMPLE planning began in Q2 of fiscal year (FY) 2022 to identify a solution that could serve as a super integrator construct for bolt-on technologies (e.g., digital twinning, artificial intelligence (AI) operations, XR simulation and remote simulation teaming services), handle head-mounted-device management and adhere to VA security boundaries in a simple and meaningful way for the NSC and across the SLICE network.

SIMPLE findings were briefed to the Simulation Education Committee at the NSC on Tuesday, November 15, 2022, to provide an opportunity for executive leadership to make an informed decision for acquisition to stand up a unifying platform that collates the 170 VAMC-based simulation centers across the Enterprise and serve as a force multiplier of innovation.

SimVET INTEGRATION HOSPITAL-OF-THINGS LABORATORY (HOT LAB)

Led by SimVet Integration's Chief Technology Officer (CTO), Jeffrey T. Saura, the NSC now has a new Wi-Fi 6/5G Citizens Broadband Radio Service (CBRS) frequency band network installed and operational. SimVET Integrations' HoT Lab portfolio continues to broaden the NSC's 5G footprint and utilize its advanced networks to power discovery of infrastructure innovation (e.g., to support the CTO and The Veterans Experience Office on the development of the VA Flagship Mobile App. The Way-Finding module will give patients, guests and visitors the ability to use turn-by-turn directions to Navigate VA facilities). Validating, evaluating and testing frontier health care solutions in the safe harbor HoT Lab environment prepares the technology for integration into the VHA's existing infrastructure. FY 2023 examples of this work are Holoportation, Holo-humans as Digital Twins, Real-Time Locations Services (RTLS) and Indoor Uber, which all enhance clinical simulation environments and patient/employee experience.

UNIVERSITY OF CENTRAL FLORIDA (UCF) COLLABORATION: SIMAGINEERS HOLOPORTATION

Led by SimVET Integration's Simulation Strategist, Michelle Regragui, Simagineers (students) and health care SMEs conduct simulation and integration analysis to smoke test ideas for health care, simulation and medical device solutions to assess and push their limits of use in order to build for tomorrow. Simagineers is an academic partnership with the University of Central Florida (UCF), providing a credit-based course designed to empower students with resources that encourage them to consider emerging or first-of-their-kind careers in VA. Simagineers will provide opportunities for graduate and undergraduate students to get involved from a technical performance standpoint. While still novel, the program will enable students to access health care providers to solve clinical problems with technology solutions for patients. This program will harness emerging talent from academia to contribute to innovative services for Veterans.

MOVING FORWARD: HOLOPORTATION

Led by SimVET Integration's Chief Medical Officer (CMO), Dr. Laura Kim, in close partnership with UCF, Holoportation technologies and subsequent use cases will drive the lion's share of SimVET Integrations discovery work in 2023-2024, as we scan the emerging landscape of holographic technologies (e.g., Dr. Hologram's PROTO Epic, M, and mobile devices). However, it is not enough to choose one solution. Therefore, SimVET Integrations studies the gamut of a frontier technology to understand its limits of use, impacts on patient safety and baselines to develop first-of-its-kind integration into the health care continuum. Another area of pursuit for Dr. Kim is the Holo-human as a digital twin and its impacts on the future of health care. Additionally, SimVET Integrations is exploring Ceribell Point-of-Care EEG, a system designed for set-up and triage of seizures within minutes by any health care provider. SimVET Integrations is assisting the vendor through FedRAMP to enable Ceribell for enterprise use. Ceribell is already in 10 VAMCs today, and SimVET Integrations looks forward to expanding this soon.

> *We owe it to our Veterans to focus on the problem first then explore all potential health care technologies in order to find the most capable solutions for their health care journey.*

LEARNING MANAGEMENT

MISSION

Facilitate simulation-based development, curricula, distribution and tools that supports enterprise level innovative health care solutions.

VISION

Be the premier resource to the enterprise for the development and implementation of simulation-based education.

INTRODUCTION TO THE LEARNING MANAGEMENT (LM)

SimLEARN maintains numerous and diverse resources when it comes to the technical tools, educational programs and institutional partnerships that advance simulation-based trainings throughout the VHA. In order to fully utilize these resources in an agile and scalable manner, LM provides management, leadership and educational expertise for simulation-based training solutions that can be implemented at VA facilities across the country. The portfolio is hyper-focused on providing local, regional and national standardized training to increase quality of care, capability of providers and distribution of best practices, while decreasing cost of care.

