

Aim: The aim of this study was to evaluate the effect of various educational tools and personnel characteristics on personnel skills, views, and compliance to participate in the management of UBEs.

Methods: As part of the preparations for an institutional drill in the Tel Aviv Medical Center, several educational methods were employed. These included e-mail notifications, computer-based self learning, publication of an institutional protocol, tabletop drills, personal briefings, and finally, a large scale exercise. Questionnaires regarding personnel characteristics, participation in pre-drill education, personal views, compliance, and familiarity of institutional protocols and selected diseases were distributed.

Results: Age, family status, and years of experience had no significant influence on personal views. Confidence in the health system increased with experience. Intensity of training had significant positive effect on personal confidence and compliance to attend work during a UBE, however it did not appear to significantly influence personal views or medical knowledge.

Conclusions: Comprehensive education and exercise of personnel is beneficial effect in terms of personal confidence and work attendance during UBEs. Specific educational tools, such as self-learning software, increase proficiency.

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(A30) Risking It All on Risk Assessment – Why Risk Assessment is broken in Disaster Medicine and How We Can Fix it

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Why did we predict Y2K, but not 911? Why did we predict dirty bombs for much of the past decade, but failed to predict the Asian Tsunami, Hurricane Katrina, and the Haiti Earthquake? Rational disaster preparedness depends on rational risk assessment – but does this really occur? This presentation will explore why risk assessment in disaster medicine is broken, including (1) type I and type II errors in risk assessment; (2) limitations of human neurophysiology; (3) cognitive biases in risk assessment; (4) impact of the media; (5) lack of harmonization of the language of risk; (6) deference to so-called risk experts; (7) risk innumeracy; (8) flaws in risk assessment matrices; (9) black swan events; and (10) managing risk based on extreme events. Concomitantly, this presentation will explore how we can fix risk assessment in disaster medicine, proffering practical solutions to each of these common yet surmountable barriers.

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(A31) Integrating Health Volunteers into Community-Based Disaster Risk Reduction

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Background: Disaster risk reduction (DRR) has emerged as a core element of sustainable development. (UN/ISDR 2002). Reducing risk requires long-term engagement (O'Brien 2006),

and the actual work of DRR is largely a task for local communities. (Schipper 2006). DRR shares some tenets with preventive medicine (Sidel 1992). As in preventive medicine, risk reduction calls for a basic attitude shift in the minds of many who traditionally get sick first and seek treatment later. The challenge for DRR, as applied to health, is to broaden the focus of disaster management from that of tertiary prevention, (response and recovery) to also emphasize primary and secondary prevention, (prevention, preparedness and mitigation).

Discussion: The role of the health sector spans across the spectrum of DRR to include prevention, mitigation and preparedness activities. DRR, as applied to health, is intended to prevent and/or reduce the negative health consequences of disaster hazards. This is accomplished by two means: hazard avoidance and vulnerability reduction. Health and medical volunteers at the community level can play an important role in reducing human vulnerability to disasters by: (1) reducing susceptibility – “healthy people” (2) reducing exposure to disaster hazards – “healthy homes; (Srinivasan et al. 2003); and (3) increasing resilience – “healthy communities”. Volunteers help to reduce exposures to disaster hazards through participation in population protection measures such as shelter-in-place, evacuation and mass care. They work to reduce susceptibility by participating in health care, health promotion, and immunization programs. Finally, volunteers may build resilience by way of their participation in community-level preparedness, response and recovery efforts. (Keim 2008)

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(A32) Emergency Preparedness in Louisiana Nursing Programs – Response Roles, Impacts, and Competencies

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Introduction: Nurses are leaders and primary health responder/providers in natural, anthropic and technological disasters. Preparation and education for nursing emergency and disaster response should begin before nursing program graduation and before disaster events occur. In Louisiana, 17 federally-declared disaster declarations were experienced from 2000 – 2009, ranging from the Space Shuttle “Columbia” to Hurricane “Katrina”. This presentation overviews Louisiana nursing programs’ disaster preparedness and operational planning as demonstrated to Louisiana’s Schools of Nursing Aligned for Emergency Responsiveness (SAFER) Conference, New Orleans, 2010. Co-sponsored by Dillard University, Division of Nursing, New Orleans, and Northwestern State University, College of Nursing, Shreveport, the invitational conference brought expert nurse and physician preparedness speakers from federal, state and local venues to review disaster planning, experiences, needs, and nurse preparedness competencies with nurse faculty leadership.

