Results: The study group (n = 223) was composed of 180 nurses (80.7%), six midwives (3.6%), and 29 paramedics (13%). The mean of the ages of the respondents was 25.6 ± 3.13 years, with a male-to-female ratio of 1:9.6. Forty-seven respondents (21.1%) had encountered at least one burn patient in the prior year. The mean of the scores for demonstrating correct knowledge was 47.4%, 42.6% for having a good attitude, and 49.2% for displaying good behavior. There were no differences among the respondents who had attended graduate programs, taken a postgraduate course on burn injuries, the number of burn cases encountered in the prior year, or the sex of the respondent with regards to demonstrating correct knowledge, good attitudes, or good behaviors. When the workplaces of the respondents were compared, healthcare professionals working in inpatient and outpatient clinics had significantly better knowledge and attitudes than did those working in operating departments or intensive care units; however, there were no differences concerning the behavior among the respondents.
Conclusions: These results indicate that even in tertiary care centers, the correct knowledge, attitudes, and behaviors of healthcare professionals toward the care of burn victims may be insufficient.
Keywords: attitudes; behavior; burn victims; health care; knowledge
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University Training Course in Disaster Medicine for Medical Students

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Introduction: During the 2005–2006 academic year, the University of Eastern Piedmont offered an optional course in disaster medicine to the medical students. The students participated in frontal lessons, table-top exercises, and played victim roles in the simulations during the European Master in Disaster Medicine. The efficacy of the course was evaluated.
Methods: A total of 97 students enrolled, of which: 28 (29%) were in their fourth year of medical school; 34 (35%) in their fifth year; 20 (21%) in their sixth year; and 15 (15%) in their first, second, and third years combined. The general knowledge of disaster medicine was assessed using a pre- and post-course test and a computerized table-top triage exercise conducted prior to and following the specific lesson. The differences in knowledge were compared among the students according to their level of education.
Results: Fifty-five students completed the pre-course test and 61 completed the post-course test. There were 54 students that participated in the pre-course, table-top triage exercise and 61 in the post-course exercise. On average, 30.5% of the questions were answered correctly on the pre-course test, and 66% on the post-course test. The average percentage of questions answered correctly on the pre-course triage exercise was 33%, and 67% post-course.
Conclusions: This innovative course, especially the simulation exercises, increased the students' knowledge and interest in disaster medicine. Although improvement was observed among students of all educational levels, the students in their last three years of medical school performed the best (fourth, fifth, and sixth years). It is believed that a greater scientific and personal maturity among the students is desirable, before they are to engage in such a difficult subject as disaster medicine.
Keywords: course; disaster medicine; medical students; testing; university
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An Online Hospital Self-Assessment Tool: A Global Perspective

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Objective: The National Bioterrorism Civilian Medical Response Center (CIMERC) strives to develop enabling tools that produce an effective and integrated response to complex medical emergencies. As it continues to work to meet the needs of healthcare organizations, emergency managers, and disaster responders, CIMERC is challenged by inadequate capabilities and limited resources.
Methods: Based on research, user feedback, policy changes, and technology, CIMERC has developed simple, yet novel, products that enhance emergency response preparedness. One such product, Hospital Self-Assessment Tool (HSAT), allows users to evaluate the preparedness level of hospital emergency departments based on national, regional, and local standards using a web-based format. The tool consists of a series of emergency preparedness and response questions, and includes expert-validated answers, as well as country-specific resources and references.
Results: Hospitals and health care institutions repeatedly use the HSAT to evaluate their preparedness level based upon current education and training practices. User evaluation and demand has resulted in the tool's change in emphasis from a biological/chemical focus to an all-hazards approach. For example, policy-based questions addressing vulnerable populations (i.e., children and disabled or pregnant women) were added. The resulting tool is easy-to-use, available, effective, and adaptable.
Conclusions: "Lessons Learned" analyses and the incorporation of global perspectives strengthen preparedness at all levels and represent a critical piece of technological development. Adaptable and well-vetted tools are necessary to minimize the effects of disasters by enhancing knowledge and capacity building.
Keywords: hospital; international; online; self-assessment; training
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Training of Instructors in Disaster Medicine: A Pedagogic Model