DESPITE COVID, LM EXCEEDS ITS GOALS

COVID-19's impact on medical education programs has been vast with SimLEARN's simulation-based trainings serving as an excellent, albeit unfortunate example. Despite this, and with a receding pandemic, LM worked diligently to drive trainings into VA medical centers, enabling them to access best-in-class training, practices and techniques. Standardization is key when it comes to measurable educational success, and by leveraging a distributed learning model, the SLICE network is empowering providers to train their staff in a way that was previously inaccessible during the pandemic.

In utilizing a train-the-trainer approach, education curricula can maintain accelerating growth across the network. SLICE cells coordinate with the NSC to ensure continuity and best practices of curricula across the entire VHA workforce. The growth that LM facilitated during the past year is exceptional, and LM has positioned the SLICE network to become an even stronger educational program for the VHA in the future.

LM SUPPORTS LOCAL SIMULATION EDUCATION THROUGH SLICE NETWORK

The SLICE network has grown to 85 sites this year. This expansion means a standardized approach to simulation education across the enterprise. Leveraging core and common assets such as the SimLEARN Virtual Academy, enables SimLEARN to provide support to SLICE cells for their success. The nationalization of their curriculum allows for the dissemination of best practices, nationally accredited courses and simulations that have been validated by SMEs. The SLICE network truly embodies the distribution and implementation of innovation through training and simulation.

SLICE
SimLEARN INNOVATION CENTERS FOR EDUCATION

2022 BY THE NUMBERS

LM OVERSAW

5

APPROVED SLICE CELLS IN ITS FIRST OPERATIONAL YEAR; AND, CURRENTLY THERE ARE

66

SLICE CELLS IN THE SimLEARN NETWORK.

LM LOOKED TO MOVE FROM

17

CENTERS TO

36

BY THE END OF FISCAL YEAR '22; HOWEVER, IT WELL EXCEEDED ITS GOAL IN REACHING

85

SLICE CENTERS.

EXPANDED CURRICULA IN THE SLICE NETWORK

TO PROVIDE IMPROVED AND CONSISTENT SIMULATION-BASED EDUCATIONAL SERVICES TO VETERANS, LM AIMED TO LEVERAGE

3

LOCAL COURSES INTO NATIONAL OFFERINGS FOR SLICE. INSTEAD, LM BROUGHT

7

COURSES INTO THE NETWORK, ONLY EXPANDING THE KNOWLEDGE BASE THAT PROVIDERS WILL USE TO BENEFIT VETERANS.

LOOKING AHEAD

The future is incredibly bright for the SLICE network. LM has laid the groundwork for interactive, virtual reality that is device agnostic and can scale with the enterprise on top of the existing infrastructure. Working with OHIL and the XR Network, partners in program offices, SLICE cells and frontline providers, SLICE XR is going to provide significant value to the SLICE network and VA as a whole.

To learn more about the Learning Management Portfolio, scan the QR code.

WITH THE EXPANSION OF SLICE CELLS AND CURRICULA, LM ALSO DEVELOPED A STANDARDIZED FRAMEWORK FOR REPORTING EDUCATION EVALUATION AND RESEARCH. THIS YEAR, THIS FRAMEWORK WILL PROVIDE EVEN GREATER CONFIDENCE IN COMPETENCY FOR THE ENTIRE FIELD AND VA ENTERPRISE.

ASSESSMENT
COLLABORATION AND OUTREACH

> **"** The simulation improves levels of communication and helps the response team practice before an actual incident, identify discrepancies and patient flow and process issues. Walking through the simulations, especially for psychiatric patient emergencies, helps in finding gaps in phone numbers and emergency medical response. **"**

INTRODUCTION TO THE ASSESSMENT, COLLABORATION AND OUTREACH (ACO)

ACO is a one-stop-shop simulation experience for health care staff seeking guidance for clinical simulation practice activities and process simulation. ACO provides assessments and evaluations for medical systems, hospital activations and simulation training programs at local VA medical facilities supporting Veterans who live in rural areas. In short, ACO's goal is to grow and support field-based simulation education opportunities for the VHA by providing standardization of best practices for improved quality, opportunities for innovation and a network of resources. ACO makes proactive assessments as a neutral party to identify latent threats, utilizing clinical simulations as a central tool. Their work is guided by subject matter experts, clinicians and Veterans themselves.

ACO'S CURRENT OFFERINGS:

SYSTEM HOSPITAL ACTIVATIONS (SHA)

ACO understands that opening a new clinical facility, renovating a space or developing new clinical service offerings comes with many potential hazards. Some of these hazards include the introduction of new processes, equipment, staff and/or clinical locations. SHA utilize process simulation in accordance with high-reliability principles to evaluate workflow efficiencies, emergency response, equipment and other latent safety threats in newly constructed clinical areas to mitigate risk.

