

MEDIA RELEASE

For immediate release

SIAS launches reality-based health-care lab

Lab simulates scenarios for interprofessional learning

Regina, January 18, 2008 – SIAS cut the ribbon today on a \$1.05 million centre that allows nursing, paramedic and continuing care students to practise health-care and critical-thinking skills in a risk-free, near-to-real environment.

“The Government of Saskatchewan’s investment in the Simulation Learning Centre is an investment in leading edge, quality education,” the Honourable Rob Norris, Minister of Advanced Education, Employment and Labour says. “This will advance health care training and therefore health care delivery for the people of Saskatchewan.”

The Simulation Learning Centre includes three hospital trauma rooms, a 500-square-foot apartment with walls cut away for observation, and three computerized mannequins. The mannequins speak, breathe and even blink. They are programmed to react as students administer CPR and drug therapies, intubate and ventilate, insert IVs and catheters, and perform various other procedures in response to dozens of scenarios.

“The development of the simulation centre is a timely advancement within the province as we work to provide clinical experiences for growing numbers of students,” says Jean Morrison, vice-president, performance excellence and chief nursing officer for the Saskatoon Health District, and vice-chair of the SIAS board of directors. “The centre allows us to have some of the initial clinical learning happen using programmable mannequins that respond to treatment. It allows for innovative interdisciplinary training that provides students with real-life experience before they move into client and patient care,” Morrison says.

The Simulation Learning Centre makes innovative use of training resources in an era when clinical learning opportunities are in high demand. It allows SIAS to focus on specific clinical situations, and it allows faculty to teach multiple skills at the same time. Over the course of a year, more than 600 students will have the opportunity to practise clinical skills in the Simulation Learning Centre.

“The new centre will help us better prepare health-care students in Saskatchewan,” says Dr. Robert G. McCulloch, SIAST’s president and CEO. “It will also help us address other health education challenges, such as clinical placement capacity, information explosion and the different needs of today’s learners.”

By taking an interprofessional approach to health care education in the simulation learning centre, we can help students acquire knowledge and skills in their own discipline, while they also develop necessary collaborative skills to be a member of the health-care team.

SIAST is Saskatchewan’s primary public institution for post-secondary technical education and skills training, recognized nationally and internationally for its expertise and innovation. More than 11,000 students are registered in SIAST programs, which touch every sector of the economy; additionally, the organization draws more than 29,000 individual course registrations. It operates campuses in Moose Jaw, Prince Albert, Regina and Saskatoon, and provides a number of courses and programs through distance education.

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SIMULATION LEARNING CENTRE BACKGROUNDER

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The Simulation Learning Centre (SLC) at SIAST Wascana Campus provides health-care students with opportunities to participate in reality-based learning activities. The SLC is a collaborative effort involving SIAST's Nursing and Science and Health divisions. Students benefiting from delivery of simulation events include those enrolled in nursing, emergency health care (paramedic) and continuing care assistant programs – a total of 10 SIAST programs.

The SLC creates an environment where:

- Students use basic, low, intermediate and high-fidelity simulation to acquire the knowledge, psychomotor skills and attitudes necessary to work in an interprofessional environment.
- Technology enhances individual and group learning.
- Students role play interprofessional clinical scenarios using advancing levels of simulation. Students repeat skills, receive feedback and correct errors. Students learn to work as members of a team and have an opportunity to examine team function and its impacts on a scenario.
- Students role play scenarios and situations that may not be available to all students in the clinical area, or that they may not be exposed to during their clinical experience.
- Students learn from errors in an environment that does not jeopardize patient safety.

Upon completion of their faculty led simulated learning experience, students are better prepared, more competent and more comfortable in the clinical setting, easing the transition into their required practicum or clinical experience.

Scope of the project

Planning to develop an interprofessional simulation learning centre at SIAST Wascana Campus began in October 2005. A steering committee was formed, information about the space and equipment requirements was collated and a proposal for funding was prepared. Approximately \$1 million in funding from Advanced Education and Employment was received in December 2006.

SIAST purchased two different models of simulators (simulation mannequins) – two Emergency Care Simulators (ECS) and one Human Patient Simulator (HPS). All three of the simulators respond to the decisions and actions of students; the HPS is a more advanced simulator for use in high-fidelity simulation scenarios.

The capabilities of the simulators include the following:

- Vital signs are available in most cases as they would normally be. The simulator allows for the physical assessment of various clinical signs that are dynamically coupled with human physiology and pharmacology.
- Pulse is palpable at usual pulse points, and its strength is dependent on the patient's blood pressure.
- Airways support the use of standard clinical devices such as endotracheal tube, laryngeal mask airway, combitube, lighted stylets and fibre-optic intubation tubes. Tongue swelling can be activated, the airway can be occluded and laryngospasm can be activated with the closing of vocal cords.
- Heart sounds are present.
- Bowel sounds are present.
- Respirations are visible through the patient's chest movement and breath sounds are present.
- Blood pressure can be taken manually or electronically. In the clinical setting, depending on the patient, a constantly updated blood pressure can be made available and displayed on the LCD display monitor above the patient's head.
- Pupils in the HPS will react according to the patient's condition. In the ECS the pupils are manually changed.
- Voice capability is possible as the simulators can "talk" and answer questions from the students. The voice is provided by a person in the control room by wireless microphone.
- Skin colour and temperature changes with the patient's condition. If the patient is conscious and able to respond, he/she will respond to the student's questions about skin colour.

Besides purchasing the three simulators, extensive renovations were done to the 8th floor of SIAST Wascana Campus to create an appropriate interprofessional simulation environment. Three simulation rooms – one for each of the simulators – were designed to replicate hospital trauma rooms. A small apartment is located at the end of the hospital corridor to simulate the home environment of patients requiring emergency response and home care.

The simulators are portable, enabling simulation events to take place at various locations within the Simulation Learning Centre: the three hospital rooms, inside of the apartment and/or in transition from one location to the other.

Two control rooms act as command centres for the simulators and house workspace and computers, auxiliary equipment, and AV recording and production equipment for use in the delivery of the simulations. Each of the simulators is controlled by a technician who acts as the “voice” of the patient and interacts with the students. In collaboration with faculty, the technician also controls the simulation exercise as the students progress through their learning objectives.

Each of the simulation events is video recorded and played back to the students in a debriefing room. The debriefing room is also a place where students not participating in the simulation are able to watch a live feed of the simulation scenario.