ning, curriculum development, and faculty training. The session should be of interest to emergency and disaster educators, healthcare professionals, policy-makers, and researchers.

Keywords: Canada; course; disaster management; education; healthcare; professionals
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Effectiveness of Simulation-Based Training on the disastermed.ca Emergency Department Simulator in Addition to Problem-Based Learning for Medical Student Training in Disaster Medicine

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Introduction: Disaster medicine is an increasingly important part of medicine. Training in the practical aspects of disaster medicine often is impossible, and simulation may offer an educational opportunity superior to traditional didactic methods.
Methods: Twenty-two medical students at the Università degli studi del Piemonte Orientale were block-randomized into two groups of 11 students stratified by year of education. All participants received an eight-hour course of lectures and problem-based learning in disaster medicine. The intervention group received additional disaster medicine training on the disastermed.ca patient simulator, while the control group spent equal time on the simulator in a non-disaster setting. The ability of the two groups to manage a simulated disaster was compared.
Results: Students in the intervention group were able to triage their patients more quickly than the control group (mean difference = 43 seconds, 95% CI 0.34–1.09 minutes, p <0.0003). Patients in the intervention group also were assessed more quickly (mean difference = 6.3 minutes, 95% CI = 0.4–12.1 minutes, p <0.04). Scores of performance indicators on a standardized scale was significantly higher in the intervention group (18/18) compared to the control group (8/18; p <0.0004). All students stated that they preferred the simulation-based curriculum to a lecture-based curriculum. When asked to rate the exercise overall, the median score was 8 on a 10-point modified Likert scale with no difference between the control and intervention groups.
Conclusions: Simulation of a mass-casualty incident increased the speed at which medical students were able to triage and assess simulated patients. Exposure to the disaster simulation also increased the scores on a structured command-and-control performance indicator instrument. Overall student satisfaction with the simulation-based curriculum was high, and all students felt that the simulation was a valuable learning experience.

Keywords: competency; disaster medicine; education; emergency department; medical student; simulation; training
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Enhancement of Self-Critical Learning and Coping with Stress through the Use of Serious Games

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Introduction: Disaster and emergency personnel must master a variety of medical skills and must be able to perform under various stressful circumstances. In general, medical personnel are highly educated and are expected to be self-critical individuals even under extreme circumstances. However, self-critical abilities seldom are trained or evaluated within these circumstances. The combination of training for critical tasks and coping with stress can be trained in a personalized way by using serious gaming techniques. Immersion in the real-life stressful context, by means of a game, is a strong trigger for the intrinsic motivation to learn. Serious gaming could be useful, but it is unclear in what way games should include self-critical learning and coping with stress.
Methods: Several studies on the possibilities of serious gaming for medical personnel were performed: (1) an investigation on self-directed learning in ambulance workers; (2) an adventure based learning experiment with military physician; and (3) a literature review on games and stress.
Results: The more subjects are capable of self-critical learning, the more they benefit from a game. Subjects can actively take control on what, how, and when they want to learn, which has an effect on self-efficacy and coping. Moreover, self-critical learning can be enhanced in a game, using feedback directed at the effects of stress on the critical performance of (medical) tasks.
Conclusions: The ways serious games can enhance self-critical learning and coping with stress will be elaborated upon.

Keywords: competency; education; game; learning; stress; training
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Development and Evaluation of a Graduate Certificate in Emergency Preparedness and Disaster Health as a Core Program for Health Professionals

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Introduction: The World Association for Disaster and Emergency Medicine (WADEM) Education Committee recommends that all health professionals be exposed to a core program in disaster health. This paper describes the framework, implementation, and evaluation of a Graduate Certificate in Emergency Preparedness and Disaster Health designed for health professionals.
Methods: Based on the WADEM Education Committee's framework for disaster health and the structure of the World Health Organization (WHO) Health Action in Crises Unit, a four-unit Graduate Certificate in Emergency Preparedness and Disaster Heath was developed, implemented and evaluated.
Results: This Graduate Certificate evolved over three years and includes four units: (1) an introduction to emergency preparedness and disaster health; (2) emergency preparedness; (3)

response and major incident management; and (4) disaster recovery. Each unit has national and international perspectives.

