This presentation outlines how the federal funds were utilized to develop a coordinated response infrastructure from the state to the local hospital level and how Louisiana hospital's collaborated during one of the nation's largest natural disasters. The Louisiana State University-Health Sciences Center in New Orleans (known as "Big Charity") is highlighted to demonstrate one hospital's experience in both disaster planning and response. The Hurricane Pam Planning exercise is contrasted with the actual events of Hurricane Katrina. Personal, local, and statewide "lessons learned" are summarized. Disaster planning efforts since Katrina will be discussed and recommendations for future planning activities will be offered.

**Keywords:** bioterrorism; coordination; finance; hospitals; regional; response
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### Managing Health Information during Disasters: A Survey of Current, Specialized, Health Information Systems for Disasters

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During a disaster, a substantial number of patients will seek medical care, inluding those injured during the acute phase of the event, those injured in recovery and evacuation attempts, and the chronically ill who have limited or no access to medical supplies. This surge in demand will result in an increased strain on hospital resources. In the first instance, the surge capacity of the emergency department will be tested, with a subsequent surge in demand on the resources and services of the Health Information Service (HIS), namely an increased demand for new medical records, and identification and retrieval of existing records. Recent international experience has highlighted the fact that regardless of the type of disaster, all patients presenting to hospitals during these events will require identification (raising the issue of how hospitals and healthcare facilities will cope with unidentifiable patients), the allocation of new medical records or retrieval of existing records, and appropriate patient tracking throughout the healthcare facility. This sudden increase in demand obviously will impact the ability of the HIS, and consequently the hospital, to appropriately identify patients and document individual patient care. It also raises the question as to whether existing health information systems can cope with a disaster, or whether specialized health information systems are required. This study investigates whether hospitals in Victoria, Australia have specialized health information systems that would be activated in times of disasters, the type of specialized system used, how the systems would be activated, and who would activate them.

**Keywords:** Australia; disaster; health information; hospital; surge capacity
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### Ontario CritiCall Program and Provincial Disaster Management

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Current practice in preventive environmental health action includes chemical analysis of land, water, and air for known (controlled), toxic chemicals and comparisons against standards for identification of breaches of regulatory limits. This methodology also is followed after an event or disaster to ensure air, water, and food safety. Some problems, not easily addressed by this methodology include: (1) unidentified toxic chemicals; (2) non-conventional uses of toxic materials; (3) unexpected synergetic effects of toxic mixtures; and (4) human health consequences of exposure to toxic materials with unusual and unidentified pathways of exposures. In Bhopal, the citizens were faced with a mixture of approximately 27 toxic substances, a variety of exposures related to activities of the persons, for example, remaining in their homes or running in the toxic cloud, and a variety of perceived injuries, of which not all would have been predicted simply by analyzing the chemicals involved.

The benefits of combining different approaches, such as examining the health, social, and cultural environments, and the economic situation of the victims in Bhopal, and the effects of each on health is presented. This more broad analysis provides a clearer, overall picture of the problems in the aftermath of exposure, and also provides clues to effective treatment and alleviation of future problems. Two effective strategies for connecting health problems ten years after the exposure to the original event, and understanding the biochemical reactions in the body when invaded by a mixture of toxic substances, as well as how such an understanding will, in turn, affect public policy planning, emergency preparedness, and emergency medicine will be presented.

**Keywords:** Canada; Criticall; databases; patient referrals; severe acute respiratory syndrome
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## *Session 4: Systems 1*

*Chairs: Mauricio Lynn; C. Breederveld*

### Designing and Using a Databank as a Method for Improving Disaster Management

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Iran

**Introduction:** In recent decades, Iran has sustained a great loss of life as a result of disasters from earthquakes and droughts. Preparedness for appropriate responses to these disasters requires scientific and functional planning based on valid information.