These numbers show impact data that suggest successful mitigation tactics on identified safety threats. This mitigation prevents potential harm to our Veterans and employees.

2022 BY THE NUMBERS

342	**51**	**6**
PARTICIPANTS IN SCENARIOS	SERVICES INVOLVED IN ACTIVATIONS	ACTIVATIONS CONDUCTED

294	**73**
LATENT SAFETY THREATS IDENTIFIED DURING ACTIVATIONS	SCENARIOS CONDUCTED AT ALL SITES

97% agree or strongly agree that process simulation is effective in identifying latent safety threats.

CARDIAC TOOLBOX

The Cardiac Toolbox is an educational program developed to facilitate critical crisis skills of electrocardiogram (EKG) interpretation for those caring for our Veterans. The educational opportunity is intended to provide multiple modalities to accommodate various learning styles and time constraints. There are virtual learning opportunities, a self-paced website that includes practice and a quick guide for EKG interpretation.

The Cardiac Toolbox, which utilizes an innovative, interactive, multiple modalities learning approach for cardiac care, demonstrated significant impact over the course of six months this past year.

Pre- and post-test scores revealed a 20-point difference, which is a statistically significant learning improvement. Critically, there was no significant change from post-test to 90-day test, indicating excellent knowledge retention.

93%

Agree or strongly agree that the course provided learners with a strong knowledge base for interpretation of cardiac rhythms.

" The Cardiac Toolbox's Blended Course has provided a focused learning tool that is intelligently deliberate in the delivery of foundational EKG concepts. For our facility, it has activated mitigation efforts for the experience complexity gap and time constraint challenges that our frontline staff face as well as allow for experienced staff to 'refresh' on EKG basics. "

2022 BY THE
NUMBERS

110	18	1,124	98
PARTICIPANTS IN THE VIRTUAL EDUCATOR TRAIN-THE-TRAINER (TTT) COURSE	VETERANS INTEGRATED SERVICE NETWORKS (VISNs) PARTICIPATED	PARTICIPANTS ENROLLED IN SELF-PACED ONLINE COURSES	LOCAL SITES PARTICIPATED
			6
			BLENDED LEARNING COURSES WITH 78 PARTICIPANTS

SIMULATION-BASED HEALTHCARE DESIGN TESTING (SBHDT)

The SbHDT program tests new environments and new health care facilities to ensure the spaces match the needs of the staff, while proactively identifying latent safety threats.

Through partnerships with national program offices such as the Office of Construction and Facilities Management (CFM), ACO conducts simulated scenarios during the design phase of new construction and develops new design guide standards.

The simulated scenarios test the functionality and safety of the designs. Examples of scenario considerations include

- The ability to provide care for a Veteran with mobility aids

- The ability to protect the privacy of Veterans when intimate exams are performed

- The ability to provide care to a Veteran experiencing a medical emergency while awaiting emergency medical services

SbHDT encourages early mitigation of latent safety hazards, broadens perception of construction requirements and timeline, cultivates staff buy-in, enhances staff confidence, improves job satisfaction and promotes cost avoidance.

