3. *Triage*—can perform appropriate pediatric triage in a disaster environment;
4. *Public Health and Safety*;
5. *Psychosocial considerations*—can provide appropriate psychosocial support to children and their families;
6. *Support/Assistance*—can work with various groups and organizations (governmental, community, NGO, volunteers) to optimize support for disaster planning, response and recovery especially regarding children's health issues;
7. *Communication and Documentation*—maintains necessary communications and maintains appropriate documentation for pediatric care in disasters;
8. *Regulatory/Legal/Ethical Principles*—complies with regulatory, legal, ethical and moral principles in a culturally sensitive way; and
9. *Assessment and treatment*—can assess, stabilize, initiate treatment and appropriately transport sick children in disaster situations

Prehospital Disast Med 2008;23(4):s90–s91

Education and Training

Chair: Geert J. R. Seynaeve, MD, MPH
Correspondence: geert.seynaeve@vub.ac.be

Education and training has become an important, although sometimes problematic and controversial theme in the field of "Disaster Medicine".

The programs for Education and Training included presentations from the US (9) and Western Europe (9), with others from: Italy (3); Turkey; the Netherlands (2); Japan (2); Australia (2); Sweden (1); Belgium (1); Norway (1); UK/Neth (1); and Israel (1). Four of the presentations were by truly international team, including one from the WADEM's Education Committee.

A wide spectrum of approaches and methods were presented, targeting various health professionals, dealing with a huge number of issues, skills, and competencies related to different emergency scenarios and topics. Most presentations went beyond the traditional focus on medical doctors or clinical aspects such as trauma care or triage. In Table 1 the number of presentations is listed according to the health profession/audience that was mainly targeted by the presented educational programs or experience (except for the two reports from the Education Committee of WADEM, there were 29 presentations on the program of the 15WCDEM. The total number in the tables can exceed 31 given the fact that some presentations correspond to or include more then one item/issue.)

The scope of the courses, exercises, or education and training-related experiences that were presented was interesting. Following 11 September, many grants and programs were the result of a political agenda and the media-driven terrorism hype. Surprisingly, only a few presentations were limited to terrorist scenarios. Some were able to canalize resources towards a more generic or all-hazard approach. However, the importance of public health emergencies was not reflected in the presentations (Table 2).

Three presentations dealt, at least partly, with problems of methods, organization, pedagogy, or cultural awareness related to the training of instructors or teach-the-teachers programs.

Most health professionals are unlikely to be confronted more than once, if at all, with major emergencies. Acquisition of specific knowledge, skills, and attitudes that are required in order to adequately deal with exceptional major health threats can not be maintained by routine practice or improved via 'experience'. Is it possible and useful to integrate "core competencies" of disaster medicine in the normal curriculum of health professionals? Can generic or specific disaster-type-related competencies effectively be incorporated into the continuing professional development and continuing medical education? How can the knowledge, skills, and attitudes to enable competent practice in the eventual disaster situation be identified? How does one set priorities and find expertise and the necessary funds? What kind of teaching methods and acquisition tools can be used? The effort has just begun to try to find an answer to these challenging questions.

Most speakers made the point that essential clinical knowledge and medical skills (mostly related to emergency medicine and traumatology, or tropical medicine and nutrition) must combine attention directed to management issues, and/or organizational and logistical problems. Some called for attention toward vulnerable populations, children, elderly, cultural minorities, pregnant women, and disabled persons. But few details were provided on how to identify and increase the competencies in the field of management, as well as how to deal with the collective public health needs in mass emergencies.

In a number of education and training experiences, lectures, seminars, or demonstrations were combined with activities demanding more active participation by the students. This could include more theoretical course work, group discussions, or workshops, and also individual skill stations, team play, and practical simulation exercises. Also, a large variety of mock drills were discussed, table top or with life actors, sometimes Web-based or included experimental software for simulation and reporting. Exceptionally, students were exposed to stress, and/or difficult natural or climatologic circumstances. The Harvard Humanitarian Studies Initiative includes a field experience of one or three months. The number of presentations using a particular education and training methodology are mentioned in Table 3.

