

Session 3*Chair: Mauricio Lynn***SAFE: Satellite Communication for Health Early Warning**

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The risk of epidemics and emerging or re-emerging diseases such as avian flu, tuberculosis, as well as malaria and other vector-borne diseases, is rising. These risks can be contained with prevention, early warning, and prompt management. Despite progress in information technology, communication remains a bottleneck for health early warning and response systems. Satellite Communication for Health Early Warning (SAFE) is a component-based system for health early warning that employs satellite and wireless networks, geographic information systems, integration technology, and data mining to promptly identify and respond to disease outbreaks or epidemics.

The added value of the SAFE approach will be demonstrated in the context of readiness exercises conducted throughout Europe. In a post-disaster health management scenario, a mobile health emergency coordination center is established and integrated into public health services for health monitoring. The role of SAFE in post-disaster health management will be assessed in an earthquake-readiness exercise, in which the outbreak of a typhoid fever epidemic will be simulated. Other envisaged scenarios relate to tuberculosis and influenza.

Satellite communication services including low and high bandwidth access to the Internet, cooperative working, and geolocalization in SAFE will be validated for all phases of managing a biological crisis including prevention, early warning, and response. Healthcare systems and civil protection are expected to benefit from promptly restoring access to information and communication.

Advanced communication and data mining techniques in SAFE offer new tools to the "Epidemic Intelligence" and contribute to advanced preparedness and prompt response by removing communication barriers, promoting collaboration, and reducing the isolation of affected areas.

Keywords: coordination; epidemics; infection; prevention; risk; Satellite Communication for Health Early Warning (SAFE); warning

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Information Network System for Nuclear Disasters in Japan

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Medical management of radiation injuries requires special knowledge and resources, and can be difficult for ordinary emergency medical systems to manage. In order to utilize medical resources effectively, the national government of Japan has developed a radiation emergency medical network, which involves a wide range of organizations and specialists in. When a nuclear disaster occurs, it is imperative that these organizations and specialists are provided accurate information as quickly as possible.

To facilitate this, an information network system was developed using the existing telecommunication system and the Internet. With this system, relevant information can be disseminated at once. The system comprises ordinary fax machines that have the F-code function, a computer server, and Internet. After the original message containing the relevant information is faxed, it is automatically delivered by the F-code function to all the pre-registered organizations and individuals. At the same time, the fax message is digitalized as an image file and disseminated via the Internet to mobile phones and computer servers. Also, the message can be viewed on a Website.

This system was used and evaluated during the national nuclear disaster drill in September and the prefecture drill in November 2006. The relevant information was delivered smoothly without any delay to all the organizations and individuals who participated in the drills. Although some modifications are required, this system should function as an effective method for disseminating information during a nuclear disaster.

Keywords: information network system; Japan; medical management; nuclear disaster; radiation injuries

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The Interface of Regional Coordination within Louisiana Hospitals during Hurricanes Katrina and Rita

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In 2002, the National Hospital Bioterrorism Preparedness Program, Health Resources and Services Administration (HRSA) Grant program initiated funding for hospitals to improve their overall bioterrorism response capabilities. Under this program, and given the natural disaster risks in the Gulf Coast area, the Louisiana HRSA efforts emphasized an all-hazards planning approach. Since the inception of the grant, the regional coordination emergency response infrastructure had been activated for five state-declared emergencies, including Hurricanes Katrina and Rita.

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, including 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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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-