

hospital or community-based care setting for a limited period of time and then return to their homes for convalescence. Of particular importance are that these protocols applicable to all public health emergencies and do not rely on the active presence of physicians at the alternate care site to render care.

Conclusion: The development of consistent standards of care and the ability to care for patients in an out-of-hospital setting during a pandemic or public health emergency is essential to preserve the sustained operation of acute care hospitals and the entire health-care system. Diverting patients to a community-based alternate care site or encouraging the early discharge of patients to these locations can assist in managing the large numbers of casualties anticipated during a pandemic or public health crisis.

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(A113) Ethics in the Delivery of Humanitarian Health Response: Learning from the Narratives of Health Care Workers

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Aims: 1. To hear the types of ethical challenges foreign health care workers (HCWs) experience while providing health care in conditions of disaster and deprivation. 2. To hear how they responded 3. To understand the kinds of resources that may have been helpful to support HCWs in these ethical dilemmas.

Methods: Qualitative study, loosely grounded theory. Canadian trained HCWs ($n = 20$, mean age 39) who have worked in disaster response, conflict, post disaster.

Results: Ethical dilemmas emerged from 4 main sources: resource scarcity, historical/political/social structures, aid agency policies/agendas, HCWs norms roles/interactions. Participants described little preparation to deal with ethical dilemmas, and the value in pre-departure training. Clinicians are nurtured in western ethics- mostly formed on autonomy, beneficence, non-maleficence and justice. New realities for many were related to community oriented Public Health Ethics. Early discussion has emerged about the possibility of developing a simple, practical, hand held decision-making model (toolkit) to be used in the field to help guide reflection about ethical dilemmas for HCWs in disaster settings.

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(A114) Disaster Medical Services System in Hyogo Prefecture from the Lessons of the Great Hanshin-Awaji Earthquake

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Purpose: To examine how did Hyogo prefecture renovate disaster medical services system from the lessons of the Great Hanshin -Awaji Earthquake.

Method: Countermeasures after the experience of the Earthquake were 1. Establishment of disaster-related medical information network which was introduced to each of various institutions to collect and disseminate medical information at the time of disaster. 2. Designation of sixteen hospitals as Disaster Medical Centers, which were expected to play leading role in disaster management, and to receive many patients at a time of disasters. 3. Construction of Hyogo Emergency Medical Center which was designated as a main Disaster Medical Center to train medical staffs, to operate the Emergency Medical Information Control Center.

Results: We have several training courses for medical staffs. The most important training course is the DMAT (Disaster Medical Assistant Team) training course. DMAT trainings held at two main Disaster Medical Centers, east National Disaster Medical Center, west Hyogo Emergency Medical Center. More than three hundreds teams have been cultivated now. We experienced five disasters in Hyogo prefecture in these seven years. 2 were natural disasters by the typhoon. 3 were a collision of the ship, the collision of the truck, train derailments each. A big JR train accident occurred in Amagasaki city of Hyogo on April 25, 2005. Hyogo Emergency Medical Center worked as the emergency information control center, dispatched doctor attended ambulance, performed on-site triage and first aid, dispatched second team by helicopter, received four severe cases by helicopters, dispatched third team in the evening and provided confined space medicine, and took initiative of surveillance study of the casualties.

Conclusion: Disaster medical services system from the lessons of the Earthquake functioned at the time of the JR Train accident.

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(A115) Disaster Preparedness and Learning Habits of the German Security and Rescue Forces: A Survey

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Objective: Developing an e-learning platform addressing security and rescue forces to eradicate the lack of disaster preparedness underscored by diverse studies. In order to reach this aim the performance of a needs analysis is essential.

Methods: The audience of security and rescue forces was clustered in (emergency) physicians, fire-fighters, policemen, Paramedics and members of the Federal Agency for Technical Relief (THW). For each cluster a questionnaire was developed and corrected by specialists in disaster care. The questions were about previous knowledge, habits of studying; further training habits and internet requirements.

