



Simulation-Based Medical Education (SBME) re-creates a clinical setting for the purpose of clinical training, typically through the use of methods (e.g., role-play or scenario-based teaching) and technologies including mannequins, task trainers, virtual patients or standardized patients.

## Veterans Health Administration Establishes National SimLEARN Center

Throughout healthcare, simulation-based medical education (SBME) is becoming a key component of education, training, competency assessment and the maintenance of professional certifications.

Recently, the Veterans Health Administration (VHA) took the first step towards establishing SBME on a system-wide level. On July 17, 2009, the Acting Under Secretary for Health authorized the establishment of a national simulation training and education program. Dubbed Simulation Learning, Education and Research Network, or SimLEARN, the program will improve the quality of healthcare services for America's Veterans through the application of simulation-based learning strategies to clinical workforce development.

The SimLEARN program has six primary goals (see inset p. 8). The program includes the establishment of a National Center that will serve as the focal point for education planning and train-the-trainer activities. The program operations and management will be conducted by the Employee Education System (EES) in close collaboration with the Office of Patient Care Services (PCS) and the Office of Nursing Services (ONS). Program direction is guided by the advice and counsel of a steering committee comprised of simulation training stakeholders.



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*What's currently going on in VHA simulation?*

*See the Dayton VA Medical Center Surgical Service Simulation Center spotlight feature article on page 4.*

## Why a National VHA Simulation Center?

While the use of simulation for healthcare training and education is not new to VHA, it has become critical for VHA to develop a coordinated effort in simulation training, education and research to better realize the maximum benefits of simulation for VHA staff and the Veterans they serve. One of the SimLEARN program's critical goals is to develop and maintain a national strategy for the deployment of simulation training and education across VHA.

By elevating simulation to the national level, VHA is able to leverage the large resource investment expended across the system for simulation training and education effectively to afford the development of national policies, guidelines, documentation strategies and protocols while providing essential curricula and competency evaluation tools systemwide. This ensures the optimization of resources and VHA's application of simulation technologies nationally.

The SimLEARN strategy is consistent with progressive education models currently used in medical and nursing schools across the country and is complementary to similar approaches currently used by the Department of Defense (DoD) and other large, national integrated healthcare systems.

The National Center will serve as the operational hub for coordination of all clinical simulation, performing certain activities in support of the national program and the strategic vision, such as strategic planning and acquisition strategy. However, the National Center will focus equally on activities to immediately support VA Medical Centers in the deployment of SBME (see inset p. 7).

## What About Accreditation?

As local VA Medical Center SBME programs evolve and local simulation centers are established, there will be increased interest in understanding VHA simulation center accreditation policy.

Currently, VHA has no policy stipulating a requirement for accreditation of local programs. The decision to seek accreditation is a local decision. The SimLEARN program will periodically evaluate VHA's simulation accreditation policy position as more data becomes available on the requirements for and the value of accreditation. It is anticipated that the National Center will seek accreditation from certain recognized bodies.

The American College of Surgeons (ACS) and the American Society for Anesthesiology (ASA) are the primary bodies currently accrediting simulation centers. The Society for Simulation in Healthcare (SSH) is currently piloting accreditation. Information is available on their Web sites:

ACS:  
<http://www.facs.org/education/accreditationprogram/list.html>

ASA:  
<https://simapps.asahq.org>

SSH:  
<http://www.ssih.org/SSIH/SSIH/Home/>

As the use of healthcare simulation training grows, it is anticipated that additional accrediting bodies may offer simulation center accreditation as well or formal certifications for trainers and educators.

Simulation is a technique (with or without technology) to safely re-create the real world clinical care for purposes of education, training, performance assessment, systems probing or research.

