**Emergency Preparedness Competencies: Assessing Nurses’ Educational Needs**

*Wisniewski R, Dennik-Champion G, Peltier JW*  
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Reviewed by Elaine Daily

**PURPOSE:** To assess Wisconsin nurses’ first-responder capabilities of response to large-scale emergency events and determine nurses’ most preferred educational methods.

**METHODS:** An online questionnaire containing 44 knowledge-based questions regarding emergency preparedness competencies was placed on the Wisconsin Health Alert Network by the Wisconsin Nurses Association. Respondents were asked to rate their familiarity (on a 1 [hardly] to 5 [very] scale) with each of these items and rank their preferred educational method and class scheduling.

**RESULTS:** The questionnaire was completed by 877 Wisconsin nurses. The average self-assessed familiarity with the 8 competency areas (Triage and Basic First Aid; Detection; Accessing Critical Resources and Reporting; Incident Command Systems; Isolation, Quarantine and Decontamination; Psychological Issues; Epidemiology and Clinical Decision-Making; Communication and Connectivity) was 2.29. Nurses were most familiar with triage and basic first-aid issues (mean familiarity score 3.15). The next 3 most familiar competencies were detection (2.85), accessing critical resources and reporting (2.74), and incident command system (2.70). The nurses were least familiar with communication and connectivity (2.08) and epidemiology and clinical decision-making (2.12).

The most preferred educational method was face-to-face instruction, followed by online Web-based courses. Self-instruction and videotapes were the least preferred methods.

A 2-hour lecture or Web-based program was the most preferred class schedule offering (94%), followed by a 1-day, weekday workshop (89%). Least preferred schedules were a 1-day week-end workshop (43%) and a quarter/semester-long academic course (21%).

**COMMENT:** The results of this well-constructed assessment of Wisconsin nurses’ disaster educational needs confirm existing information of inadequacies expressed by nurses throughout the United States as well as other countries. The questionnaire used in this study was developed by a coalition of experts from multiple professions and agencies working toward achieving the goals outlined by the Centers for Disease Control and Prevention’s Public Health Emergency Preparedness and Response Grant: Focus G, Education and Training. Thus, it was tailored toward specific goals identified by a US organization. Nonetheless, the questions on specific competencies and preferred educational methods and schedules could be useful in assessing the educational needs of nurses in other countries as well and would be most helpful in developing educational programs geared toward the adult learner.

One serious limitation of this study was the sample group, which consisted of nurses involved with the Wisconsin Health Alert Network – a communications system for that state’s public health departments, hospitals, clinics, emergency rooms, law enforcement, fire departments, etc. Nurses from these agencies are likely to be in designated first responder roles and thus, would be expected to be more familiar with the stated competencies than nurses from other areas. A replication of this study to a broader group of nurses would be of value as nurses, in general, may be placed in first responder roles during a healthcare disaster.

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**Guidelines for the Use of Foreign Field Hospitals in the Aftermath of Sudden-Impact Disaster**

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Reviewed by Robert Powers

**PURPOSE:** To publish the guidelines that resulted from a WHO/PAHO-sponsored workshop that addressed the conditions as well as the pros and cons of the use of foreign field hospitals (FFH) following natural and complex disasters.

**METHODS:** Information is provided through a summation of a meeting of experts invited by WHO/PAHO to review and recommend guidelines for the dispatch or donation of FFHs.
RESULTS: The identified 3 purposes of FFHs are: 1) to provide emergency medical care during the first 48 hours following the event onset; 2) to provide follow-up care for trauma, emergencies and routine healthcare from Day 3 to Day 15; 3) to act as a temporary substitution for damaged hospitals (usually from Month 2 to Month 24 or longer). The guidelines provide recommended criteria that foreign field hospitals should meet to be effectively utilized. They also identify the key issues donor countries and the disaster-affected country should clarify prior to FFH deployment.

COMMENT: In many instances, responses by foreign field hospitals have been less than ideal and have resulted in less than effective care for the disaster victims. This is due to many issues not being fully addressed by both the countries donating the FFH and the recipient; these issues include the inability of the FFH to serve as a self-sufficient facility, the depletion of local community resources to maintain operations of the FFH, a lack of understanding of key cultural issues, and poor planning from the receiving country regarding mission assignment and site location. These PAHO/WHO guidelines provide pertinent direction to these issues in order to make an FFH utilization a benefit to those affected by disaster - rather than draining an already taxed system.