Results: The questioner was posted online during 4 months and was filled in by 1142 persons (141 physicians, 194 fire-fighters, 108 policeman, 444 rescue workers and 255 members of the THW). The biggest lacks in previous knowledge were shown

in reacting on CBRN-incidents. 64, 1% thought they were not able to act correctly in case of chemical contamination. The most important learning tools were books, lectures, seminars and the principle of learning by doing. The reasons for using an e-learning platform were saving time, high quality of the tutorials (77% thought it important), quicker reach of information, multimedia formats of the taught facts and links to further information. 55, 2% were slightly unsatisfied with the actual pool of further trainings. The most frequently used sources of information were the internet (78, 8% use it frequently) and colleagues.

Conclusions: The survey shows that lacks in disaster preparedness in Germany definitively exist but it also reflects that most of the security and rescue forces are motivated to do further trainings and use therefore new technologies. But they require a high quality of teaching and a reasonable use of them. There is a need for using innovative Methods, and user-friendly web-based instruction and information modules to address all security and rescue forces in Germany.

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(A117) Outcomes and Quality of Life after Injury

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Background: Most research into the outcomes of injury has focused on mortality rather than the physical, social, and psychological sequelae of non-fatal injuries. The health and long-term outcomes of a cohort of accidentally-injured patients were studied in order to assess the impact on quality of life.

Methods: The cohort of patients was derived from six previous studies spanning 1988–2003. Patients were followed-up with to ascertain if they were still alive, and survivors were sent a follow-up questionnaire in 2006. The questionnaire asked about current problems resulting from past injuries, use of health services, and measures of health related quality of life (the EQ-5D and SF-36 or Nottingham Health Profile (NHP)). A sample of 114 also received detailed face-to-face interviews.

Results: A total of 2,418 patients were followed-up on between 4–15 years post-injury, of whom 311 had died. There were 580 completed follow-up questionnaires, and of these 64% reported health problems related to past injuries. The mean EQ-5D score at follow-up was 0.132 tariff points below the mean for a normal age-sex matched population, and SF-36 scores were 5–15 points worse than population norms. At all ages, EQ-5D and SF-36 scores were similar to those of the normal population aged 75. Interviewed patients also reported substantially more disability than the general population. Increasing injury severity was associated with almost all aspects of worse health at follow-up, and severe lower extremity injuries were strongly associated with poorer outcomes.

Conclusions: Injured patients continue to experience significant reductions in health and health-related quality of life for many years after their injury.

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(A118) Evidence-Based Disaster Medicine: What Can We Learn from a “Science” Spread across 900 Journals?

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Introduction: Disasters and large-scale crises continue to increase in frequency. To mitigate the potential catastrophes that confront humanity in the new millennium, an evidence-based approach to disaster medicine is required urgently. This paper moves towards such an approach by identifying the current evidence-base for disaster medicine.

Methods: Using a search strategy developed by the Cochrane Prehospital and Emergency Health Field, three independent reviewers searched the electronically indexed database MEDLINE (January 2000 – August 2010) to identify peer-reviewed literature relevant to disaster medicine. Reviewers screened the titles and abstracts identified by the search strategy and applied predetermined criteria to classify the reported publications for date, source and study type and topic.

Results: A total of 8149 publications were identified. Of these, 8% focused on mitigation, 22% on preparedness, 19% on response and 51% on recovery. The publications were overwhelmingly anecdotal or descriptive (89%) while 5% were quantitative studies and 6% used qualitative methodologies. Only 66 of these publications were classified as being high level evidence. The publications were published in 928 journals, of which 34% were mental health related journals and 28% were public health journals. The journal “Prehospital and Disaster Medicine” had the greatest number of publications (5%) of all journals publishing on issues within the scope of disaster medicine. The events with the greatest numbers of publications were the 9/11 terrorist attacks, Hurricane Katrina, the Indian Ocean Tsunami, and the conflict in Iraq. Of note, this search highlights the lack of publications reporting on the application of evaluation tools or frameworks.

Conclusion: Given that the “science” of disaster medicine is spread across over 900 different journals, keeping on top of the evolving evidence-base of this emerging discipline will continue to be a challenge. Furthermore, the overall low quality of the evidence is an ongoing concern.

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(A119) Ethical Issues in the Review and Conduct of Research during Active Conflicts: Reflections from Darfur, West Sudan

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A crisis has been evolving in the region of Darfur following an armed conflict between rebel groups and the assumingly government-supported militia in 2003. It has attracted international attention and intervention where 13 UN agencies and around 100 national and international non-governmental organizations have been serving the affected populations. Research