--Dr. David Gaba  
VA Palo Alto Healthcare System





### **Simulation Spotlight: Dayton VA Medical Center Surgical Service Simulation Center**

The Surgical Service at the Veterans Affairs Medical Center (VAMC) in Dayton, Ohio, is fortunate to have received funding from VISN 10 to develop a state-of-the-art simulation center. The center is equipped with two anesthesia-capable high-fidelity mannequins, two wireless and portable physiologic mannequins, computerized trainers for pelvic examination, virtual reality trainers for laparoscopic surgery (with and without haptic feedback), GI endoscopy and bronchoscopy, arthroscopy, as well as endovascular surgery and cardiac catheterization. The simulation center has Internet-based audiovisual recording equipment, which allows for remote viewing of activities, training debriefing and analysis. Soon, additional equipment will be relocated from the medical center's affiliate, Wright State University Boonshoft School of Medicine.

The center focuses on individual as well as team training for all healthcare providers. One of the most innovative programs underway is the ICU Nurse Residency Program for nurses recruited for critical care units. The nine-month program includes simulations of complex respiratory conditions, hypertensive and hypotensive emergencies, acute coronary syndromes and diabetic emergencies.

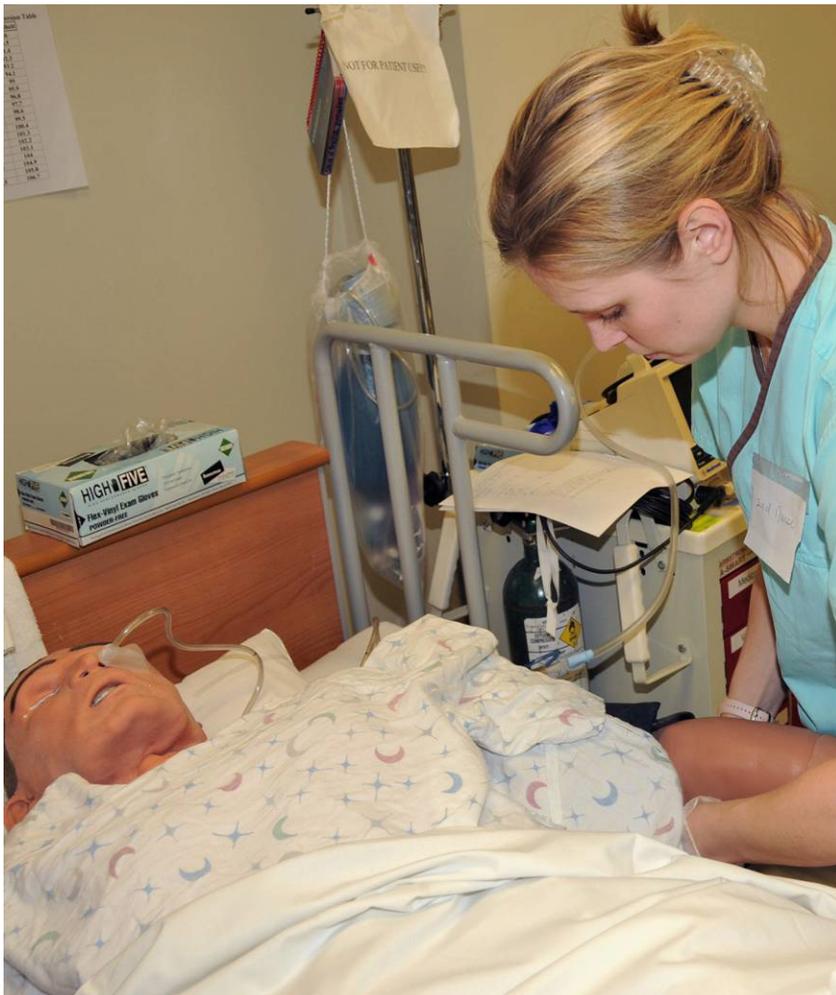


*Photos show Intensive Care Unit (ICU) Resident Nurses reviewing the management of critical care patients using high-fidelity mannequins.*

The program also focuses on documentation, patient hand-off reports and working with complex, high-tech equipment routinely used in critical care settings. Simulation is also being incorporated into unit-based competency assessment strategies.

In addition to the mannequin and task trainer strategies, Dayton VAMC is actively collaborating with the Wright State University College of Engineering in the area of virtual environments and process modeling. Major projects include the development of an interactive virtual patient with underlying neural nets and modeling of operating room utilization with upstream and downstream implications.

