

idea. Providing and sharing geo-information for a group of participants can be achieved with different traditional methods. This can include a map laid on the table, data projected on a wall, or computer monitors. A new approach to improve collaborative interactions focuses on two main aspects: (1) an advanced visualization of the information; and (2) a new approach in the human-computer interaction.

The traditional way of displaying geographical datasets is replaced by tangible interfaces in which data are displayed on a table and used as central point for the discussion. The data presented on the table also can be accompanied by other devices, such as liquid crystal display (LCD) or plasma screens, where it can be displayed in different environments, such as two-dimensional, augmented reality, or three-dimensional virtual environments, providing a different visual approach to the same dataset.

Users interact with the system directly on the surface with their hands, drawing pens, or special colored patterns. The system reacts to the movements on the table and displays the requested information on the table. The new interaction is intuitive, attracts people to the table, and invites them to interact with the table itself. It will be tested during disaster exercises.

**Keywords:** collaborative interactions; decision-making; disaster management; human-computer interaction; user interfaces  
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## Poster Presentations—Theme 12: Preparedness

### (170) Factors Affecting Disaster Volunteer Retention

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Recruitment of new disaster volunteers is an ongoing and expensive process, with frequent turnover in the volunteer pool. The purpose of this project is to identify what factors contribute to this turnover, and to make recommendations for improving retention. A review of the literature regarding successful volunteer retention will be presented.

In this research project, volunteers in the disaster services of the American Red Cross were surveyed as to their reasons for volunteering, the areas in which their expectations were satisfied or not, and why they have stayed involved, or why they have become inactive.

Subjects will be four groups: (1) active national disaster response team members; (2) inactive national disaster response team members; (3) active disaster mental health team members (local or national); and (4) inactive disaster mental health team members (local or national). All subjects were active since 11 September 2001 and for a minimum of six months prior to data collection.

For this presentation, surveys will be conducted over the telephone by volunteers. Names will be chosen randomly from lists of active and inactive Disaster Services Human Resources and Disaster Mental Health Teams in the

Greater Rochester Chapter of the Red Cross in Rochester, New York.

**Keywords:** American Red Cross; disaster volunteers; mental health teams; response teams; volunteer retention  
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### (171) Role of National Poisons Information Centre in the Response to Nuclear Accidents in the Netherlands

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The Dutch National Poisons Information Centre (NPIC) of the National Institute for Public Health and the Environment (RIVM) is officially involved in the response network for radiological incidents, called the Unit Planning and Advice nuclear (EPAN). The EPAN consists of a front office and two back offices, one for radiological measurement and one for medical assessment (Ministry of Health) of radiological incidents. The back offices present their information to the front office, which integrates the information in order to advise the policy team and ministers concerned. Each back office receives specific information from several support centers. The network shares information and knowledge via a secure website. In case of emergencies, the NPIC advises the Ministry of Health on the measures “Iodine prophylaxis”, “Evacuation” and “Sheltering in Place”, and “Patient Management” based on available radiological information of the incident. The NPIC provides protocols on decontamination and radionuclide-specific treatments. In May 2005, the EPAN was tested in a national nuclear accident exercise. More than 1,100 administrators, officials, and relief workers from municipalities, provinces, ministries, and emergency services were involved in managing a simulated accident at the Dutch nuclear power plant. The exercise provided an estimate of the feasibility of the various measures and time needed for implementation. Alertness training continues through smaller exercises. In 2007, the NPIC will start an educational program for healthcare personnel with the goal of increasing radiological incident preparedness in triage, decontamination, and management of patients.

**Keywords:** decontamination; network; radiological incident; radionuclide-specific treatments; simulated accident  
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### (172) The “Hospital Preparedness for Contaminated Patients” Score (HPCPS) as a Proposed Tool for a More Objective Assessment of Hospital NBC Readiness

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A survey of all 118 acute-care hospitals in Austria was conducted in order to determine the ability of the hospitals to admit and treat contaminated patients safely. No such

study has been published on this topic in a German-language area. Additionally, there are no universally accepted evaluation criteria available.

The available 15 related survey studies from the UK and the US were reviewed for the methods medical personnel used in reaching their judgment. Additionally, 30 papers with recommendations for NBC-treatment, as well as general hospital disaster planning, were scanned for the measures regarded appropriate.

