



LAU

الجامعة اللبنانية الأمريكية
Lebanese American University



**ANNUAL REPORT
2016 — 2017**

LAU CLINICAL SIMULATION CENTER

Simulation for Education and Patient Safety



GILBERT AND ROSE-MARIE CHAGOURY
HEALTH SCIENCES CENTER

GILBERT AND ROSE-MARIE CHAGOURY SCHOOL OF MEDICINE
RABBITT SCHOOL OF NURSING
SCHOOL OF PUBLIC HEALTH

MESSAGE FROM THE DIRECTOR



Simulation allows students and health care professionals to practice and make mistakes without endangering patients, which builds confidence and improves technique. Simulation is not only a bridge between the classroom and real-life experiences; it is also used to learn new skills and advance existing skills. Moreover, it can help to regularly assess and maintain ongoing healthcare performance.

Through its technologically advanced and immersive facility, the LAU Clinical Simulation Center is a national leader in simulation-based education. Our passion and drive are to deliver high-quality educational activities and continuing education programs to health care professionals and to provide a venue to engage in cutting-edge research and innovation. This is guided by our fundamental mission, which is to deliver better care for our patients and to work with our community to become a locus for better health overall.

We invite you to visit our innovative and comprehensive facility to discover the wide range of educational opportunities available through our standardized patient's program, skills practice rooms, mannequin-based simulation rooms, clinics, smart classrooms, and debriefing rooms.

Vanda Abi Raad

Vanda Abi Raad, MD, MHPE
Assistant Dean for Continuing Medical Education
Director, Clinical Simulation Center
Clinical Associate Professor of Anesthesiology
Gilbert and Rose-Marie Chagoury School of Medicine
Lebanese American University

MAKING A DIFFERENCE



In 2017, the LAU Clinical Simulation Center celebrated its 8th year. Established in 2009 under the auspices of the LAU health science schools, the Center has grown steadily over the years to become a hub for simulation training in Lebanon and in the region.

Contemporary health care requires competency-based instruction that often relies on simulated experiences to prepare learners for real-life patient care. The LAU-CSC is home to a safe, realistic environment that allows health care providers and students to increase their knowledge, hone their skills, and practice teamwork in the context of real-life patient scenarios. By using well-founded simulation principles to develop and maintain

healthcare providers' competencies, the ultimate aim of the simulation training is to promote patient safety and increase quality of healthcare.

The LAU-CSC is dedicated to providing a setting in which learners engage in inter-professional experiences that foster collaboration and teamwork. Research has shown that interprofessional education contributes to reducing medical error and enhancing the quality of patient outcomes. Through interprofessional coursework, conferences and continuing education workshops, the center promotes opportunities for healthcare students and working practitioners from varied fields to learn with, from, and about each other.

OUR INSPIRATION

The LAU-CSC's commitment to simulation as an educational tool aimed at enhancing patient safety is supported by four pillars:

- Accreditation
- Education and Training
- Research
- Community Outreach

CONSTITUENCY

While maintaining its primary mission to serve the health sciences schools, over the past several years, the LAU-CSC has experienced an exponential growth in utilization rates as demand for simulation training has increased, both at LAU and from external organizations.

The center provides a consistently high volume of simulation technology and education services for LAU health sciences students. These include students enrolled at the Gilbert and Rose-Marie Chagoury School of Medicine, Alice Ramez Chagoury School of Nursing, and School of Pharmacy, as well as students from the School of Arts and Sciences Nutrition program. These programs are among the first in the nation and the region to integrate simulation technology into their curricula, reflecting the international standard for medical education, surgical training



and professional development. LAU-CSC also serves the needs of the university's academic hospital, the Lebanese American University Medical Center-Rizk Hospital.

In a continued effort to provide more simulation training opportunities for students and active professionals from outside of LAU, the LAU-CSC has welcomed increasing numbers of outside learners. Today, more than 20 percent of our total activities are focused on non-LAU constituents, including courses offered to members of scientific societies, training sessions for health-care providers from other Lebanese hospitals, and exchange opportunities for international university students. Moreover, we are committed to outreach activities addressed to the local community, including school students and municipal employees, among others.





FACILITIES

The LAU-Clinical Simulation Center is located on the fourth level of the Chagoury Health Sciences Center (CHSC), Byblos campus. It extends over 900 square meters and as such is currently the largest simulation center in Lebanon.

