

### Training in Disaster Management: Enhancing Post-Graduate Clinical Preparedness through a Novel Curriculum

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**Background:** Disaster medicine is not a standard component of residency training programs in the United States. During recent disasters, the need for training physicians and hospital personnel in disaster management vulnerable and healthy populations has become apparent.

**Hypothesis:** Didactic education increase the knowledge of medical practitioners in disaster preparedness, response, and recovery.

**Methods:** Three separate, complimentary courses were developed as a disaster management curriculum. These courses were: (1) Emergency Disaster Medical Management (EDMM); (2) Small Victims, Big Challenges: Paediatric Disaster Preparedness, Response and Recovery (SVBC); and (3) Geriatric Assessment, Treatment and Recovery in Disasters (GATRD). Each course was reviewed and conducted by subject matter experts (SME). Participants included medical students and post-graduate residents in emergency medicine, pediatrics, or internal medicine. A pre-/post-test consisting of 15 questions for each subject area was developed by disaster medicine SMEs/NDLS instructors and validated by an evaluation expert.

**Results:** Evaluation outcomes demonstrated an increased knowledge of disaster medicine among trainees. Participants in the EDMM course demonstrated a 56% increase in scores between pre- and post-course examinations with a confidence interval (CI) of 90% (two standard deviations), while SVBC course participants demonstrated a 61% increase in scores. Standard statistical evaluation methods were employed to ensure that the increase in scores is significant and not due to random fluctuation.

**Conclusions:** This disaster management curriculum improves preparedness, response and recovery knowledge among post-graduate medical resident trainees. This curriculum may be utilized for increasing disaster medicine competency and credentialing and hospital surge capacity capability. Future plans include multi-center implementation to establish national and international applicability of this model.

**Keywords:** curriculum; disaster management; education; preparedness; recovery; response

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### Session 3: Credentialling 1

*Chairs: Geer Seynaeve; P. Hustinx*

#### Workshop Using Action Cards to Enhance Disaster Preparedness among Hospital Staff

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**Background:** The Cancer Institute Hospital was relocated in 2005 to the Tokyo Bay Area, which was designated as a disaster reduction park by the Japanese Government. Since ordinary Japanese hospital staff members generally do not have military backgrounds, and because the hospital specializes in cancer care and research, development of disaster preparedness is extremely challenging. Providing a ready-made disaster manual is not sufficient to promote preparedness. Repeated drills could be useful, but have not been realistic.

**Methods:** In order to implement a disaster preparedness system in the hospital, workshops have been concluded for hospital executives, who in the case of a disaster will become members of the Control Center. According to a scenario (e.g., ferry fire, earthquake) given by a facilitator, the participants were encouraged as a team to discuss and to fill in their responses on a template, which represented an action card at each step of the scenario. A disaster manual was consulted and scrutinized during the discussions. After the workshop, a questionnaire survey was distributed on the perceptions of and attitudes toward disasters among the participants.

**Results:** The survey indicated that each participant could identify his/her own role as well as the roles of their colleagues through discussions. Writing action cards in their own words promoted active participation among the members. As a result, the disaster manual was revised and updated.

**Conclusions:** A workshop on disaster preparedness utilizing action cards was a practical and useful introduction to disaster response for non-specialists in disaster medicine.

**Keywords:** action cards; disaster preparedness; hospital; staff; workshop  
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#### Are Healthcare Professionals Prepared for a Disaster with Regard to Their Knowledge, Attitudes, and Behaviors Toward Patients with Burn Injuries?

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**Introduction:** In all countries, burn care activities are dependent on legislation, attitudes of the general public and healthcare professionals, and levels of organization and coordination of burn units. The aim of this study was to assess the knowledge, attitudes, and behaviors of healthcare professionals as they relate to burn injuries.

**Methods:** A 26-item questionnaire was developed and administered.

**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  $25.6 \pm 3.13$  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 stu-

dents 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