**Methods:** A databank of information was prepared by an expert team and scientific planning group. Brain storming sessions concordant with information from resource studies helped to identify national patterns of hazardous events and form the appropriate structure for this data bank. Inquiries were made to the provincial Disaster Task Force and other related organizations, while a search was con-



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ducted of informational and electronic resources to identify the functional requirements and precise definitions of essential variables. Subsequently, the variables were classified and the specification of each of variable was defined.
**Results:** Important indexes considered in this study included disasters that had occurred previously; public, geographical, population, economical, social and regional characteristics, infrastructure specifications, and information from related agencies in disaster management; information from assistant provinces; information from related organization and workgroups in mitigation, preparedness and disaster management, training, warning and information, relief and rescue, health, transportation, sheltering, telecommunication, energy, agriculture, water, industry, and recovery.
**Conclusions:** Iran is a jeopardized country and has sustained substantial loss of life and economic loss related to disasters. In 2003, disaster management program was compiled for disaster responses although there was no accessible, classified and comprehensive information available. The creation of this data bank of disaster-related information is an attempt to solve one of the important defects in disaster management in Iran.
**Keywords:** databank; disaster management; information; Iran; response
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## Urban Search-and-Rescue in Western Australia

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The city of Perth, located in Western Australia (WA), is one of the most isolated cities in the world and requires strong partnerships with emergency service organizations. In order to provide effective emergency response in this isolated region, WA is prepared to be self-sufficient for up to 72 hours before expecting to receive assistance from other states and overseas.

The Department of Health's Disaster Preparedness and Management Unit (DPMU) has been working closely with key areas within the Department and external agencies including the WA Country Health Service (WACHS), Fire and Emergency Service Authority (FESA), WA General Practice Network, and St. John Ambulance (SJA) to enhance the capabilities of disaster response.

The DPMU, in partnership with the FESA, recently has trained four doctors in urban search and rescue (USAR) activities. In order to put this training into practice, these newly recruited USAR-trained doctors participated in a National Counter Terrorism Exercise (Western Explorer) held in June 2006. The initial exercise, Exercise Western Explorer, was the first of its kind to showcase WA's urban search and rescue capabilities.

Recommendations from this exercise are currently being implemented, including the identified need for immediate access to medical equipment during activation and the need for the USAR-trained doctors to be familiar with the tools and equipment used by the USAR Taskforce.
**Keywords:** Australia; geographic isolation; search and rescue; training; urban
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## Developing Disaster Medical Assistance Teams in Australia

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Western Australia (WA) was one of the first Australian states to deploy medical teams to work in the Tsunami-stricken regions of the Maldives and Banda Aceh. Historically, Australia has relied upon the Australian Defence Force to provide overseas medical assistance. However, in this instance, the volunteers were civilians, predominantly from tertiary hospitals. The deployment of civilian-based medical teams has been questioned, mainly due to the lack of pre-deployment arrangements. In this instance, Australia's civilian medical response to the Tsunami was appropriate and effective. Subsequently, at the post-Tsunami debriefings, it was proposed that pre-selected, state-based Disaster Medical Assistance Teams (DMAT) should be established.

Western Australia is researching and developing a model for a state-based DMAT. This presentation will examine the progress made in the development of such teams. These teams will have the ability to be developed intra-state, interstate, and internationally, if required. For a state like WA, where much of the industrial areas are located near hospitals with few resources, a designated DMAT would be a great benefit. The capability to provide assistance, coupled with the ever-present natural threats, particularly cyclones in the North West and bushfires in the South, will be enhanced. These processes were evaluated during a recent 12-person deployment to Yogyakarta. Further development will be available following the Australian Symposium focusing on Workforce Modelling for DMAT, which was held in Perth, Western Australia 27–28th November 2006.
**Keywords:** disaster; disaster medical assistance team; government; medical aid; Western Australia
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## Comparing Risk and Disaster Preparedness of Two University Hospitals Using the Utstein Guidelines

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2. Yongdong Severance Hospital, Seoul, South Korea

**Introduction:** The Utstein Guidelines provide common terminology to disaster management and thus it is preferred for its structured approach to disaster preparedness and evaluation. The concepts and guidelines provide a baseline for different healthcare systems to be assessed and compared.
**Methods:** National University Hospital in Singapore and Yongdong Severance Hospital in Seoul function under two different systems. The Utstein template was used to illustrate the risk and needs assessment of these two hospitals during a disaster. Using Utstein disaster terminology and concepts, both of the hospitals identified the hazards each faced that may escalate into events and possibly lead to damages and function change.

The Basic Societal Function (BSF) was defined for both Singapore and Seoul, and it was determined how each



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