LAU-CSC is equipped with a large array of simulators, ranging from low-fidelity task trainers to high-fidelity computerized mannequins. The center provides learners with multiple rooms that serve as settings for various training activities, such as clinics, classrooms, skills practice rooms, mannequin-based simulation rooms, and debriefing rooms. Recently, funded through a grant from American Schools and Hospitals Abroad (ASHA), LAU-CSC acquired a new comprehensive neonatal and pediatric unit, including three simulators: a newborn, a one-year-old, and a five-year-old model. LAU-CSC is also in the process of integrating a scalable software platform for health education.

Clinical simulation often involves the use of “Standardized Patients” (SP), healthy people trained to portray the personal history, physical symptoms, emotional characteristics and everyday concerns of actual patients. This year, our pool of SPs grew to include more than 40 well-trained actors. They receive training in how to realistically portray a variety of medical conditions, coached by Dr. Lina Abiad, Associate Professor and theatre director from LAU’s School of Arts and Sciences.



ACTIVITIES & ACHIEVEMENTS

□ ACCREDITATION

The Royal College of Physicians and Surgeons in Canada granted the Clinical Simulation Center accreditation for a three-year period commencing January 1, 2018 and ending December 31, 2020. This reflects the Center's ability to provide simulation-based education activities that model the highest administrative, educational, and ethical standards.



□ EDUCATION AND TRAINING



Overview

LAU-CSC offers regular workshops and simulation sessions for LAU students and medical residents, as well as for learners from other universities, hospitals and members of scientific societies.

Over the academic year 2016-2017, the center offered a total of 312 sessions, for a total of 25,858 training hours. The offerings included regular courses and simulation sessions (for primary care, psychiatry, anesthesia, obstetrics, internal medicine, surgery, neurology, pediatrics, etc.), American Heart Association (AHA) programs, clinical skills sessions, Objective Structured Clinical Examination (OSCE), a variety of workshops, and a major international conference.

Integrating Simulation into the LAU Health Sciences Curriculum

This past year, LAU School of Medicine students benefited from training provided by the LAU-CSC in clinical skills courses, objective structured clinical examinations, simulation sessions for primary care, psychiatry, anesthesia, obstetrics, internal medicine, surgery, neurology and pediatrics, as well as multiple workshops for undergraduate and post graduate students. Eight courses taught by the School of Nursing included simulation in their curricula, including Fundamentals of Nursing and Health Assessment, Health and Illness Concepts II, Core Nursing practicum I, II and III, Promoting Healthy Lifestyles, High Acuity Nursing Clinical Intensive Care and Clinical Capstone. Students from the School of Pharmacy utilized the LAU-CSC in the context of six courses, including Physical Assessment, Key Performance Criteria, Pharmacy Practice Management I and II, Introduction to Professional Pharmacy and Practice Experience Professional Practice in Hospital. The School of Arts and Sciences' Nutrition Program integrated simulation in three courses, namely, Nutrition Status Assessment, Senior Study Psychology, and Advances in Bioscience and Biotechnology.

Interprofessional Education (IPE) Activities

IPE simulation activities aim to develop teamwork and communication between healthcare professionals. The mission of the Center includes preparing trainees who have the attitude, knowledge, skills and commitment required to function as effective collaborative team members in providing high quality, patient-centered care. Seven IPE activities were offered in 2016-2017, for example, "Care of a patient with a high risk condition." A total of 20 percent of the center's activities included an interprofessional audience.

AHA Courses for health-care providers and the community

The LAU-CSC is certified as an American Heart Association (AHA) International Training Center (LAU-ITC), offering LAU students and the wider community a variety of courses on Emergency Cardiovascular Care. Courses include basic training — for example, the Basic Life Support (BLS) and Heart Saver courses (HS) — as well as advanced courses such as Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS). During the past year, more than 300 school students benefited from the course "Hands-On CPR," which includes basic life-saving techniques.

Anesthesia Crisis Resource Management Course

For the first time in Lebanon, the LAU-CSC held a two-day course on "Anesthesia Crisis Resource Management" (ACRM). The course, sponsored by the company ABBVIE, offered participants the unique opportunity to practice managing anesthetic emergencies using patient simulation and real clinical teams. It drew Lebanese anesthesiologists, nurse anesthetists, and anesthesiologists from Morocco.



Clinical Simulation Diploma

LAU's School of Medicine offers the first Clinical Simulation Diploma to be available in the Middle East, in collaboration with the University of Illinois, Chicago. In 2017, twenty-two faculty, physicians and health-care practitioners from various Lebanese universities and hospitals graduated from the program, comprised of a series of modules that combined hands-on experience at the LAU-CSC with teaching and group presentations, led by internationally recognized experts in the field of medical education.