The guidelines provide needed recommendations for appropriate use of FFHs. In the recent crisis in Lebanon, WHO wisely recommended support for the existing and still functioning health system rather than using FFHs, which could have drained local allure of FFH utilization may not always match its actual effectiveness.

As noted in the guidelines, gauging disaster healthcare requirements can be difficult because the total number of patient visits may be elevated by non-disaster patient visits as victims seek free or higher-quality medical care than normally is available. Research on the effectiveness of FFHs in accomplishing its stated disaster-related mission and goals is needed to further define the importance and proper utilization of FFHs post-disaster.

The formatting of these guidelines makes them repetitive in places and difficult to follow in others. Reorganization of the material into a document that could be utilized readily by both the donor and recipient parties would help ensure that these workshop recommendations are given the weight they deserve in the decision-making process of FFH deployment. These guidelines are essential to health care workers and administrators in organizations and institutions involved in disaster planning.

High-Reliability Teams and Situation Awareness: Implementing a Hospital Emergency Incident System
Autrey P, Moss J
Journal of Nursing Administration 2006;36(2);67–72
Reviewed by Joan Valas

PURPOSE: To enhance hospital disaster preparedness utilizing the Hospital Emergency Incident Command System (HEICS) during mass casualty incidents by gaining an understanding of high-reliability teams and situation awareness.

METHODS: This is a non-research based article examining the formation of hospital-based, high-reliability teams and the concept of situation awareness in mass casualty incidents to enhance disaster preparedness for hospitals.

SUMMARY: Following 9/11, US hospitals were mandated by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) to participate in biannual, multi-disciplinary, community disaster drills as a means to interact with local public safety and first responders and evaluate response processes and outcomes. Many hospitals have instituted the Hospital Emergency Management System (HEICS) under the US National Incident Management System (NIMS) to effectively respond to any mass casualty incident (MCI). However, implementation of the HEICS is not enough to ensure that hospitals will be able to effectively respond; hospital staff must be able to function as high-reliability teams and operate under time constrained, dynamic and unstable circumstances with information-rich environments brought about by mass casualty incidents. The authors compare these hospital teams to a military unit at the battalion level, which must maintain high levels of situation awareness (SA) to ensure an adequate response to all incidents. The lessons from other high-reliability teams such as those from aviation, naval, or nuclear facilities are applicable to the hospital setting.

Organizations, such as hospitals, essentially function as teams operating as a unit. Individuals within the organization (team) must understand one another's roles; they must be aware of the overall response structure, the processes needed for decision-making and the desired goals and outcomes. It is through team decision-making, vigilance, and situation awareness that goals are met. The reduction of fatigue, workload, cognitive overload, poor interpersonal communications, imperfect information processing, failure of compliance, and flawed decision-making will decrease errors. The authors also recognize that by improving coordinated communication between other teams, such as the Federal Bureau of Investigation (FBI), Federal Emergency Management Agency (FEMA) and other local, state or federal teams, the mitigation of errors in disaster responses can be accomplished.

It is only through an increase in situation awareness (SA) that high-reliability teams can ensure an adequate response. Situation awareness essentially means “knowing what is going on around you.” The three levels of SA include perception, comprehension, and projection. In any MCI, an error at any one of these levels can result in negative outcomes. Strategies for increasing situation awareness include better information sharing, better sharing of assessments, better support of real-time planning and sharing SA information across teams for real-time decision-making. Hospitals must have HEICS in place along with extensive training and exercise programs with an emphasis on effective communication. The authors recommend that further research is needed to understand the complex relationship between situation awareness (SA) and high-reliability teams.
COMMENT: The concept, as well as much of the evidence supporting the benefits of situation awareness, are derived from disciplines outside of the medical field; however, its application in hospital disaster response programs is appropriate and well-related. The relative importance of situation awareness and its relationship to a hospital response team within the complex structures of HEICS and NIMS is explored in this informational article. HEICS requires a detailed evaluation of hospital and community resources, as well as collaboration with local, state, and federal agencies. Thus, it provides a useful plan or template for hospitals to prepare to deal with national mass casualty incidents. This article presents useful information and strategies for nurses interested in developing or improving hospital disaster education and training programs or conducting research in disaster preparedness.