Digital Twin Proof of Concept

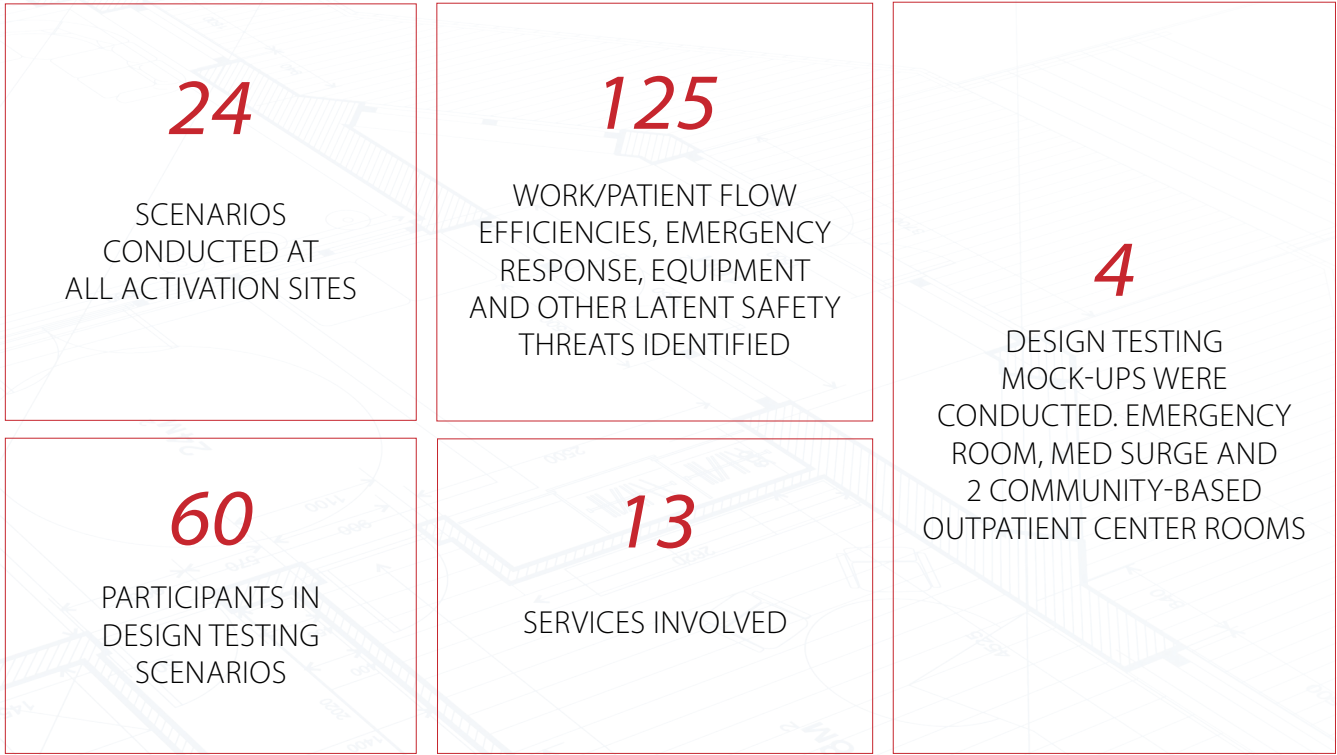Additionally, SbHDT engaged Booz Allen Hamilton to create a proof of concept to show the value and capability of leveraging a Digital Twin in building hospitals of the future. A Digital Twin enables VA to enhance best practices for the design and development of facilities and standards by optimizing layouts, digitizing scenario simulation and fostering collaboration. This results in fewer downstream change orders and reduces scope creep and cost. Additionally, clinicians can provide input on designs prior to construction, expanding the lifespan of facilities.

Utilizing leading-edge simulation tools, a Design Simulator, Scenario Simulator and Design Review ensures that clinicians make the most of their environments to provide optimal care for Veterans.

" This activity provided an invaluable hands-on opportunity to realistically evaluate our workflow and our work with patients. "

2022 BY THE
NUMBERS

24
SCENARIOS CONDUCTED AT ALL ACTIVATION SITES

125
WORK/PATIENT FLOW EFFICIENCIES, EMERGENCY RESPONSE, EQUIPMENT AND OTHER LATENT SAFETY THREATS IDENTIFIED

4
DESIGN TESTING MOCK-UPS WERE CONDUCTED. EMERGENCY ROOM, MED SURGE AND 2 COMMUNITY-BASED OUTPATIENT CENTER ROOMS

60
PARTICIPANTS IN DESIGN TESTING SCENARIOS

13
SERVICES INVOLVED

97%
Agree or strongly agree that process simulation is effective in identifying work/patient flow efficiencies, emergency response, equipment and other latent safety threats.

" The scenarios were extremely useful in working toward maximizing space and equipment. "

To learn more about the Assessment, Collaboration and Outreach Portfolio, scan the QR code.

CLINICAL TRAINING AND ENGAGEMENT

> *I am beyond grateful for the SimLEARN Faculty Instructor Course training (SFIC)! The course itself was enriching and empowering, to say the least. The faculty demonstrated resounding expertise and knowledge, and certainly gave all of us learners something to aspire to be in our respective futures... Please know that SFIC is more than a 'course'…truly, it is an experience, and I am moved to have been a part of this unbelievable experience.*

Camesha Davis, RN,
Staff Development Specialist, Lexington, KY

INTRODUCTION TO THE CLINICAL TRAINING AND ENGAGEMENT (CTE)

CTE delivers high-quality simulation training and engagement throughout the VHA by leveraging its clinical simulation expertise to educate and collaborate with VA medical centers and external stakeholders such as academia and the Department of Defense. CTE's efforts deliver critical skills to staff that ultimately enhance Veteran outcomes.

