CAEP Feature Innovation Case Report

Name of Innovation	Interdisciplinary Staff Simulation
Lead Innovator	Gord McNeil
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Does this project have its own website?	No
Division or department's website	http://wcm.ucalgary.ca/ermedicine/
Description of the Innovation	**Goals:** The purpose of the staff interdisciplinary simulation sessions at the University of Calgary is to give Emergency staff (physicians, nurses and respiratory therapists) exposure to *in situ* critical care scenarios and encourage practice of real time skills they will use in their daily practice of Emergency Medicine. **Preparation:** Simulation training has been shown to be an extremely valuable tool that allows learners to develop the cognitive, procedural, communication and teamwork skills that can improve patient safety. [1,2] *In situ* simulation, that is conducting simulations in the clinical environment, offers further advantages by aligning with the actual "work" of health care providers, improves training efficiencies and provides an opportunity to review at frequent intervals the skills related to high-risk of infrequent events. **Methods:** This project involves weekly interdisciplinary *in situ* simulation sessions with emergency physicians, emergency nurses and respiratory therapists. Participants attend these sessions in the resuscitation area of their usual work environment and function in teams made up of 2 physicians, 3-4 nurses and 1-2 respiratory therapists. Throughout the 2.5 hour sessions, teams run through 2-3 scenarios. Physicians rotate through the role of team leader, nurses divide up their duties (documentation nurse, fluids nurse or

	medications nurse) while respiratory therapists balance their role in airway management and arterial lines. Scenarios last about 20-25 minutes followed by a 30-35-minute debriefing session where participants explore and troubleshoot communication, teamwork and knowledge issues that arose during the session. In order to offer a safe open environment for physicians, residents and medical students are not allowed to participate in these sessions. The activity is accredited and providers can earn CME credits for their participation. **Results:** Over 125 Emergency physicians and 400 nurses have participated in the last 4 years with consistently excellent feedback. After each session participants complete a survey where they rate various components of the activity on a 5-point Likert scale with the following descriptors: 1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree Mean scores of participant response for each rating are reported below. 1. Overall experience was excellent (4.77/5) 2. Relevant to my practice (4.78/5) 3. Debriefing helpful (4.77/5) 4. Assessed knowledge base and performance well (4.48/5) 5. Improved my own performance during critical ED care (4.40/5) 6. Improved team performance during critical ED care 4.46/5 7. Improved communication and team work skills 4.47/5 **Reflective critique:** This activity supports interdisciplinary learning and incorporates several features of high-fidelity simulation that lead to effective learning: providing feedback, allowing for repetitive practice, supporting a range of difficulty, and capturing clinical variation.[4]

	Furthermore, features specific to *in situ* simulation that enhance learning include reinforcement of individual and team behaviors, identification of active and latent systems issues and the ability of the *in situ* simulated scenario to be a catalyst for change in clinical care systems and lead to improved clinical outcomes.[3] As demonstrated in the results, program evaluation has been done using trainee reactions to the training which corresponds to level 1 of the Kirkpatrick framework for program evaluation.[5] This framework would suggest that for future evaluation different outcomes (learning, behavior or results) should be considered.
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References:

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(2) Reznek MA, Rawn CL, Krummel TM. Evaluation of the educational effectiveness of a virtual reality intravenous insertion simulator. Acad Emerg Med 2002; 9: 1319-25.

(3) Henriksen K, Battles JB, Keyes MA, *et al.* editors. Advances in Patient Safety: New Directions and Alternative Approaches (Vol. 3: Performance and Tools). Rockville (MD): Agency for Healthcare Research and Quality (US); 2008 Aug. *In Situ* Simulation: Challenges and Results.

(4) Issenberg SB, Mcgaghie WC, Petrusa ER, Gordon DL & RJ Scalese (2005) Features and uses of high-fidelity medical simulations that lead to effective learning: a BEME systematic review, Medical Teacher, 27(1): 10-28.

(5) Kirkpatrick D.L. (1959). Techniques for evaluating training programs. Journal of American Society of Training Directors, 13(3): 21–6