Appropriate conceptual models provided the content and process of the course, although these have been difficult to locate. Delivery is largely on-campus with pre-reading and post-course assignments. A faculty of national and international leaders enriches delivery. Assessment largely has been assignment-based, with participation in one "Emergotrain" exercise required. Students may take the full Graduate Certificate or individual units only, either for credit or not-for-credit professional development.

Student feedback has been positive, with the introductory unit being rated as amongst the top 10% of units conducted in the faculty for two years in a row. The content, process, and assessments have been well supported with only few suggestions made for future modifications. An online option will now be offered in 2009, and a Graduate Diploma and Masters also will be available in 2009.

Conclusions: This Graduate Certificate has been evaluated positively by participants. The conceptual modeling has been validated and the model may be of interest to other WADEM members.

Keywords: certificate; disaster health; education; preparedness; training; World Association for Disaster and Emergency Medicine
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Poster Presentations—Education and Training

(M4) Blue Cart Drill QA 2004–2007

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Introduction: Mock Code Training is an exercise designed to develop competency in emergency responsiveness. The objectives for this educational intervention were: (1) demonstrate basic airway maneuvers; (2) demonstrate basic life support-cardiopulmonary resuscitation (BLS-CPR); (3) demonstrate when and how to call a Code; (4) recognize life-threatening cardiac arrhythmias; (5) initiate relevant cardiac monitoring; and (6) initiate relevant resuscitation based on algorithms.

Methods: Drills were conducted monthly on various inpatient and outpatient nursing units at the University of Wisconsin Hospital and Clinics. The following data was collected: (1) chime sounded; (2) basic patient assessment; (3) universal precautions; (4) compressions; (5) automated external defibrillator (AED) arrival; (6) unit emergency cart arrival; (7) oxygen administration; (8) code team arrival; (9) Advanced Cardiac Life Support (ACLS) Guidelines; (10) presence of recorder; (11) monitor initiation; (12) advanced airway; (13) intravenous (IV) access; (14) medications; (15) and time resuscitation ended.

Results: The mean results were: (1) action for delivery of compressions = 1 minute, 10 seconds; (2) unit emergency cart arrival = 2 minutes, 15 seconds; (3) oxygen-bag valve mask = 3 minutes, 10 seconds; (4) defibrillation = 7 minutes; (5) code team arrival = 3 minutes, 33 seconds; (6) ACLS Guidelines Initiated = 6 minutes, 13 seconds; (7) monitor initiation = 5 minutes, 33 seconds; (8) advanced airway = 6 minutes; (9) IV access = 3 minutes, 15 seconds; and (10) medication administration = 6 minutes, 30 seconds.

Keywords: code; drills; emergency responsiveness; hospital; mock code training; training
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(M5) Insights and Lessons Learned from a University Disaster Drill Experience

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Introduction: Universities have fallen victim to many disasters over the years, ranging from those caused by natural hazards to campus violence. Most institutions have disaster plans in place and attempt to update those plans on a regular basis. Yet historically, universities do a poor job in testing those emergency operation plans as part of their routine preparation and mitigation practices. In July 2008, Philadelphia University participated in a full-scale, multi-agency exercise in order to test their disaster plan. The purpose of this study was to examine the lessons learned from the drill, analyze the benefits of the drill, and determine if the drill brought value to the university.

Methods: Interviews were conducted with 21 of the 25 university personnel who participated in the exercise. The interviews were taped and analyzed with the use of qualitative methods and content analysis techniques.

Results: The emerging themes from the study included the benefits and values of the drill, the lessons learned, how perceptions were changed after the drill, views about the current level of disaster preparedness, and recommendations for improving disaster management practices.

Conclusions: The results demonstrated that the disaster drill was a valuable learning experience for the participants. The university benefited from the drill in multiple ways, learned many lessons, and discovered ways to begin improving their disaster management practices.

Keywords: disaster drill; education; emergency plan; planning; training; university
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(M6) Global Health Education: Is There a Need for a Physician Training Curriculum in Oregon?

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Introduction: Physicians practicing internationally provide comprehensive health care and often prepare with global health courses. These can be limited by timing and do not provide primary care training to sub-specialists. It is hypothesized that Oregon physicians are interested in global health education and want an accessible course that reviews skills used in international medicine.

Methods: A survey-based needs assessment was conducted of licensed Oregon physicians that determined the level of interest in global health training. A total of 6,099 surveys were mailed to physicians in June 2007. The surveys included questions regarding demographics (age, gender,