CTE is the vehicle through which innovative simulation-based trainings contribute to bettering overall clinical preparedness, performance and safety. Subject matter expertise, partnerships, training events and consultations are at the core of how CTE enables teams across the enterprise to gain the best training tools, allowing for the best patient outcomes. Engagement is also a key focus for CTE. This comprises building internal and external VHA relationships, identifying gaps and creating impactful simulation educational designs to improve quality and safety for better Veteran outcomes.

CTE MAKES GREAT STRIDES FORWARD

CTE expanded its engagement through redesigning VISN Champion and Facility Leads calls and special engagement activities.

Along with meeting learner demands and increasing instructor to student interactions, CTE streamlined solutions to host the first in-person training classes since the COVID-19 pandemic bagan.

CTE standardized course processes for learners and faculty, including embedded checklists, quick tips newsletters and timelines into the user experience.

CTE implemented its green initiatives aimed to lower use of paper supplies and costs, while increasing engagement and efficiency.
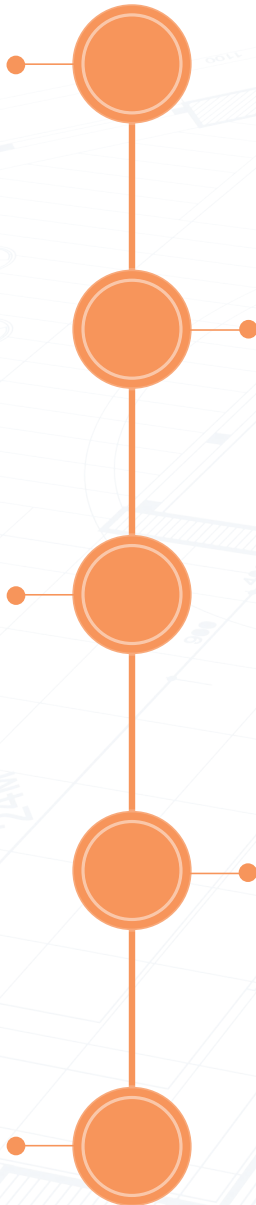
CLINICAL TRAINING AND ENGAGEMENT
MILESTONES

CTE facilitated the success of the 2022 SLICE & Simulation Showcase at the NCS in Orlando by sharing expertise in simulated care best practices and educational strategies across industry.

Over 400 participants attended in-person and online, which increased CTE's presence and engagement for this first in-person event after the onset of the pandemic.

CTE increased their presence by 70% in SLICE facilities. Currently, CTE is in 99% of SLICE facilities with Out of Operating Room Airway Management (OOORAM) courses.

The increased SLICE presence enabled 78 new instructors to spread the OOORAM 2.0 curriculum. New SimLEARN OOORAM 2.0 programs were also started at over 25 VA facilities during the year. This year, CTE made significant upgrades to their OOORAM courses to optimize ordering consumables and streamline platform efficiency.

The overwhelming response from the simulation educators, local instructors and especially the learners was that SimLEARN OOORAM 2.0 is a highly effective and clinically relevant course. All of the learners had very specific takeaways to integrate into their practice.

CTE created its "Go Green" initiative after an analysis showed that a course of 18 learners could generate over 300 pieces of printed materials. To reduce the number of printed materials, the team increased tablet usage, which received positive feedback from learners. If only three courses were held face-to-face per month, the team would save 1,000 pieces of paper. The reduction was not only environmentally friendly but fiscally responsible, saving the life of our printing/copying equipment through printing reductions (a new copier could cost over $4,000). This initiative also allowed for easier training course alterations, as materials can be easily updated digitally.

CTE helped facilitate showcasing the SimVET model to VA Under Secretary for Health, Dr. Shereef Elnahal, during his visit to the NSC on August 5, 2022. Dr. Elnahal received a tour of the NSC, witnessed a simulation demonstration by the CTE team and learned about the operations of each SimLEARN portfolio. At the conclusion of his visit, Dr. Elnahal commented on how simulation identifies safety risks, provides objective analysis and can inform decisions that will impact Veteran health and wellness.

CTE TRAINING COURSES

Out of Operating Room Airway Management (OOORAM) & Out of Operating Room Airway Management - Instructor (OOORAM-I)

OOORAM and OOORAM-I, offered through the SLICE Program, targets learners who play a substantial role in performing airway management training and are trained to oversee a facility's OOORAM program. Learners who complete the course can instruct an OOORAM course to train local health care providers.

Introduction to Clinical Simulation (ICS)

ICS training provides qualified physicians, dentists, and nurses a theoretical foundation for simulation-based training by combining didactic, small group, and virtual simulation activities. Upon completion of the course, graduates participate in monthly SimLEARN Community of Practice conference calls that guide the implementation of simulation into the health care training programs at their facilities.

