

population, especially in times of emergencies. However, it is questionable whether this is a realistic approach.

From various, recent international reports, it appears that sea levels may rise between a 0.5–7 meters in the coming decades. In such case, the government, essentially, may become powerless or ineffective, as demonstrated following the recent disaster from hurricane Katrina (US, 2005).

The question, therefore, is: what can the population do to prepare itself and increase sustainability in the face of possible future disasters? This presentation will delve into these issues and provide practical guidelines and advice that can help increase self-sustainability.

**Keywords:** climate; crisis-management; disaster; population; preparedness; sustainability

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### (206) Preparing Citizens for Emergencies by Using Ubiquitous Learning Methods

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During the first minutes of an emergency, prior to the arrival of professional rescue workers, citizens must take care of themselves and their family mainly on their own. As a result, their self-management capabilities directly influence the health outcomes of terrorist attacks or disasters caused by natural hazards.

While governments acknowledge the importance of citizen self-management during emergencies, however, traditional information campaigns to motivate citizens to prepare themselves often seem to fail. One of the potential causes for this failure might be that these campaigns seldom are adapted to the specific knowledge, skills, and motivational needs of the individual citizens.

Ubiquitous learning principles may be useful in this context. The definition of ubiquitous learning is learning whenever and wherever it is desired or needed and is facilitated by use of a flexible mix of mobile technologies (personal digital assistants (PDAs), smart phones, game consoles) and interactive, adaptive didactical strategies.

Rather than providing everyone with the same information, this approach offers essential content using a range of content varying from games and simulations, and checklists. Citizens are encouraged to actively search information or entertainment that matches their interest. Once downloaded to a mobile device, the information is available even when networks go down during an emergency, and can be used to access information during an emergency.

**Keywords:** citizens; disasters; emergencies; preparedness; ubiquitous learning principles

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### (207) Implementation of Emergency Medical Service

### during the Primary Stage of a Disaster: The Emergency Response Plan of the National Museum of Natural Science

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With the growth of exhibitions, exposition, sports and live concerts, the capacity of auditoriums, stadiums, exhibition halls and convention centers will become larger to accommodate more crowds. However characteristics and complexity of the above structures generate the demand of emergency response far beyond the traditional plans for the ordinary structures like office buildings and schools. In museums, the remodeling for new exhibition could change the route of evacuation, modify utilization of the space and even add some inappropriate materials by decorations. All these factors will produce impacts on emergency. The plan for mass-rally space such as museum will require a specific strategy to cope with the large amount of casualties and evacuation. The National Museum of Natural Science, attracting 3,505,495 visitors in 2005, is the most popular one in Taiwan and the pupils of elementary schools contribute to the main part of visitors. As the consequence, the necessity of emergency plan will become a major concern from the general public. This article will describe the seismic emergency plan for museum on the issues of modeling to estimate the number and category of causality and establishing the response plan and standard procedures for medical deployment. Furthermore, the cooperation and collaboration with EMS of fire department and DMAT of local hospitals will advance the practical application under emergency and improve the safety of audiences.

**Keywords:** disaster; emergency medical services; planning; preparedness

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### (208) Health Issues of Women Refugees in Canada: A View from Kosovar Women and Sponsor Groups Involved in Settlement

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**Introduction:** After the 1999 Kosovo crisis, approximately 500 refugees from Kosovo arrived in the city of Hamilton, Canada. Volunteer sponsor groups affiliated with a local settlement agency assisted the families with settlement. This study describes experiences and issues identified pertaining to the women's health after their arrival.

**Methods:** Both quantitative and qualitative methods were used. Women from 50 randomly selected families self-completed questionnaires about their health, the Harvard Trauma Questionnaire, and use of preventive health services. Sponsor groups participated in focus groups regarding the issues faced when assisting the Kosovars. Three analysts coded transcripts for themes to reach consensus.

