patients. It is unlikely that the military would permit such patients to be transported on their aircraft or that distant hospitals would be willing and prepared to receive them. More likely, medical and health assets would need to be brought into the disaster zone rather than moving patients out. However, NDMS protocols currently do not permit this.

Were resources exceeded or was it a lack of leadership and an incident management system?

All areas of the US have vast medical and public health resources. In recent history, until the time of Hurricane Katrina, the last time our health care resources were truly exceeded probably was during the influenza pandemic of 1918. Even during the World Trade Tower terrorist attacks in 2001, the number of surviving victims requiring medical and health care in New York City did not exceed the city's capacity to provide that care. So, was the "black tag triage" that occurred in New Orleans in 2005 a result of insufficient resources? Or could we have organized the public health response more effectively to direct our assets to the locations where they were needed at the times they were needed? Could effective resource typing have matched the personnel and supplies to the people who needed primary care as well as acute medical care? Few people understand the background described above regarding the formation of DHS. How can we expect a well-rehearsed effective response from an organization that had been recently created and consists of personnel from differing backgrounds and corporate cultures? This unique case study (a widespread disaster within a large resource-rich nation) affords an excellent opportunity to study key issues of leadership and incident management.

Conclusions

While planners have expended large amounts of resources into frequent education and training for the NDMS for more than 20 years, Hurricane Katrina represents the first US disaster where the evacuation portion of the system was activated on a large scale. Hurricane Katrina represents a classic public health emergency. Nothing that occurred in the disaster aftermath was unpredictable. Two years later, a large negative public health impact remains, manifested by infrastructure deficiencies. There is a great opportunity to further the multidisciplinary science of disaster medicine by studying the multiple logistical and healthcare policy issues surrounding Hurricane Katrina.

Panelists

Kelly Klein (University of Texas Southwestern at Dallas)
Kathy Rinnert (University of Texas Southwestern at Dallas)
Aileen Marty (Battelle/DHS)
Special thanks to the volunteer medical student scribe: Kevin De Decker (Netherlands)

Prehospital Disast Med 2008;23(4):s83–s86

Psychosocial Aspects

Prevention

Chair: Gloria Leon
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This session addressed the psychosocial needs of a range of affected groups, from children to the aged, with a focus on prevention and early intervention. Saenz described the use of play therapy with children exposed to trauma either personally or vicariously through the media, to teach them through games and stories that the world is not as bad as they see it.

Other papers described national programs that provide aid to groups under threat. One example is the Israel Trauma Coalition (Levanon), an NGO that responds immediately to terrorist or other events by organizing evacuations, psychological screening, and support, placement of children in schools in evacuee areas, and later follow-up. Cole described a state-wide disaster mental health training plan developed in New York after the terrorist attacks of 11 September 2001, consisting of a multi-module curriculum applicable for both rural and urban responders.

The final paper, presented by Qureshi, focused on the comprehensive and continuing procedures implemented to protect the mental health of participants and researchers during a longitudinal study of the psychological and psychiatric sequalae of the World Trade Center attack. The ethical concerns in conducting research on victimized groups were addressed.

In summary, this series of papers, presenting programs and experiences from different countries and different types of trauma, has application for planning and implementation by other groups tasked to deal with the psychosocial effects of disasters and terrorism.

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First Aid

Chair: Carol Amaratunga
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This session provided a dynamic and excellent overview of psychosocial aspects of first aid. A common theme espoused by all speakers was the social imperative to mainstream psychosocial dimensions into disaster management structures and protocols. The five presentations illustrated both individually and collectively how psychosocial aspects embrace multiple dimensions—the individual, family, community, as well as related social and cultural sequelae.

Collectively speaking, the presenters created a strong consensus with respect to the need to incorporate psychological "first aid" into best-practice protocols. The five case studies addressed vulnerable populations and demonstrated the need for culturally appropriate and sensitive interventions, along with the need for psychometrically robust instruments for assessing stress and post-traumatic stress, including intergenerational stress as indicated in the case of Ukrainian women who were exposed to radiation during the Chernobyl disaster.

Both Stephan Vymetal and Paul Deignan's presentations provided clear and interesting examples with respect to the need for critical stress debriefing and psychological first aid. The colorful handout from the Czech Republic for journalists during disasters illustrated an excellent case in point. The five presentation topics covered a wide, yet interrelated, range of issues from psychosocial assistance in emergencies, psychological first aid, family witnessed resuscitation, the integration of mental health policies into dis-

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aster management to the need for continuous, long-term, and intergeneration monitoring and follow up.

