Evaluation of a Disaster Simulation Method for a Disaster Medical Assistance Team

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Introduction: Disaster drills are a fundamental tool for the improvement and evaluation of local disaster response capacity. No generally accepted disaster simulation methods exist for improving the medical response of a disaster medical assistance team (DMAT).
Objective: This study evaluates the feasibility and effectiveness of a disaster simulation method for a DMAT.
Methods: Five emergency physicians devised a disaster simulation method based on clinical scenarios involving 12 victims, and identified requisite critical actions for each victim. The study group consisted of 29 DMAT members from a large university hospital in Seoul, South Korea, who were assigned to individual roles corresponding to rescue, triage, treatment, support, transport, or communication in each drill. Six disaster drills were conducted and repeated under the same conditions. Time results were defined as the duration of triage and treatment, respectively. Performance results were defined as the ratio of performed critical actions to requisite critical actions. Time results and performance results were measured for each victim and summed for each drill. Improvement of overall DMAT medical response was evaluated by comparing the overall time results and performance results from each drill with its repeat drill using paired *t*-tests.
Results: Triage time ($p = 0.034$) and treatment time ($p = 0.016$) improved significantly. No improvement in performance results was observed. In total, 322 of 413 (78%) critical actions were performed during the 12 drills.
Conclusion: This disaster simulation improved DMAT time results. Additional training methods may be required to improve performance results.

Keywords: disaster medical assistance teams (DMAT); disaster; drills; performance; simulations; times; triage
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Experience of a Korean Disaster Medical Assistance Team in Sri Lanka after the Tsunami in South Asia

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Introduction: On 26 December 2004, a large tsunami struck the coasts of several South Asian countries, including Sri Lanka, which experienced 29,729 deaths and 16,665 persons with injuries. Following the tsunami, a Korean Disaster Medical Assistance Team (DMAT) was deployed to south Sri Lanka.
Objective: This study describes the operation of a Korean DMAT during its deployment in Sri Lanka.
Methods: Descriptive information about the DMAT operation was based on personal observations during the deployment from 2–8 January 2005. In addition, the authors collected and interpreted data regarding the numbers of patients seen during the deployment and their associated medical conditions from medical records maintained by the DMAT during its deployment.
Results: The DMAT brought two air tents, two electric generators, medical equipment, supplies, and pharmaceuticals to Sri Lanka. It also brought enough food and water to remain self-sufficient during the deployment. Fourteen volunteers from the Korean International Cooperation Agency provided translation services during the deployment. Patients with mild conditions were triaged directly to the observation unit or pharmacy. Patients who required more specialized care were triaged to the medical or surgical units. During the deployment, the DMAT performed 3,231 clinical evaluations of patients with 3,186 chief complaints, made 3,263 diagnoses, and treated 2,807 patients. The majority of patients had medical problems (82.2%) rather than injuries (17.6%). Respiratory disease was the most common diagnostic category (32.0%). Most medical conditions (92.2%) were mild enough for the patients to be discharged after simple medical management.
Conclusion: Beginning seven days after the tsunami, many persons sought medical care at the DMAT for relatively minor medical problems. Helpful aspects of this DMAT deployment included: (1) logistical and operational self-sufficiency; (2) collaboration with volunteer translators; and (3) a triage system that was customized to match available resources.

Keywords: 26 December 2004; demography; disaster medical assistance team; medical care; Sri Lanka; translations; triage; tsunami
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Curriculum Integration Project: Utility of the Human Patient Simulator and Trauma/Disaster Care Kit in a Disaster Management Course

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Introduction: Once seen as specialty training for health professionals in the military and emergency medicine, disaster management is now considered as a basic competency for all undergraduate nursing students since the terrorist attacks of 2001. In response to the need to educate nurses with skills and expertise in disaster management, Prairie View A&M University College of Nursing initiated a disaster content integration project for undergraduate nursing students.
Objective: This presentation describes the use of simulation exercises to enhance learning and competency related to disaster management among undergraduate students.
Methods: A descriptive, comparative study design was used to assess knowledge and skills in disaster manage-

ment before and after simulated exercises. The study sample consisted of 45 undergraduate nursing students enrolled in a disaster management course. Content areas included types of disaster agents, nursing roles, and care of victims during a disaster event involving various lethal exposures and the use of appropriate personal protective equipment.

