Evaluation of the use of simulation to support an interprofessional “just speak up” culture

Lorna Bain, Southlake Regional Healthcare Centre
$9,935
“The evaluation of the use of simulation to support an interprofessional ‘just speak up” culture" is intended to foster and sustain competence and confidence amongst staff to speak up and listen up when clinical or professional issues need to be communicated. Simulation is being used as a modality to develop skills and confidence. The Emergency Department (ED) at Southlake Regional Health Centre is keen to be part of this initiative as learning together has greater impact and application to the clinical environment. The ED is an interprofessional team working in a fast-paced, high risk and high intensity environment. These factors position it well to benefit from initiatives designed to improve communication. Communication failure is a leading cause of error often due to inhibition of individuals to speak up in clinical care environments. This initiative is aimed to promote quality and safety by positively influencing team culture.

Assessment of patients receiving complex pain management interventions: An educational module of neuraxial analgesia using standardized patients for learners in the health professions

Marian Luctkar-Flude, Queen’s University
$9,980
Although complex pain management interventions such as epidurals have become standard practice, pre-registration health sciences students currently receive no standardized training or evaluation in care of patients receiving these modalities. Assessment and monitoring of these patients is a high priority due to potentially devastating adverse effects if basic precautions are not taken. Our objective is to fill this current regional gap in health professional education with the ultimate goal of improving patient safety. In addition to traditional didactic teaching, we will include practice and assessment sessions with standardized patients to enhance learner application of knowledge and skill to clinical scenarios requiring critical thinking. We
will trial the educational intervention and outcome measurement tools with a sample of nursing students followed by a larger implementation and evaluation with nursing, physiotherapy and medical students. Learning outcomes will include knowledge, skill, critical thinking, confidence, satisfaction with the module and feasibility of the module.

A serious game for medical-based cultural competence education and training

Bill Kapralos, University of Ontario Institute of Technology
$24,915
Research has shown that the quality of care is compromised when healthcare providers respond inappropriately to patient language and cultural factors. Despite growing the awareness of cultural competence within the healthcare system, healthcare providers do not possess the attitudes or skills required to be effective within a culturally diverse healthcare setting. This work will see the development of a novel multi-player serious game prototype for the purpose of cultural sensitivity competence training aimed at healthcare providers and trainees. The proposed serious game will allow for a wide variety of realistic culturally sensitive scenarios to be easily simulated within a complex interactive narrative context. In contrast to the majority of existing cultural competence education approaches, the serious game will provide users the opportunity to learn in a highly engaging, interactive and interprofessional environment that is ethically safe and cost-effective.

High fidelity simulation-based training in radiation therapy: attitudes and behaviours towards safety in radiation therapy

Jean-Pierre Bissonnette, University Health Network / University of Toronto
$24,964
Radiotherapy is a safe medical procedure practiced in an interprofessional environment that relies heavily on teamwork and rigorous quality control procedures. Analysis of incident reports from our clinics have shown an incident and near miss rate of 1.4% per course of treatment. While this rate appears low, it remains a far cry from the incident rate observed in the airline industry (0.00002% per flight). Unfortunately, radiation misadministration still occurs, and the potential for devastating outcomes from misadministration persists. High-fidelity simulators have proven essential to reduce the number and severity of incidents in the airline industry. We therefore propose the simulation of radiotherapy errors to enhance error recognition and elimination, and provide multidisciplinary learning for radiotherapy staff and trainees. A number of simulation scenarios, some reproducing
incidents and others not, would be created for participants to determine how good humans are at detecting potential hazards and prevent incidents in the clinical environment.

Impact of unexpected death in simulation: Skill retention, stress and emotions. A randomized controlled trial

Sylvain Boet, The Ottawa Hospital / University of Ottawa
$25,000
High-fidelity simulation is an increasingly used teaching tool that is proven to be effective for learning. According to the literature, by gradually increasing stress and emotions, more effective memory can be achieved. However, an overload of stress might have a negative impact on memory. Therefore, allowing the simulated patient to “die” is controversial. There is no previous research on the educational effect of letting a simulated patient die in postgraduate medical education. Within this multi-centre trial involving residents and fellows from different specialties, we aim to evaluate the effects of simulated unexpected death on skill retention, stress levels and emotions. We hypothesize that the learners’ exposure to unexpected death will decrease skill retention and will be associated with higher stress levels and stronger emotions. The results of this trial will provide instructors with evidence to optimize scenario design and approach the role of stress and emotions in simulation-based education.

Observational Practice and Educational Networking: Extending the simulation-based education beyond the simulation laboratory

Lawrence Grierson, McMaster University
$25,000
The OPEN Minds working group extends simulation-based learning beyond the confines of the simulation laboratory. This collaborative group of researchers has developed the Observational Practice and Educational Networking (OPEN) learning environment. This internet-mediated environment merges video-based observational technology with social networking and gameplay mechanics, enabling trainees to develop social relationships, maintain connections, and communicate in a supportive, engaging and interactive manner. The OPEN Minds rely on a broad and strong foundation of research expertise in the roles that social networking and observational practice have in the acquisition of complex, clinical skills. In the current project, The OPEN minds examine the influences of variable observational content and gameplay scoring features have in enhancing the educational power associated with OPEN learning environment.
Peer Review Process

All submissions were peer-reviewed and scored by at least three independent assessors: SIM-one’s Director of Research and Development plus two or three randomly assigned external reviewers. If a conflict of interest was identified or a reviewer felt unable to review the application, it was re-assigned to a different reviewer.

Scoring was completed using pre-defined weighted categories with defined scoring ranges, anchors and examples. The categories included methodology, clarity, originality, potential impact, the potential for collaboration with other sites/professions, and the potential to expand capacity for further simulation research and innovation. These scores were summed to give a total application score from 0 to 5. The scores from each reviewer were averaged to give the application’s final score.

Finally, grants in each category were allocated in descending order of final score.

We would like to thank this year’s peer reviewers for their assistance and insight:
- Alison Fox-Robichaud, McMaster University
- Amy Nakajima, University of Ottawa
- Chris Schlachta, Western University
- Dan Perri, McMaster University
- Dylan Bould, University of Ottawa
- Kelly Meservia-Collins, Thunder Bay Regional Health Sciences Centre
- Kristen Jones-Bonofiglio, Lakehead University
- Luc Simard, Collège Boréal
- Lynn Casimiro, Hôpital Montfort
- Marian Luctkar-Flude, Queen’s University
- Patricia Trbovich, University of Toronto
- Peter Voros, Thunder Bay Regional Health Sciences Centre
- René Lapierre, Collège Boréal
- Sev Perelman, Mount Sinai Hospital
- Stan Hamstra, University of Ottawa
- Stella Ng, University of Toronto

For more information on SIM-one’s research and development services, please contact RD@SIM-one.ca.