A grant from Women's Health is supporting the development of a simulation-based curriculum for primary care providers about common breast and gynecological conditions. The program will include virtual patient scenarios and pelvic training-based education.



*Above: Residents perform endoscopic procedures in lab to advance skills.*

Task trainer experience is being integrated in all of the residency and fellowship programs. Surgery residents can complete the skills portion of the Fundamentals of Laparoscopic Surgery curriculum required of all residents applying for American Board of Surgery certification at the Dayton VAMC. Cardiologists have found the task trainers particularly valuable for the newly established cardiology fellowship.



*Above: Residents are learning basic laparoscopic skills using computerized task trainers.*

### **Steering Committee Mission Statement:**

The SimLEARN Steering Committee mission is to review and advise the Employee Education System Chief Learning Officer on the strategic clinical and business direction of the SimLEARN program and the National Center and to oversee the fulfillment of requirements in the Executive Decision Memo signed by the Acting Under Secretary for Health on July 17, 2009.

--SimLEARN Charter

### **SimLEARN Steering Committee Members:**

- *Joy Hunter, VHA Chief Learning Officer, Employee Education System*
- *Madhulika Agarwal, Chief, Patient Care Services*
- *James Harris, Deputy Chief Nursing Officer*
- *Pat Vandenberg, Chief Policy and Planning Officer*
- *Mike Davies, Director, System Redesign*
- *Tim O'Leary, Deputy Chief Research and Development Center*
- *Craig Luigart, Chief Health Information Officer*
- *William Marks, Director, Learning Initiatives, Academic Affairs*
- *Jim Bagian, Chief Patient Safety Officer, and*
- *Victoria Davey, Acting Chief Environmental and Public Health Officer*

### **SimLEARN Steering Committee**

In September 2009, the Simulated Learning, Education and Research Network (SimLEARN) Steering Committee conducted its first meeting. The SimLEARN Steering Committee was organized to provide professional review, strategic advisement and consistent accountability in support of the National SimLEARN program. The steering committee's membership attests to the crosscutting interest and commitment to the SimLEARN program and for the successful establishment of a National VHA Simulation Center.

The SimLEARN Steering Committee is charged with a variety of advisory responsibilities such as making recommendations for education and training priorities and research initiatives, reviewing accreditation policy and reviewing training equipment acquisition strategies. Through its role in prioritizing focus areas for educational offerings, the committee will ensure that the SimLEARN program focuses on the needs of the VHA workforce in providing high-quality care.

In late February, the SimLEARN Steering Committee convened in Washington, D.C. to review the status and progress of the development of the SimLEARN program. This meeting attested to the camaraderie and unifying commitment of the steering committee membership. The steering committee reported its satisfaction with the progress that has been made by the SimLEARN program to date.

### **Where is VHA SBME Now? Defining the “As-Is” State of Simulation Training and Education in VHA**

A critical preliminary objective of the SBME strategic planning process is the determination of VHA's current state of simulation training, education and research. Another foundational objective for the program is the determination of system-wide curricula topic priorities. This information can then be used, together with a vision of the ideal state, to map a strategic plan for VHA's SBME program.

To meet these objectives, the SimLEARN program staff recently conducted a VHA-wide data call, sending surveys

to more than 170 VHA healthcare facilities. Local Designated Learning Officers facilitated local responses to the data call.

Ninety-nine percent of all facilities participated by responding in part or in whole to the SimLEARN data call. The data call solicited information regarding the following topics:

- Simulation center staffing
- Funding and allocated staff hours for simulation activities
- Professional backgrounds of those in leadership roles
- Organizational alignment of simulation programs
- Space allocations, and
- Establishment dates for local simulation centers

In addition to these topics, VHA healthcare facilities also responded to needs assessment questions. An initial review of facilities' top three priorities reflected interest in simulations around cardiac life support, rapid response, physical assessment, intubation, team communication and central line placement.