From this base of literature, the criteria “decontamination facilities”, “PPE”, “planning and organization”, “training and exercises”, and “implementation” were chosen for this study. The proposed “HPCP-Score” gave 40% of the score’s weight to “facilities and PPE” and 20% to each of the other factors.

For each category, corresponding items in the questionnaire were selected and the coded numerical values multiplied with a factor to achieve the intended weighing. The maximum achievable value was 250; the actual value was divided by 25 and rounded to produce a score on a scale of 0 to 10. The respondents were asked to self-assess their readiness on a scale from 0–10; both values were compared. The “HPCP-Score” concurred in many cases with the self-assessment of respondents (in 58% within one point), but also revealed high deviations of self-assessment by introducing some objectivity in evaluation. It is an imperfect, but perhaps useful tool.

**Keywords:** contaminated patient; disaster planning; preparedness; safety; self-assessment

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### (173) Support Mechanisms for Healthcare Workers in Institutional Emergency Planning: Gap Analysis of Three Hospital Emergency Plans

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**Background:** In response to the 2003 global outbreak of Severe Acute Respiratory Syndrome (SARS) and the threat of pandemic influenza, hospitals have been actively developing and revising emergency plans. Healthcare workers are a particularly vulnerable group at risk for occupational exposure during infectious disease outbreaks, as witnessed during the SARS outbreak. This paper presents a gap analysis of three hospital pandemic plans in the context of identified organizational support for health care workers.

**Methods:** Hospital pandemic plans were obtained from institutional representatives in three Ontario cities. Using Nvivo7 software, a qualitative gap analysis of these plans was conducted using a checklist of 12 items, developed from a review of existing literature and findings from a previous study that involved focus groups with emergency and critical nurses.

**Results:** Many support mechanisms were identified in the plans. However, some gaps were evident in planning for personal protective equipment (PPE), education and informational support, and support during quarantine. Additional areas in which supports could be enhanced

include: emotional/psychological support services, delineating management responsibilities, human resources, vaccine/anti-viral planning, recognition/compensation, media strategies, and professional development.

**Conclusions:** Extensive support mechanisms for healthcare workers are included in these hospital plans; however, the identified gaps may have serious implications for employee health and safety, as well as for overall response during a large-scale infectious disease outbreak. In order to support healthcare workers in their role as first responders, a number of “good practice” recommendations are provided for consideration in emergency plan development.

**Keywords:** gap analysis; healthcare workers; infectious disease outbreak; pandemic; preparedness

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### (174) Specialized Kit Development by Donor Governments for Influenza Pandemic Preparedness

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Three pandemics from influenza A were experienced during the last century. Currently, a highly pathogenic avian influenza H5N1, a panzootic, is affecting 58 countries and is a recurring human epidemic in 11 countries. It is considered to be a future pandemic threat. The objective of this study is to examine the avian influenza (AI) international stockpile developed by the United States Agency for International Development to provide essential commodities for AI outbreak investigation and cluster management in animals or humans. The stockpile is comprised of three kinds of standardized kits: personal protection kits, decontamination kits, and laboratory sample kits. The recommendations of the US and the United Nations’ technical lead agencies for health are incorporated into the three kits and the kits are funded to (US)\$56,000,000. These kits are intended primarily for initial field response by technical teams from host nation authorities supported by UN agency technical leads (WHO, FAO/OIE). The personal protection kit is designed to provide disposable respiratory, skin, and eye protection to a range of professionals. The decontamination kit is designed to decontaminate personnel, equipment, vehicles, poultry farms, etc. The lab specimen kit is designed to provide the host nation’s outbreak investigators with the appropriate equipment in the field for specimen collection and specimen shipment to national and international reference laboratories. Selection criteria for kit contents included utility, simplicity, portability, versatility, durability, availability through government bulk ordering procedures, and low cost. Technical foundations, contents description, distribution mechanisms, and field use of the kits are discussed in this study. A key issue is the suitability of the kits to a future hazard-scape encompassing a broad array of emerging infectious diseases.

**Keywords:** avian influenza; donor government; kits; pandemic; stockpile

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