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The teaching and training of instructors in disaster medicine varies greatly. To address this concern a pedagogic model for training instructors in disaster medicine was developed and tested. The model, tested in instructor courses for simulation

exercises focuses on the formulation of "aims", "goals", and "objectives" that can be measured. The instructors as students are urged to comply with set standards and to evaluate training sessions using these standards. The evaluation process is considered the most important component of the model. The value of relating results from training to the most critical performance indicator, patient outcome, is also emphasized. Patient outcome is defined as preventable death and preventable complication. A template for evaluating the instructor/students was developed and introduced stepwise including 13 different indicators.

Results are reported from 33 training sessions with more than 100 instructors as students (a session is defined as a small exercise developed and run by the instructor/students). The highest score was given to "evaluation" and "giving feedback" in relation to performance indicators; the most difficult component was making relevant and timely interventions in the simulation exercise.

This pedagogic model for training instructors could be useful in teaching instructors in disaster medicine. Weak points of instructors are demonstrated and can serve as a tool for improvement.

Keywords: disaster medicine; evaluation; instructors; pedagogic model; training
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Session 4: Standards in Emergency and Disaster Medicine

Chairs: Geert Seynaeve; Marvin L. Birnbaum; Joost L.M. Bierens

Design and Evaluation of an Educational Program on the Core Components of Emergency Preparedness and Disaster Health for Health Professionals

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Background: The Education Committee of the World Association for Disaster and Emergency Medicine (WADEM) recommends that all health professional graduates should be educated and trained on the core competencies of emergency preparedness and disaster health. This presentation will report on the design and evaluation of an educational program on emergency preparedness and disaster health for health professionals at the graduate level by one Australian university.

Methods: The WADEM Education Committee framework for "Disaster Health" was used as the template. A literature review of reports of educational programs in this field was performed. Within the constraints of the time available, an educational program was designed, implemented, and evaluated.

Results: A four-unit, Graduate Certificate was designed, reflecting the WADEM Framework for Disaster Health and the World Health Organization (WHO) structure for "Health Action in Crises". The first unit provides an introduction, the remaining units address preparedness, response, and recovery respectively. The implementation of the first unit required full-time attendance for one week and was available either as an intensive short course or as an assessed unit. University-required graduate attributes were incorporated, and pedagogical issues were considered. The students reported favorably on the first unit and suggested amendments for consideration in next year's program.

Discussion: Graduate programs in Disaster Medicine are increasing in number, but without international standards to guide these developments. The WADEM template proved to be beneficial. The experience gained in this program may be useful for others designing similar programs for undergraduate, health professional students.

Keywords: disaster health; education; preparedness; training; World Association for Disaster and Emergency Medicine
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Designing Sustainable Hospital Preparedness Training: A Three-Phased Approach

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Healthcare systems are widely described throughout the literature as being under-prepared and under-equipped to handle a major disaster or public health emergency effectively. Many healthcare institutions fail to provide adequate training to staff in disaster-related emergency preparedness topics and hospital emergency plans.

Using numerous search engines and databases, we identified papers, policies and best-practices that described techniques, methodologies and strategies for training hospital workers in preparedness and emergency response functions. Additionally, over 30 hospitals in a major US metropolitan suburban area were surveyed on hospital-worker preparedness training and education.

Based on the needs assessed and the gaps described by hospital preparedness professionals and throughout the literature, a three-phased model for hospital worker preparedness training was created. The model is based on the need for long-term retention, short classroom time with an instructor, distributive and distance learning approaches, and a mechanism for practical skills demonstration and hands-on competency assessment.

The training model is comprised of three main phases or stages of learning:

1. Familiarization with the facility emergency plan;
2. Identification and recognition of an individual's functional role and responsibilities during an incident;
3. Demonstration of skills competency when performing their assigned role during mock disaster drills and exercises.

Presenting preparedness education and training in a three phased approach allows staff to receive repeated exposure to the educational material over a longer period of time, build better skill and knowledge retention through separate, distinct learning activities, and create a function-