

Hazardous Materials (HazMat) Medical Life Support Program in Singapore

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Funded by the Society for Emergency Medicine in Singapore and Ministry of Health

Singapore is the leading petrochemical production, storage, and trading hub in Southeast Asia. A potential exists for a technological disaster involving a wide variety of industrial chemicals. The 1995 Tokyo Subway Sarin Gas attack by the Aum Shinrikyo cult and the recent reports of terrorist activity in Singapore serve as a reminder that hazardous chemicals in the surrounding environment can have devastating effects on civilian populations, if chosen as a weapon by terrorists.

The Hazardous Materials (HazMat) Medical Life Support Program, founded in 1999, is a program funded by the Ministry of Health, which aims to provide education and training for medical, nursing, and paramedic staff, who may be called to respond and deal with a HazMat incident and its casualties. The program administers four courses, including those for the: (1) Basic Provider; (2) Hospital Provider; (3) Hospital Decontamination; and (4) HazMat Medical Operations. As HazMat incidents resulting in mass casualties are relatively infrequent events, the course format and materials are designed to provide a rational, practical, and easy to recall algorithm for the novice responder. Concepts, rather than a systemic coverage of all available chemicals, provide a mental and practical framework for the emergency medical worker to respond to an incident, as well as provide life support to HazMat casualties.

An example of a fundamental concept is the chain of survival of a HazMat casualty—early recognition and activation of the HazMat plan, administration of antidotes, decontamination, and HazMat medical life support. Issues pertaining to the triage, evaluation, and treatment of casualties in a potentially hazardous environment are covered with the teaching of a modified primary survey. The program also emphasizes the standardization of instruction, assessment of competency, and certification, and is an important tool for the employers to decide on the appropriate use of their staff in a HazMat incident.

Keywords: chemical; disaster; education; hazardous materials (HazMat); training

Prehosp Disast Med 2005;20(2):s17

Field Placement in Disasters: An Evaluation of the Experience of Students Obtaining Masters Degrees

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The Universities of Glamorgan and Ulster, in partnership with Hame Polytechnic (Finland), facilitate an MSc in Disaster Relief Healthcare. Students enrolled in the program must be placed in a disaster area or a developing country as an integral component of their studies. The stated aim of the experience is "... to provide students with direct experience of working and living in a disaster zone in order to facilitate synthesis of knowledge and skills gained

in earlier modules of study." This presentation will report the findings of an audit of the placement of students in a disaster area in this MSc in Disaster Relief Healthcare program. Students reported great satisfaction with their learning experiences, but also, frustration. They emphasized the need for adequate preparation prior to placement, and were very positive about the simulations provided over three summer school sessions before deployment. Students reported that skills learned while on assignment have been transferable to their homeland employment, including assertiveness and an awareness of the importance of effective communication. This presentation will highlight the clear emphasis on cultural and role diversity, and the different modalities of healthcare provision within the placement zone. Additionally, students' reports on the expectations of populations in terms of their healthcare prospects will be elucidated. These are critical areas of study when one considers that many students find themselves placed in some of the most remote, challenging, and harsh environments on earth, often coupled with a degree of personal risk due to a worsening security situation.

Keywords: assessment; disaster relief health care; education; expectations; students; training placement

Prehosp Disast Med 2005;20(2):s17

Role of Education in Disaster Management of the Bam Earthquake, Iran

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Introduction: Iran is vulnerable to natural disasters, with earthquakes causing the worst destruction and highest number of fatalities. Approximately every ten years, a major earthquake hits Iran, killing thousands of people and causing widespread destruction. A recent earthquake occurred in Bam, in southeastern Iran, on 26 December 2003.

The First Congress on Health, Medication, and Crisis Management in Disaster Incidents was held in Tehran in May 2003, about seven months before the Bam earthquake. The main goal of the Congress was to familiarize the medical society with the different aspects of medical disaster management and review previous experiences in the field. The Congress was held over three days, and included multiple presentations, plenary sections, and workshops. Almost all national governmental and non-governmental organizations related to the disaster sector participated in the Congress, and approximately 1,500 active medical practitioners attended the scientific programs.