**Results:** The average age of the 84 women from 50 families surveyed was 38.2 years. Of the participants, 25.9% scored above the cut-off for post-traumatic stress disorder. History of having a previous Pap smear and mammography was low (34.1% and 5.3%, respectively). Sponsor groups identified issues of dental and prenatal care needs, missing medical records, finding family physicians accepting new patients, language barriers in receiving healthcare services, cultural differences in the role of women in their healthcare decisions, mental health issues relating to traumatic experiences, and confusion and delays concerning government reimbursement to dentists, optometrists, and pharmacists. **Conclusions:** Physicians providing care to refugee women in host countries should be aware that standard preventive screening rates are low and mental health issues are prevalent. Most host countries have some sort of sponsorship program that provides a valuable source of information for understanding the health needs of new refugees.

**Keywords:** Canada; health issues; Kosovo refugees; sponsor groups; women refugees

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### (209) Securing Safety—Leadership in Pandemic Preparedness for the Prehospital Environment

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**Introduction:** Queensland Ambulance Service (QAS) is the fourth largest ambulance service in the world. The QAS provides statewide coverage to an area of 1.77 million km<sup>2</sup> from 282 service locations serviced by 2,800 clinically active staff. Queensland's northern border is geographically close to areas of Southeast Asia affected by Avian Influenza, a concern given Queensland's high tourist population.

**Methods:** Since early 2006, the Australian Centre for Prehospital Research has been leading a national collaborative research consortium examining risk perception among paramedics. The research group also is examining new opportunities for the emergency prehospital sector to contribute to early warning and surveillance systems for infectious disease, particularly pandemic influenza.

**Results:** Preliminary results from focus groups and the national paramedic surveys emphasize that paramedics place the most emphasis on ensuring that personal protective equipment, new operational standards, and communications strategies for working in infectious disease environments ensure the highest possible levels of safety and information exchange.

**Conclusion:** This work complements proactive strategies being implemented in Queensland to secure the safety of paramedics who may be required to work in these and other biohazardous conditions. This includes the introduction of the Scott M98 Air Purifying Respirator into service for operational staff on a personal need basis. A state-wide fit testing program has commenced and the development of other safety strategies will be guided by the results of the national survey. The survey results also will better inform

staff as it builds on the QAS State Chemical, Biological and Radiological Awareness package implemented in 2005.

**Keywords:** infectious disease; paramedics; preparedness; Queensland Ambulance Service; risk perception

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## Oral Presentations—Topic 13: Public Health

### Session 1

*Chairs: M. Hoejenbos; Knut-Ole Sundnes*

### Outsourcing Public Health Emergency Drills and Exercises

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In the wake of 11 September 2001, the United States Department of Health and Human Services (DHHS), through the Centers for Disease Control and Prevention (CDC) and the Health Resources Services Administration (HRSA), provided millions of dollars to assist state, local, and territorial health departments to increase their respective capacities to respond to bioterrorism and other public health emergencies. This funding has allowed public health agencies across the country to develop and test emergency preparedness and response plans. Although the development of these plans has occurred within health departments, the testing of the plans has, on occasion, been outsourced to private contractors. The authors provide guidance to public health organizations by assessing the capacity of contractors to develop and implement emergency preparedness exercises. This presentation will illustrate key points about the need for or use of a consultant, and the use of available resources when planning an emergency exercise. An outcome evaluation on the utility of the guide in state and local public health agencies also is discussed.

Key issues that will be addressed include: (1) identification of the needs of a local agency for a consultant when planning an emergency exercise; (2) recognition of the key public health agency decision-making points in contracting for an exercise; and (3) identification of available resources in public health emergency response exercises that might inform contractor decision-making.

**Keywords:** drills; emergency; exercises; outsourcing; public health

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### Role of the Emergency Medical Services System as Part of Public Health Emergency Response

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**Introduction:** The emergency medical services (EMS) system is one of the key components in disaster, terrorism and public health emergency preparedness and response. Public health agencies typically provide regulatory oversight of emergency medical services. Recent studies have demonstrated the value of a EMS/public health partnership in