Only two presentations mentioned using a disaster health manual or compendium, reflecting the lack of a solid, evidence-based body of knowledge in disaster health. Most education and training programs still rely on presentations of anecdotal experiences, unsystematic collections of "lessons-learned", and reading lists of articles and ad-hoc documents. This is problematic for one-day events without follow-up, but also for developing training programs and academic curricula. Some tried to innovate, one offering online presence of collaborating experts; others involved students in updating action cards or revision of emergency plans. At least three speakers mentioned making relevant resources and references available online. Worth mention-

Main target audience	Number of presentations
Physicians	9
Nurses and hospital-based health workers	6
Paramedics and prehospital healthcare staff	6
Medical or health science students	6
All-health professions	3
Social workers	1
Volunteers	1
Hospital executives	1

Seynaeve © 2008 Prehospital and Disaster Medicine

Table 1—Main target audience

Main disaster type/scenario	Number of presentations
Mass-casualty incident	9
All/generic	8
Individual emergency/clinical	7
"Terror"-related	5
Complex humanitarian disaster	3
Earthquake/tsunami	1
War	1
Public health emergency	1

Seynaeve © 2008 Prehospital and Disaster Medicine

Table 2—Main disaster types/scenarios

Education and Training Methodology Used	Number of presentations
Seminars/lectures/frontal lessons	11
Simulation exercise: Tabletop/ Website based/ICT simulation	9
Practical skill exercise/work station/human patient simulation	5
Field work/action learning/exposure	5
Course work/workshop	4
Live mock exercise	4
Demonstrations	2

Seynaeve © 2008 Prehospital and Disaster Medicine

Table 3—Education and training methodology used

ing here is "Supercourse", a global, multilingual repository of lectures on public health and prevention, on a wide variety of subjects (**http://www.pitt.edu/~super1/**).

In eight presentations, the issue of evaluation was raised, with some kind of assessment report of a drill or practical exercise, comparing results of a pre- and post-test, or a survey of the satisfaction of the trainees. One made use of a self-assessment test online. But, more is required than a formal justification that funding was well spent, or for students to comply with the preset criteria of the local subject matter experts. As one speaker rightly explained, the essential performance indicator is patient outcome. One can add the problem of long-term retention and need for periodical updates and refresher courses. Still, more critical evaluation and debriefing methods, more serious research, detailed exchange of experiences, and progress on international educational standards and guidelines really are needed.

This is all the more true when dealing with disasters and humanitarian emergencies in countries where the socio-economic situation and health system do not even meet the basic, daily needs of the population. Indeed, there is a long history of inappropriate, untimely, wasteful and sometimes harmful relief operations. Efforts to include field training, public health competencies, social skills, and cultural awareness issues, like those described by Harvard's Humanitarian Studies Initiative, therefore, are more than welcome. No doubt, a lot of this expertise would be useful, especially for decision-makers and managers of governmental agencies and Western non-governmental organizations. When it comes to complex emergencies and disasters, improving preparedness and offering adequate resources and logistical support for local health professionals in developing countries is crucial. However, there is no genuine need for (well-intentioned) Western 'humanitarian' responders, even with a certificate from a prestigious university. In order to encourage enrollment of health workers in Education and Training programs in developing countries, factors like cost and adequate technology are important. Most interesting in this respect is the Primary Trauma Care initiative (PTC Foundation **http://www.primarytraumacare.org**) in which due attention is given to the devolution of teaching and organization to local professionals as well as adaptation to the clinical situation in each country.

Overall, the education and training presentations for WCDEM-15 were quite interesting and stimulating. Building on these experiences and using the conceptual model that was presented, the Education Committee of the WADEM will organize in the next two years, a series of workshops with the objective of developing international education and training standards and guidelines, and a Code of Best Practice. Expression of interest and information on the practical modalities can be obtained via **geert.seynaeve@vub.ac.be**.

Presentations

Education and Training I: Competencies 1

1. Johnson N: A comprehensive field-based training program for humanitarian responders. (USA).
2. Rosborough S: The Harvard Humanitarian Studies Initiative for Residents effectively trains doctors in humanitarian topics prior to field deployment. (USA).

3. Cranmer H: Humanitarian Studies Initiative for residents: An innovative program for doctors in training. (USA).
4. Punt C: Primary trauma care: Training hospital staff in trauma management. (Netherlands).

Education and Training II: Competencies 2

5. Caldicott GE: Bombs, blasts, and bullets (B3)—Using knowledge to arm the innocent. (Australia).
6. Ardalan A: Just-in-time (JIT) lectures: An efficient approach for increasing disaster risk awareness. (Iran).
7. Furberg RD: Analysis of interdisciplinary simulation-based triage training for disaster preparedness and response. (USA).
8. van der Eng DM: Measuring competencies as indicators for trauma. (Netherlands).
9. Paturas J: Training in disaster management: Enhancing post-graduate clinical preparedness through a novel curriculum. (USA).