Methods: This is a qualitative, case-report study about healthcare management during the Bam earthquake and the role of educational interventions such as the Congress in the performance of the Iran University of Medical Sciences (IUMS) disaster response team.

Results: The IUMS disaster response team was one of the first groups that arrived at the Bam airport in the early hours after the earthquake. The team consisted of five specialists (a general surgeon, orthopedic surgeon, neurosurgeon, anesthesiologist, and emergency medicine specialist), three residents, and one general practitioner, all of whom

had participated in the Congress and received specific disaster education. Shortly after arrival, the team established an incident command post with the assistance of Baghiat-Alah University disaster response team in the Bam airport, and also conducted the following tasks: (1) analyzed the disaster-stricken area; (2) organized and trained available human resources for mass triage of contingencies in the Bam airport; (3) provided primary care and early treatment of patients; (4) transported and evacuated patients; (5) donated national and international resource management at the airport; (6) organized disaster search, rescue, and treatment teams; and (7) guided international relief and rescue teams.

Conclusion: Participation of medical and emergency responders in disaster-oriented educational programs has obvious effects on their performance during major disaster incidents.
Keywords: Bam; disaster management; earthquake; education; workshops

Prehosp Disast Med 2005;20(2):s17-s18

Innovative, Applied Emergency Management Education at the Undergraduate Level at Auckland University of Technology

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The Auckland University of Technology is New Zealand's newest university. Two new papers, "Risk and Crisis Management" and "Disaster Management" bring a synergy of theory, problem-solving, and applied research to the emergency management scene.

Emergency management programs in New Zealand traditionally have been focused at the post-graduate level. These programs do not supply adequately the foundational underpinning for those who have a practical emergency management role "on the ground". These two papers are embedded within two university programs, the Bachelor of Health Science-Paramedic and the Certificate of Emergency Management. As such, they broaden the capacity of ambulance paramedics and industry emergency teams to respond in an informed and coordinated fashion.

The Bachelor of Health Science-Paramedic is a full-time, three-year degree for those envisaging a career within an ambulance service or other paramedical roles. The Certificate of Emergency Management has been designed to cater to the needs of industries/local councils that operate or have the capacity to mobilize emergency response teams.

Risk reduction and mitigation underpins the student's learning, moving beyond the traditional paramedic education model of scene safety. Within these papers, the student studies risk assessment and management processes and standards, examines the New Zealand hazard scope, and analyzes various national and international major incidents and disasters.

The content of these papers has been developed with the cooperative partnership of the Ministry of Civil Defense and Emergency Management.

The papers are structured around classroom lectures, expert speakers, workshops, self-directed learning, on-line

participation (Blackboard), and assignments that guide and encourage the student to utilize literature searches and apply the results of current research to their projects.

Keywords: college degrees; disaster management; education; emergency; New Zealand

Prehosp Disast Med 2005;20(2):s18

Development of a Post-graduate Qualification in Disaster Medicine in Australia

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Introduction: Many have noted the need for more and better education about disaster medicine. The James Cook University School of Public Health and Tropical Medicine has developed a post-graduate certificate in disaster and refugee health. This is one of the first post-graduate qualifications in disaster medicine in Australia. It has been a collaborative effort between emergency physicians, public health physicians, disaster management agencies, and the military. The development, structure, and delivery of the course, characteristics of students, and evaluation of the course are discussed.

Methods: This is a descriptive account of the development and delivery of the post-graduate material. Also, all students in the first cohort, reviewing content, delivery, expectations, workloads, assessment, and global rating of the course were surveyed.

Results: Inaugural delivery of the core subject, disaster health management, occurred as a two-week module in September 2004, with 30 students. The students were from clinical backgrounds (10/30 = doctors, 18/30 = nurses, two others); one-third had previous disaster experience, and almost half had previous overseas aid experience. Survey results were extremely positive across all parameters.

Conclusions: The recognition of a need for education in disaster medicine can be seen in the overwhelming student and media interest this has generated. Multiple media requests were received, and student over-subscription occurred after two weeks, with a waiting list established for 2005. Feedback from students and instructors has been extremely positive. The session will close with a brief discussion of difficulties encountered and possible future directions.

Keywords: Australia; disaster medicine; education; postgraduate; refugee

Prehosp Disast Med 2005;20(2):s18