Training of Healthcare Professionals on the Special Needs of Children in the Management of Disasters: Experience in Asia, Africa and Latin America
Olness K, Sinha M, Herran M, Cheren M, Pairojkul S
Ambul Pediatr 2005;5(4):244–248

Reviewed by Robert Powers

PURPOSE: To describe the development and use of an international training course focusing on the needs of children during disasters

METHODS: Information is provided regarding the course structure and methods as well as participants’ pre- and post-course knowledge assessment and course evaluations.

RESULTS: Test scores are reported from course participants in Thailand, Pakistan, Nicaragua, Panama, Syria, India and Ethiopia. Post-test scores improved following the course in all countries. Overall, participants felt most confident in their ability to identify ways to prevent/treat infectious diseases during a disaster. Least confidence was felt in their ability to list basic points of international law relative to disasters and to perform emergency obstetrical procedures in disaster situations.

COMMENT: This 5-day course, developed by faculty from Case Western Reserve University, addressing the needs of children in disasters and complex humanitarian crises has been greatly needed. As the authors note, children are the most vulnerable group in any disaster. The topics listed for the course cover a broad spectrum of needed information for pediatric healthcare responders in a disaster. Rapidly and properly identifying children in need is critical, and the course provides that training with topics focusing on malnutrition, triage, and rapid epidemiological assessments. Additionally, lectures dealing with security issues, conflict resolution, and ethical issues provide the healthcare worker with the necessary awareness of some of the hazards of working in difficult situations.

The authors report a statistically significant improvement in some of the participants’ post-test scores compared to pre-test scores. (Although there have been more than 250 US participants, no scores are reported for this group). However, while there was improvement from pre-course to post-course scores, the average post-test score was still low. (Reported test scores are a bit misleading as participants in some countries completed a 65 question test, while others completed a 50 question test.) However, after adjusting the study’s test results to a hundred-point scale, the post-test mean scores range from 42-73%. Even though the participants’ self-evaluation at the end of the course indicates they felt confident in their fulfillment of the learning objectives, the post-test scores do not reflect this. A re-evaluation by the authors of the teaching methods they use at these international courses would strengthen their ability to reach their learning objectives with a larger number of participants.

The development of this course fills a definite void in education and is commendable work. The participants in 2004 at several course sites, e.g., Syria and India, were interested in replicating the course throughout their country. It will be of note to learn how much proliferation has occurred with these course offerings.

Function and Response of Nursing Facilities During Community Disaster
Saliba D, Buchanan J, Kington RS
Am J Public Health 2004;94:1436–1441

Reviewed by Elaine Daily

PURPOSE: To describe the role and function of nursing facilities during a disaster.

METHODS: A survey was sent to the administrators of 144 nursing facilities located within the area affected by the 1994 Northridge, California earthquake. Separate structured interviews were conducted with 3 social workers involved in hospital discharge planning and 3 social workers from different nursing facilities.

RESULTS: Administrators from 113 of the 144 (78%) identified nursing facilities completed the questionnaire. More than half (52%) of the respondents reported disaster-related admissions immediately after the earthquake – primarily the result of damage to hospitals and other nursing facilities. Eighty-seven (77%) of the nursing facilities implemented disaster plans with most (65%) reporting some problems with the plans. The most frequently cited problem was staff absences due to loss of transportation, loss of childcare, damages at home and limited access to the facility. Seventy-two percent of all respondents (65% of damaged facilities, 74% of undamaged facilities) reported that no person or entity acted as a “central clearinghouse” for information about facility needs, bed availability and community resources. Most of the facilities reported that their medical directors were absent during the critical 24-hour triage period.

COMMENT: The information reported in this study should serve as a wake-up call to all communities addressing disaster preparedness healthcare issues. As the elderly...
population increases and hospitals prematurely discharge patients, nursing facilities provide essential care to our most vulnerable members. And, clearly, despite limited resources and adequate attention, they are quickly called upon to increase their capacity and provide assistance during a community crisis. The important role of nursing facilities must be incorporated into community disaster plans and the necessary resources, education, training and assistance must be provided to optimize disaster response.

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