SimLEARN Faculty Instructor Course (SFIC)

SFIC trains seasoned clinical faculty educators. Participants develop enhanced skills required to provide traditional instruction geared toward adult learners, conduct simulation-based health care training scenarios and build their capacity for a thorough debrief of such events during SimLEARN training programs in their work centers.

Musculoskeletal (MSK) Suite

The MSK Suite offers telehealth and provider courses at various levels of training that focus on providing the framework necessary to perform musculoskeletal examinations. Learners review common musculoskeletal complaints during

To learn more about the Clinical Training and Engagement Portfolio, scan the QR code.

patient care, practice using the verbal instructions delivered to Veterans before and during the musculoskeletal physical examination, and provide a diagnosis based upon observations.

MOVING FORWARD

Based on CTE's progress in 2022, the portfolio will see even greater impact for stakeholders and partners in the future. In 2023, CTE will look forward to hosting a 2023 SLICE & Simulation Showcase, collaborating with Learning Management. The team will collaborate to bring Musculoskeletal Suite to the SLICE network, an expanded Musculoskeletal Suite and new projects utilizing virtual reality. Along with development of a pilot to bring a Mobile ICS and SFIC to the VISN's and facilities. CTE is also excited to develop a Simulation Center Guide for the field with critical resources to building and growing additional simulation centers.

RESUSCITATION
EDUCATION AND INNOVATION

INTRODUCTION TO THE RESUSCITATION EDUCATION AND INNOVATION (REdI)

Established in 2010, REdI is a national VHA resuscitation program dedicated to providing VHA employees with a range of lifesaving resuscitation trainings. These trainings meet national directives that ultimately save lives.

NATIONWIDE, ABOUT
300,000
PATIENTS SUFFER CARDIAC ARREST PER YEAR, AND ON AVERAGE,
20%
SURVIVE.

While VA's survival rates are higher than typical hospitals, at 35-50%, programs like REdI help to improve not only the outcomes of Veterans but also lead high-quality CPR and resuscitation innovations.

REDI'S CORE FUNCTIONS AND STANDOUT ACCOMPLISHMENTS

NATIONAL TRAINING CENTER

REdI offers targeted training to a variety of health care professionals and has trained over 250,000 VHA staff members in lifesaving resuscitation. The Center specializes in resuscitation quality improvement (RQI), which is a low-dose high-frequency approach to resuscitation training. RQI is the gold standard of training according to the American Heart Association, and, over the past year, 78% of all eligible VA staff adopted the training with 58 VA medical facilities obtaining a 100% staff adoption rate. This year, five staff members saved lives in their communities using their acquired resuscitation skills.

RESUSCITATION SIMULATION SYSTEM TESTING (RSST)

This year, REdI conducted three RSST events. RSST is a consultative service that provides a focused quality assessment using a simulation-based strategy to identify and mitigate potential hazards specific to the medical emergency care response. It allows REdI to record observations and utilize data to drive performance improvement at the local level. Over the course of the three assessments, REdI conducted a total of 12 mock code events with over 180 participants. This outstanding participation resulted in observations that may be identified as 'critical,' which means that they consist of processes that conflict with national or local policy and could have a negative impact on the delivery of resuscitation efforts.

MOCK CODE TRAINING

Mock code training provides facilities with a standardized strategic plan to implement or enhance existing training programs. This multi-day training allows facilities to share insights with one another both virtually and on-site. Mock code training has been implemented at approximately one-third of all VHA facilities and engaged more than 500 staff. Through this program, facilities are now running monthly unannounced mock code events, during which they evaluate the care environment for latent safety risks. One facility reported that during a mock code event, it was discovered that the overhead paging system was not working and caused a delay in code team response time. The issue was corrected without Veteran impact.

MOVING FORWARD

REdI is growing its collaborations with other program offices to break down silos across the enterprise. These collaborations will allow multiple offices to make informed and meaningful decisions that create positive Veteran outcomes when it comes to cardiac arrest.