Results: Mean and standard deviation values for pre and post simulation were 77 (4.04) and 86 (3.33) respectively. A one-sample *t*-test showed a statistically significant difference between pre and post simulation mean scores (p <0.001). About 65% of students (n = 30) reported increased confidence in prioritizing care and performance of clinical skills after simulated experiences. Improved accuracy in the utilization of personal protective equipment also was reported.

Conclusion: Simulation experiences may enhance learning among undergraduate students in disaster management courses. During simulation, students acquire and improve clinical skills, critical thinking, and decision-making in a safe environment.

Keywords: disaster management; education; nurses; simulation; training

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Strengthening the Survival Chain in Disasters: Development of an Incident Medical Assistance Team

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Introduction: The Vermont Department of Health and Fletcher Allen Health Care have supported the development of an Incident Medical Assistance Team (IMAT) as a locally available, medically trained, incident response team. Within this framework, tactical medical response teams will be mobilized to incidents in which a field medical response unit or advanced medical practice team may augment the overall emergency response.

Objective: This presentation describes the development of an IMAT in Vermont.

Methods: Descriptive information was obtained from observations and records associated with this project.

Results: The IMAT was developed in four stages:

1. the initial idea was drafted, a field operations guide and equipment list were generated, and funding was applied for;
2. upon receipt of the first grant funds, initial equipment was purchased and recruitment of personnel began;
3. the field operations guide was revised, protocols were produced, team training took place, and additional equipment and supplies were purchased with continued grant funding; and
4. the IMAT was readied for deployment and systems and protocols underwent continuous re-evaluation.

Ultimately, three teams were developed with nine members each, including physicians, nurses, and emergency medical technicians at various certification levels. Each team is deployable within 90 minutes of notification. The teams share a response vehicle, a trailer that stores a tent (inflatable in two minutes), a generator, 10 litters, ventilators, multiparameter monitor, various medical equipment, and medications. The next step is for the IMAT to beta-test its response at a mass casualty incident drill in autumn 2005.

Conclusion: By guaranteeing a physician is available in the field during a disaster, the IMAT provides an important link between emergency medical services and the emergency department and hospital trauma services, which may increase the chance of patient survival.

Keywords: disaster; emergency department; emergency medical services; incident medical assistance team; physician

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Is Our Health Protected? A Connecticut Panel Tells All

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Introduction: The terrorist attacks on 11 September 2001, and the terrorist anthrax letter attacks in October 2001 were critical in reshaping the US approach to emergency preparedness and response capability. To meet this challenge, Connecticut's public health community has changed its readiness capacity and infrastructure significantly. As a result, Connecticut's public health system has been improved and buttressed.

Objectives: This panel presentation will describe: (1) emergency readiness in the public health arena; (2) infrastructure change in Connecticut's public health emergency response system; and (3) how challenges in these processes were addressed in four Connecticut jurisdictions.

Other topics to be discussed include: (1) issues of encompassing health policy, legislation, funding, and government priorities; (2) the impact of the legislature, funding, state/local priorities, bioterrorism, and citizens on the process; (3) key legislation, funding, community priorities, and leadership challenges on this unique process; (4) community-wide priorities during this period and the unique involvement of a statewide professional health organization in the Connecticut experience; (5) planning and preparedness efforts for public health emergency response that have been taken throughout the state; (6) the strengthening of Connecticut's public health infrastructure; (7) competing interests and interagency relationships in accordance with this process; and (8) how advocacy, funding, legislation, and the threat of emergency/terrorism can propel public community priority and attention toward public health infrastructure enhancement. In addition, the alteration and reformation that the Connecticut public health system has experienced over the past three years will be reviewed from a community/region/state viewpoint in the context of addressing public health emergencies and threats.