Major International Conference on Simulation in Medical Education

In March 2017, LAU-CSC played a major role in the successful proceedings of the Third International Conference on Medical Education (ICME), which was held this year with the theme "Simulation for Education and Patient Safety." The first conference dedicated to this topic in Lebanon, the event was attended by more than 300 health-care practitioners. The conference hosted nine internationally renowned experts in the field of medical simulation and was organized in collaboration with the Society in Europe for Simulation Applied to Medicine (SESAM) and the Gathering of Healthcare Simulation Technology Specialists (SimGHOSTS). The plenary sessions addressed were complemented throughout by various thematic workshops held at the LAU-CSC.





□ RESEARCH

While the primary function of the LAU-Clinical Simulation Center revolves around teaching health-care skills and competencies in a safe environment, the center follows LAU's general conviction that good teaching would be impossible without high quality faculty research. As LAU-CSC's facilities lend themselves easily to research studies, it is no surprise that the center's faculty has been producing well-regarded studies, of which some are highlighted here:

This past academic year, our faculty published in major professional journals, including:

- Abi Raad VG, Barakat H, Aouad M, Harris I, Park YS, Youssef N, Boulet J, Tekian A. Effect of a simulation-based workshop on breaking bad news for anesthesiology residents: an intervention study. *BMC Anesthesiology*, (2017) 17:77].
- Abi Raad Vanda, Aoun Bahous Sola, Faour Wissam, Khairallah Maya, Asmar Nadia. Influence of standardized patient body habitus on undergraduate student performance in an Objective Structured Clinical Examination. *Med Teach*. 2014; 36: 240-244.

In addition to publishing the results of their research in scholarly journals, CSC faculty frequently presented at international medical and academic conferences. Highlights from 2016-2017 include:

- Vanda Abi Raad, Marc Lazarovici. Scenario Design: An Essential Aspect of Simulation-Based Education. 23rd annual meeting of the Society in Europe for Simulation Applied to Medicine, Paris, June 2017.
- Hanane Barakat, Vanda Abi Raad. Airway Emergency Management Workshop. The 33rd Annual International Conference of the Egyptian Society of Anesthesiologists, April 2017, Cairo, Egypt.



- Vanda Abi Raad. Scenario Writing for High Fidelity Simulation. Gulf Medical University's Simulation Conference, Sharja Oct. 2016.
- Vanda Abi Raad. Simulation Based Education. An opportunity to Learn from Errors. 8th International Medical Conference Continuous Medical Education. Faculty of Medicine-Jordan University of Science and Technology, King Abdullah University Hospital-Jordan April 2016.
- Nelly Chammas. The use of Standardized Patients to Improve Patient Safety. The 3rd UAE clinical simulation conference, Dubai, Feb 2016.
- Vanda Abi Raad. Implementing a new diploma for Clinical Simulation. The nuts and Bolts. The 3rd UAE clinical simulation conference, Dubai, Feb 2016.

□ COMMUNITY OUTREACH

The LAU-CSC is committed to advancing health education, patient safety, and initiatives that are important to the quality of life in Lebanese communities, in line with LAU's mission to support the community in which we live and work.

CPR Training and Cardiac Screenings

In April 2017, the CSC played a key role in a Byblos campus event aimed at raising awareness about Sudden Cardiac Arrest and the need to resuscitate. More than 150 students and staff were taught how to perform CPR measures in collaboration with the LAU First Responder's Club.

Expanding the scope of our services:

The CSC Goes Mobile

In a move to take training and continuing education opportunities on the road to reach medical professionals throughout Lebanon, the LAU-CSC organized a workshop during the 12th International PanArab Critical Care Medicine Society Conference in October 2016, involving a mobile simulation unit. This mobile simulation training unit offered participants the opportunity to practice managing airway emergencies using full patient simulation and real clinical teams in a simulated room mimicking an ICU space. It also increased participants' non-technical skills and improve their ability to manage airway emergencies efficiently and effectively.

LAU-CSC in the media

On January 15, 2017, MTV's famous program Tahkik dedicated an episode to LAU's health education, devoting significant attention to the Simulation Center. The program highlighted the impact of simulation-based education in promoting patient safety and increasing the quality of healthcare. In addition, the episode focused on trainees who successfully applied the acquired knowledge from simulation activities to their clinical practice at the LAU Medical Center-Rizk Hospital.