To learn more about the Resuscitation at Education and Innovation Portfolio, scan the QR code.
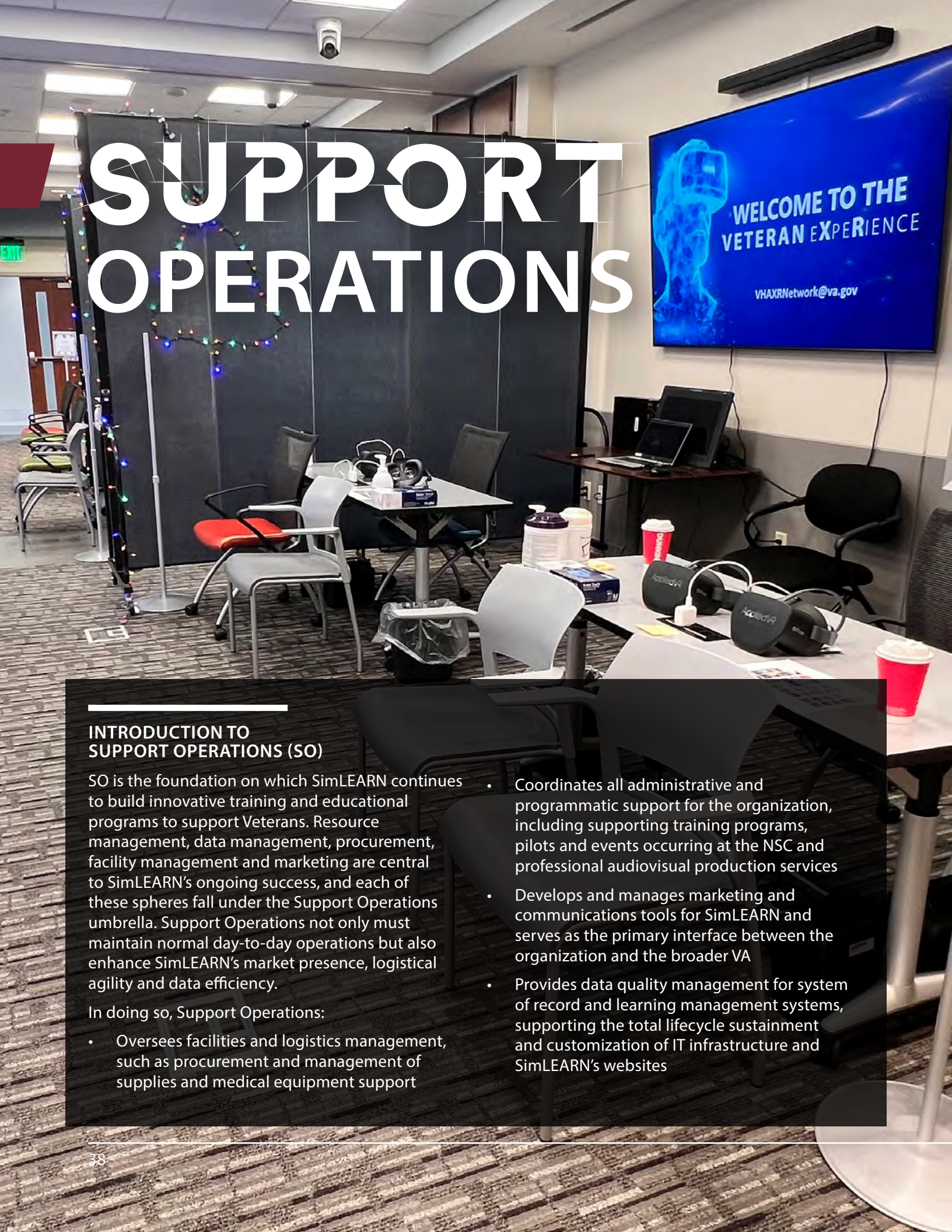
SUPPORT OPERATIONS

INTRODUCTION TO SUPPORT OPERATIONS (SO)

SO is the foundation on which SimLEARN continues to build innovative training and educational programs to support Veterans. Resource management, data management, procurement, facility management and marketing are central to SimLEARN's ongoing success, and each of these spheres fall under the Support Operations umbrella. Support Operations not only must maintain normal day-to-day operations but also enhance SimLEARN's market presence, logistical agility and data efficiency.

In doing so, Support Operations:

- Oversees facilities and logistics management, such as procurement and management of supplies and medical equipment support

- Coordinates all administrative and programmatic support for the organization, including supporting training programs, pilots and events occurring at the NSC and professional audiovisual production services

- Develops and manages marketing and communications tools for SimLEARN and serves as the primary interface between the organization and the broader VA

- Provides data quality management for system of record and learning management systems, supporting the total lifecycle sustainment and customization of IT infrastructure and SimLEARN's websites

2022 SUPPORT OPERATIONS STANDOUT
ACCOMPLISHMENTS

On top of the many responsibilities that fall to Support Operations, tracking and maintenance of equipment is critical, and the team accomplished 100% accountability in 2022.

43,000 unique page views on the SimLEARN website.

Proactively engaged in paperless customer experiences, while maintaining the customer as paramount to their success.

Expanded career and professional development programs for their staff.