Education IV Standards in Emergency and Disaster Medicine

1. Seynaeve G: Conceptual framework for education and training in disaster health. Conclusions of the work of WADEM's Education Committee. (Belgium)
2. Archer F: Design and evaluation of an education program for health professionals on the core components of emergency preparedness and disaster health at the graduate level at one Australian university. (Australia)
3. Reilly MJR: Designing Sustainable hospital preparedness training: A three-phased approach. (USA)
4. Haraguchi Y: Importance of disaster medicine and the significance of the Compendium. (Japan)
5. Theunissen NCM: Preparing physicians for military expeditions by using adventure based learning. (Netherlands)
6. Spencer C: Cultural diversity: A challenge for emergency health. (Australia).

Education and Training VI: Credentialing

1. Seynaeve G: The changing scope of disaster health. (Belgium).
2. Rimple DR: Creating a medical student elective in disaster medicine. (USA).
3. Eryilmaz, M: 2006 Kocatepe inferences on triage and trauma suggested by Ankara triage and trauma working group. (Turkey).

Prehospital Disast Med 2008;23(4):s91–s93

Care of the Dead

Chair: Claude de Ville de Goyet
Correspondence: devillec@verizon.net

The session on care of the dead has attracted a lively audience with high expectations. Those expectations were met by the two speakers. One presentation by Professor Maat related in-depth and technical details of the experience of identifying dead bodies in the aftermath of the tsunami in Thailand while the second one by Malchielse focused on the role of the forensic nurse in a hospital.

Professor Maat's presentation described the application of techniques and skills used by Interpol for the identification of thousands of bodies in Thailand. The presence of approximately 50% foreign tourists among the missing contributed to a surge of expert teams assisting the Thailand authorities. Strict guidelines set up by the Thailand Police in charge of the identification required the compliance with several criteria of identification: clothing and personal effects (most of them ripped off by the waves), matching fingerprints when available, and DNA tests. Procedures adopted to collect this evidence in a legally indisputable manner, were illustrated. The main conclusions were first, that DNA forensic collection in decaying bodies is a complex matter requiring extreme precautions and surgical skills to avoid potential DNA contamination of the samples. Similarly, fingerprinting of cadavers demanded unexpected skills. At the policy level, the commitment and leadership of the Thailand Government ensured that all foreign teams adopted similar techniques and contributed reliably to the central database.

The presentation on forensic nurses shed considerable light on a little known nursing specialty. The role of the forensic nurse is far from limited to the handling of dead bodies. In some countries, it is becoming an essential protector of the legal rights of the patients who are victims of violence, rape or abuses. Collecting and preserving legal evidence is essential from the very first contact with the victim in health services.

Both presentations stressed the importance of proper handling of victims (seeking care or dead) from a psychosocial perspective. One cannot overstate the mental health implications for relatives grieving for their missing ones or the victims from violence demanding justice.

Perhaps, what was not covered during the animated discussions with the experts is most revealing of the progress made in the care of dead bodies. Not a single speaker raised the issue of dead bodies being a major public health risk. It appears that the support of WADEM to the promotion of WHO/PAHO guidelines on the management of dead bodies is ultimately meeting success.

Prehospital Disast Med 2008;23(4):s93

Quality Indicators for Prehospital and Disaster Medicine

Chairs: David Bradt; Joost Bierens
Correspondence: dbradt@jhsph.edu

The main questions sought to be answered in this session were: (1) How does one measure whether or not quality work has been done?; (2) What is an indicator?; (3) With what machine do we measure indicators?; and (4) How much information do you need to come to a decision? The participants offered their own perspectives in response to these questions.

In response to the question of, "what is an indicator?" Rüter answered that the aim of an indicator is to improve command and control during a disaster or an emergency. Bierens responded by asking about the level of ambition associated with such an aim. Next, Rüter described how the indication process works. He stated that experts have modeled what happened during an emergency and have indicated guidelines for the goals of interventions. He added that it has been a quantitative research project. Lastly, he stated that when the indicators are not met, there is "room for improvement".

Hoogervorst offered his perspective on indicators—indicators contain the critical limits of characteristics of the trauma chain. Because not all factors can be controlled the limits do not always have to be achieved but, for example, in only 80% of cases. In this study, there are time, competence, result, and chain indicators. The indicators were established through a Delphi procedure in which 140 persons have participated.