FACULTY & STAFF

A Steering Committee composed of the deans of the three partner LAU schools—Gilbert and Rose Marie Chagoury School of Medicine, Alice Ramez Chagoury School of Nursing, and School of Pharmacy—has overall responsibility for the Clinical Simulation Center. A Liaison Committee provides input and feedback on the services and resources of the LAU-CSC. The members of the liaison committee are distributed as follows:

GILBERT AND ROSE-MARIE CHAGOURY SCHOOL OF MEDICINE

Vanda Abi Raad, MD, MHPE,
Director of Clinical Simulation Center
Assistant Dean for Continuing Medical Education
Clinical Associate Professor of Anesthesiology

Nadia El Asmar, MD,
Associate Director of Clinical Simulation Center
Assistant Professor of Medicine
Director of OSCE and Clinical Skills Program

Hanane Barakat, MD, MHM
Clinical Assistant Professor of Anesthesiology
Anesthesia Clerkship Director

Nelly El-Chammas, RN, DHQM, MBA,
Senior Coordinator at Clinical Simulation Center
Coordinator AHA-International Training Center

Rudy Bahri, RN, MBA, DESM,
Coordinator at Clinical Simulation Center

Rana Akiki, MPH, BSN,
Simulation and Research Assistant

ALICE RAMEZ CHAGOURY SCHOOL OF NURSING

Maha Habre, M.S.N., RN, CEN
Clinical Instructor

Mira Abi Saad-Youssef, M.S.N., RN
Clinical Instructor

SCHOOL OF PHARMACY

Lamis Karaoui, Pharm.D., BCPS
Clinical Associate Professor
Director of Experiential Education



"It is extraordinary to see what can be achieved with visioning and committed leadership to healthcare simulation and patient safety."

Professor Debra Nestel

Professor of Simulation Education in Healthcare at the Monash University & Professor of Surgical Education at the Department of Surgery of the University of Melbourne.



"LAU's Simulation Center is the only place where the price of learning from your medical mistakes is cheap. A place where the patient gets another chance at survival and the student gets another chance at improving. A place of application and self-reflection in a setting that's closest to reality."

Elena Saade, Med III student

"Thank you for this wonderful visit, you have created a terrific team and the culture of learning."

Linda Crelinsten

Assistant Director, Arnold and Blema Steinberg Medical Simulation Centre, McGill University, Montréal, QC, Canada



"It was a great pleasure to share experiences in learning and teaching using simulations models for improvement of health and welfare in my beloved country of Lebanon. Great success and a fabulous future for LAU-CSC."

David Paredes, MD, CETC,
Hospital Clinic de Barcelona



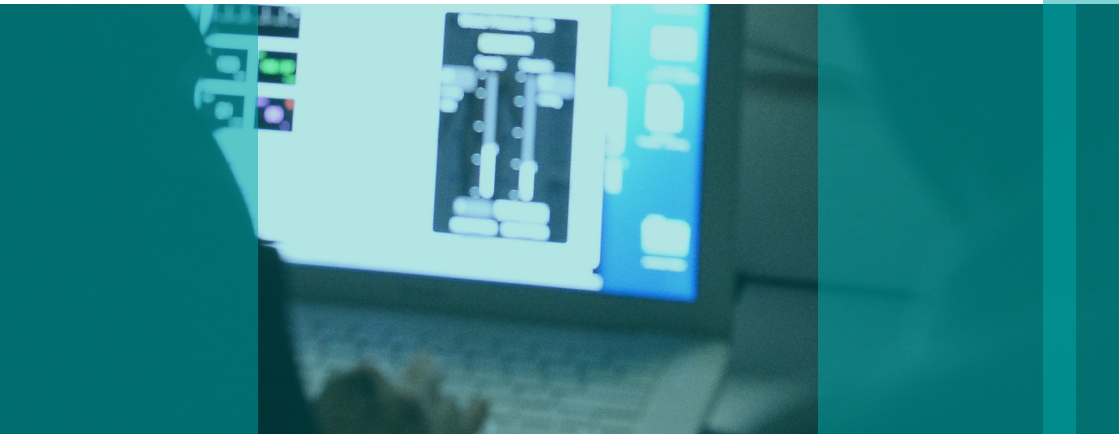
“ Wonder visit to the Simulation Center!

The most extraordinary accomplishment of a respectful learning environment. Congratulations. ”

Susan Brien, MD, MEd, CSPQ, FRCSC, CPE

Professor of neurosurgery at the University of Ottawa.

Director of simulation based education and practice, performance and innovation at the Royal College of Physicians and Surgeons of Canada and Associate Director for Asia initiatives at the Royal College International.



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