OHIL spearheaded the 2022 Summer Immersive Summit, organizing 40 exhibitors, coordinating XR tools and guided participants to show the promising future of XR in clinical practice and training settings.

Ensured that the SLICE & Simulation Showcase was as successful. From broadcast and video support to logistics to marketing to facility maintenance, Support Operations enabled over 400 participants to experience the first in-person event since the onset of the pandemic.

SimLEARN currently has a 4.5 out of five overall customer satisfaction rating.

SimLEARN
2022 EVENTS

HIMSS 2022

Team members from SimLEARN and other programs within OHIL attended the 2022 Healthcare Information and Management Systems Society (HIMSS) Global Health Conference & Exhibition to engage directly with the greater health care community to share ideas, innovations and best practices. The VHA's presence at this leading health care technology event is necessary to remain connected to the most influential players and innovative advancements in the health space. "The HIMSS22 conference presented an opportunity to build stronger relationships and a steadier footprint with its VA and current or potential industry partners," said Brian Stevenson, associate director, SimVET Integrations. During the conference, SimLEARN had the opportunity to interact with more than 1,000 exhibiting companies and organizations that were there to connect with others in order to better serve patients.

2022 SUMMER IMMERSIVE SUMMIT

Over three days in June, OHIL highlighted the current state and future of immersive technology at VA with a focus on XR. The offerings during the conference included a variety of educational events that gave attendees opportunity to experience the timely work OHIL is doing, as immersive technology has grown rapidly and expansively over the past five years. More than 40 exhibitors offered attendees the opportunity to learn first-hand at the summit.

XR is at the forefront of expanded simulation training, and the Summer Immersive Summit brought VA leaders together to explore this promising sphere. Each presentation included quantifiable data supporting the efficacy of XR tools such as VR headsets as well as identifying the receptivity of medical professionals to these tools. VR headsets can be configured in a variety of ways to serve various areas of focus such as pain management, community living centers, physical medicine, rehabilitation, mental health and education and training. VA clinicians are finding that incorporating XR into Veteran care allows for more non-pharmacological therapies and interventions. Executive Director, Eric Bruns noted that XR is "changing the reality of how we will deliver and experience care across medical disciplines." In this way, while the Summer Immersive Summit highlighted the training benefits of XR, the real-world applications of this expanded reality directly impact real health outcomes for Veterans.

2022 SLICE & SIMULATION SHOWCASE

Between Aug. 29 and Sept. 1, over 400 in-person and virtual attendees visited the NSC for the 2022 SLICE & Simulation Showcase, hosted by SimLEARN. This event underscores the core of SLICE's goal, which is to improve Veteran outcomes through convenient and standardized simulation-based trainings at local training centers. Participants engaged in a variety of trainings, certifications, demonstrations and activities that not only immediately prepare them to better deliver Veteran care, but also compellingly advocate for pervasive simulation trainings throughout the country.

Over the course of three days, the showcase featured "Stop the Bleed" certifications, suicide prevention training and escape rooms to creatively retain participants' awareness of the value of simulation. "[Simulation] can lead to an exponential increase in confidence and improve the total Veteran experience," said Eric Bruns, the executive director of SimLEARN. "We, as simulationists, can make a new reality for clinical education." The 2022 SLICE & Simulation Showcase represents how simulation training can further spread throughout the enterprise, instilling its effectiveness in clinical preparedness, educational value and Veteran health outcomes.

Veteran eXpeRience (VXR) 2022

OHIL is bringing XR to the forefront of Veteran's minds when it comes to optimizing the spaces, practices and therapies they can receive from the VHA. This first-of-its kind event allowed Veterans to experience how immersive technologies can be highly effective for pain management, mental health support and physiological assessments. Through virtual reality (VR), over 40 Veterans found themselves in therapeutic health settings at the NSC in Orlando, Florida on December 15, 2022. Even though around half of the Veterans had never experienced VR before, 98% of them found it easy, or very easy, to use, and 95% of participants would like to start or continue using VR and XR tools in their treatments. First-hand experience with simulation tools and quantitative results such as these are clear indicators that XR is not only promising for impactful treatments but enjoyable for the user. It is clear from this event that XR is no longer relegated to an entertainment or trivial space. XR manifests real-world scenarios to care for real Veterans, and OHIL looks forward to expanding its support for this critical tool to make Veteran care more seamless, rehearsed and personalized than ever before.

For more information about SimLEARN and its portfolios, please go to https://www.innovation.va.gov/simlearn/, or scan this QR Code

VA | U.S. Department of Veterans Affairs

SimLEARN
transforming healthcare through simulation