Methods: A multiple choice survey was developed, trialed and emailed to 42 Louisiana Nursing Programs. Programs surveyed included Associate degree, Bachelors and Graduate-level providers for Registered Nurses as well as Vocational Technical programs for the Licensed Practical Nurse. National Planning Scenario threat priorities; impacts of federally declared disasters

on Louisiana nursing programs; nursing program roles in disaster; and awareness of nurse emergency preparedness competencies were queried.

Results: 34 of 42 surveys were returned. 20 were complete. Nursing programs were located state-wide and found in 7 of 9 Louisiana regions. Surveyed programs offered a Bachelors degree (45%); Graduate degree (35%); Associate degree (35%) and vocational or Licensed Practical Nursing (35%).

Conclusions: The majority of Louisiana nursing programs and their health communities have been impacted by federally declared disasters. Coordinated efforts to improve nursing program preparedness education, roles and responsibility are warranted as vulnerability increases.

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(A33) Application of the Modular Emergency Medical System (MEMS) for Community Response to All-Hazards Public Health Emergencies

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The Modular Emergency Medical System (MEMS) is a flexible and scalable model for community-based response to all catastrophic emergencies. This paper highlights the development of MEMS at the local and regional levels, including training exercises to demonstrate MEMS capabilities, implementation strategies, and its role in the H1N1 response and vaccination clinics. The MEMS was introduced in 2002 as a bioterrorism response by the US Army Edgewood Biological and Chemical Command (ECBC). All-hazards MEMS, as part of a Regional Response System (RRS), was developed by the New England Center for Emergency Preparedness (NECEP) working with state and federal partners. The MEMS presents a modular response framework to mobilize communities and local resources to meet the medical surge demands during a catastrophic event. The modular components of MEMS empower a community-based response to catastrophic emergencies. The Neighborhood Emergency Help Center (NEHC) provides triage and initial treatment, or can function as a point for dispensing prophylaxis medications or vaccinations. During a medical surge, the Acute Care Center (ACC) moves non-critical patients outside of the hospital setting, creating more space for critical care patients. The Community Outreach (CO) module supports casualties recovering in their own homes, under quarantine, and other home-care support. The Casualty Transportation System (CTS) operates between MEMS components, patients' homes and outside of the affected area, meeting all transfer needs. The Medical Control Center (MCC) and Multi-Agency Coordinating Entity (MACE) provide command, control, and coordination of community emergency medical services (EMS), hospital, and public health response assets. Local, regional, and statewide exercises have demonstrated the capabilities of MEMS in Northern New England. The MEMS system, specifically with the MACE concept, was used in New Hampshire during the 2009 H1N1 event. These proven implementation strategies will assist local communities in developing and refining all-hazards response plans.

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(A34) Space Technology to Support Disaster Risk Reduction and Emergency Medical and Rescue Teams

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Space technology plays important role during emergency as well as non-emergency situation to provide the information that is relevant for disaster preparedness and to the rescue and emergency medical teams. During emergency situation, first and immediate information rescue and medical teams like to have is the area impacted, severity of the disaster and the population at risk. Such information is of critical nature for emergency medical teams in order to plan and mobilize the medical personnel, resources and infrastructure needed to provide effective medical services. Space based observation is the most efficient way to provide this preliminary information. Often emergency maps generated based on the space based observations are useful to the medical and rescue teams during emergency situation while detailed information from the field is still awaited. UN-SPIDER offers the platform for providing such services effectively by connecting with the end users the international and regional mechanism that provides such information. During non-emergency phase, the space technology contributes in strengthening disaster risk reduction (DRR) efforts, especially through telemedicines and Global Positioning System (GPS) technologies. These tools integrated with Geographical Information System (GIS) provide effective mechanism for predicting risks (risk mapping) and early warning. It also ensures the rapid distribution of information during catastrophic events. In recognition of these needs the United Nations General Assembly established the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER). The programme aims at providing universal access to all types of space-based information by: being a Gateway to space information for disaster management support; serving as a Bridge to connect the disaster management and space communities; and being a Facilitator of capacity-building and institutional strengthening.

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(A35) Building National and Community Resilience

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Each year a report is prepared for the World Economic Forum on global risks. It outlines the issues most likely to impact on society, and makes recommendations on actions required. The 2010 report concludes that global risks are becoming more volatile, uncertain, complex and ambiguous; and it comments on the increased number of high-impact, hard to predict 'black swan' events over the past decade. Indeed, recent disasters such as the Haiti earthquake which killed over 250,000 people, the eruption of Mount Eyjafjallajökull in Iceland, the rapid onset of the 2008/09 global financial crisis, and terrorist attacks around the world have all contributed to a heightened awareness of personal risk and vulnerability. In less than a decade the term resilience has evolved from the disciplines of