Sen pushed traditional boundaries and provided interesting results from an empirically based study on the phenomenon of family witnessed resuscitation and holistic medicine. Madrid's dynamic presentation, on behalf of R. Grant, addressed the aftermath of disasters such as the Gulf-coast hurricanes (e.g., Katrina in the US), and the fact that psychological recovery may take many years. It was apparent from the engaged discussion and audience questions that the disaster management research field must address the psychosocial needs, perceptions, and fears of women and girls, including their reproductive concerns, as illustrated in the Chernobyl evacuation case study. Zinchuk's fascinating presentation on Chernobyl provided an excellent closing moment and demonstrated how disaster survivors can experience haunting feelings of exposure and concern for many years, not only for themselves, but also for their unborn children.

The speakers discussed the merit of emotional first aid in an all-hazards approach. The concept of stress "inoculation"—to prepare the public as well as first responders also was raised. Care of first responders was highlighted throughout the presentations. It is fundamental that training and preparedness help first responders to take care of themselves. The session concluded with an appreciation that planners must take into consideration the needs of special populations, such as women and children, as well as caregivers, healthcare providers, those with special needs as well as journalists—in other words, those who witness human tragedy. The audience was appreciative of the five speakers, particularly as an attempt had been made to demonstrate the best practice, interventions, and policy for different populations, from diverse nations, along the disaster event to recovery time [longitudinal] continuum. The quality, rigor, and import of these presentations indicates a growing appreciation and recognition of psychosocial factors in prehospital and disaster health. Participants and speakers alike are looking forward to the next WADEM conference in Victoria, Canada in 2009.

Presentations

1. Vymetal S: Psychosocial assistance in emergencies: Current situation in Czech Republic. (Czech Republic).
2. Deignan P: Psychological first aid. (USA)
3. Sen A: Beliefs and attitudes to family witnessed resuscitation amongst doctors, nurses and paramedics, in emergency departments—A UK perspective. (UK).
4. Grant R (presented by P. Madrid): Effective disaster mental health policy is integral to preparedness. (USA).
5. Zinchuk A: Impact of the Chernobyl disaster perceptions on the reproductive health of Ukrainian women. (USA).

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Humanitarian Crises

Chairs: Jennifer Leaning, Cees Breederveld
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This session focused on models for improving international responses to major disasters. The application of these models to humanitarian crises in conflict zones also was addressed. Four different papers were presented and discussed with thoughtful participation from the audience.

The session opened with observations from the chairs of the session that all international engagement in humanitarian crises must be undertaken in conformance with the Geneva Conventions, according to which, medical personnel must abide by rules of neutrality, independence, and impartiality. It was noted that security for humanitarian personnel, including health personnel, has become increasingly problematic in conflict zones. Hence, the focus of most of the papers in this session was on providing care in disaster areas, and they provided important observations on and testing of methods and models that often were difficult to assess in highly insecure situations. The question was posed to the presenters and the audience as to the applicability of the research findings to war areas.

The first two papers[1,2] described the design and use of a rapid medical assessment unit established by the Swedish government to determine whether it is necessary to send in a team to support the medical needs of Swedish citizens in crisis situations overseas. The key component of the design of this unit involves the Rapid Medical Assessment (RMA), which consists of nested steps for gathering increasingly more detailed information about the situation on the ground. These steps consist first of an office-based inquiry in Sweden, relying on fax, telephone, and internet investigation; extend next to the dispatch of an assessment team that travels to the affected area for a period of one to three days; and then, if the situation is determined to require a fully staffed team, the deployment of a medical and surgical team of up to 10 members, along with necessary equipment and supplies.

The unit has been activated three times and was deployed once in response to the war in Lebanon in July 2006. The decision in two situations, that there was no need for Swedish assistance was as valuable in establishing the importance of this unit as the third experience of deployment, in that the RMA was shown to be very effective in remotely gathering sufficient information to support good decision-making.

The deployment to Lebanon was the subject of the second paper. Difficulties in logistics and information flow were described, but by 15 July 2006, the medical-surgical team from Sweden arrived in Lebanon and proceeded to support the evacuation of >5,000 people with connections to Sweden. The team was prepared to respond to a wide range of medical and surgical problems, but, in fact, the greatest need of the evacuee population was for reassurance and basic support for psychosomatic issues resulting from high stress levels. Lack of sleep aggravated many of the reported symptoms and observed presentations, including anxiety, crying, aggression, and digestive and cardiovascular complaints. A few chronic medical problems of the elderly were treated, and there was one cardiac death in this population. The presence of the team conveyed reassurance, and the team members spent much of their time engaged in triage of the evacuees, determining priorities for buses, and timing of evacuation, as well as comforting and advising those with significant psychosomatic distress. The find-

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