Information was also collected on simulation courses

### National Center Activities in Support of SBME:

- Conducting train-the-trainer simulation activities
- Developing curricula
- Developing learning management system capabilities unique to SBME requirements
- Developing policies and procedures related to the use of standardized patient, virtual patient, mannequin, task training and virtual environment learning sessions
- Developing patient cases and scenarios to support SBME in all simulation environments -- with a special focus on veteran-specific scenarios
- Disseminating information on "best practices," and
- Conducting research in program effectiveness and emerging simulation technologies

currently offered at each facility. The analysis of the data was distributed to VHA leadership in late January.

### ***Simulation Update: A Review of Simulation-Based Strategies for Healthcare, Education and Training Release***

The soon-to-be published *Simulation Update: A Review of Simulation-Based Strategies for Healthcare, Education and Training* document is comprised of articles presenting best practices for mannequin-based simulation, task trainers and haptics, standardized patients, virtual patients, virtual environments and process-modeling and is intended to become a field resource for medical centers looking for information on simulation training.

Authored by leaders in the simulation field, the simulation review resource provides both basic and advanced information as well as case studies and simulation education trends. This resource is currently in editing and is slated for release in April 2010.

### ***Hallmark Article: A Critical Review of Simulation-Based Medical Education Research: 2003-2009***

A recent article by McGahie et al.<sup>1</sup> in the journal *Medical Education* reviewed the historical and contemporary research on SBME. The article informs the medical education community on 12 features and best practices of SBME, and comments that the impact and educational utility of SBME is likely to increase in the future. An added value of this exemplary review is the comprehensive reference list of recent publications in simulation-based medical research. This article is an important information source.

<sup>1</sup>McGahie WC, Issenberg SB, Petrusa ER, and Scalese RJ. A critical review of simulation-based medical education research: 2003-2009. *Medical Education* 2010; 44: 50-63.

## Goals of the SimLEARN Program

1. Establish a national simulation center focused on the use of technology that will enhance workforce training and outcomes of care.
2. Develop a VHA strategic plan for simulation process modeling, training, education and research by:
  - a. Focusing and prioritizing forward-looking and outcomes-driven national initiatives for simulation-based activities to meet the healthcare needs of Veterans.
  - b. Developing standardized education curriculum for use with simulation-based technologies.
  - c. Enhancing and expanding the focus of research on simulation-based education and outcomes.
  - d. Continually assessing the current state of VHA simulation process modeling, training, education and research to identify gaps; proposing operational and budget strategies and plans to address those gaps.
  - e. Identifying and developing plans to address simulation process modeling, training, education and research needs that are unique to the Veteran population.
  - f. Evaluating the effectiveness of simulation process modeling, training, education and research activities and identifying opportunities for improvement.
3. Provide operational policies, procedures, standards and guidelines on best practices for simulation activities in areas including, but not limited to:
  - a. Creating recommendations for standards, protocol and processes for VHA simulation activities.
  - b. Developing recommendations for space allocation, minimum clinical and administrative structure and technology within VHA simulation centers.
  - c. Improving simulation activity cost-effectiveness by developing national requirements for acquisition contracts for commonly used high-cost equipment and resources.
  - d. Developing continuing education processes for ensuring credit towards licensure, certification or credentialing requirements.
4. Collaborate with the Department of Defense, academic affiliates and other non-VHA entities to advance mutual interests in simulation.
5. Collaborate with VHA's Office of Health Information and VA's Office of Information and Technology to define the business requirements for an IT infrastructure to support the business needs of the simulation program.
6. Assist in determining specifications and best value choices for simulation equipment and processes.

## Coming Soon ... SimLEARN Web site

The SimLEARN program is actively developing a Web site that will be available soon. In addition to housing reports, press releases and other pertinent simulation-related information, this Web site will provide information, news and resources to promote national collaboration pertaining to the practice of simulation education and training in medicine and healthcare. Though the offering will be distinctly education-focused, the site will contain no actual simulation training content; this content will be available through the VA LMS and other VA training initiatives.

Available to both VA and non-VA healthcare providers, administrators and education specialists, this site will provide opportunities for these professionals to share their best practices related to simulation education.

The Web site will also be the home of SimView, an online newsletter containing reviews of current simulation literature, articles and guidance on how to engage in simulation learning, function as a simulation instructor and develop role-based curriculum.