

design optimizes sample size, applicability of findings, and timeliness of data reporting.

**Keywords:** Agency for Healthcare Research and Quality; developing nations; disaster health management; drill; evaluation

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### Emergency Information Management and the Onset of Disasters: An Exercise-Based Study

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**Introduction:** The primary objective of an emergency information system is to improve the capacity of decision-makers to take needed actions. Use of an effective information management system is a key, although difficult aspect of emergency management. *Emergency information management* is defined as the collection, consolidation, analysis, and dissemination of information. It must be planned, organized, and controlled to ensure that information is given to the right decision-maker at the right time.

**Objective:** The goal of this study was to analyze the importance of information management for increasing the efficiency of post-disaster activities.

**Methods:** A total of 22 tabletop exercises were performed in 22 hospitals in Iran from December 2006 to 2008. A team of experts was responsible for running and evaluating these exercises. Standard data sheets and checklists were used for evaluation.

**Results:** Defects included factors such as a lack of: (1) staff to operate the information system; (2) supervision and feedback; (3) lack of guidelines, laws, and/or standards; (4) coordination and partnership with key internal and external stakeholders; (5) communicative systems; (6) skill; and (7) availability of transportation.

**Discussion:** The hospital disaster plan was not performed completely and accurately. Although some activities were performed on the basis of the Hospital Incident Command System, but the system was not efficient and processes should be redefined.

**Keywords:** decision making; disaster health; disaster management; exercise; information management

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### Simulations, Critical Thinking, and Clinical Judgment: Lessons Learned

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**Introduction:** Simulations often are used to develop skills. However, through well-designed simulations in which the educator has planned beyond skills development, the students can develop good judgment. Methods to ensure that staff are ready for the tasks-at-hand and are able to make good decisions on the in the heat-of-the-moment, particularly where the health and lives of people are at stake must be developed.

**Methods:** This was a qualitative study investigating across traditional professional barriers and covered nursing, medicine, ambulance, and firefighters. Data were collected through interviews and observations.

**Results:** Simulations can help students to develop practical wisdom. However, this is determined by the educator and how the simulation was developed. Furthermore, students must engage in the development process and expend some emotional currency to learn and utilize reflection.

**Conclusions:** Simulation is a powerful learning and teaching instrument. It can be used to develop simple psychomotor skills. However, if the design of the simulation is planned and run appropriately, it can develop good decision-making skills.

**Keywords:** clinical judgment; critical thinking; education; emotional currency; phronesis; practical wisdom; training

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### Using Disaster Simulations to Identify Surge Capacity Strategies that May Reduce Emergency Department Overcrowding

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**Introduction:** An interprofessional team conducted >20 major mass-casualty exercises in Southern Ontario including building collapses, heat waves, blackouts, chemical tanker explosions, terrorism, and pandemics. The number of participants involved ranged from 250–700 and included healthcare professionals and students, administrators, first responders, telecommunications, media, and government.

**Objectives:** The objectives of this study were to identify surge capacity strategies that can reduce emergency department overcrowding.

**Methods:** A simulated hospital consisting of an emergency department, intensive care unit, family practice, family information center, pharmacy, and command center is run by actual hospital staff. A typical bed census is used to determine available beds, which was invariably none. The hospital must manage the situation by creating patient care capacity.

Staff members are allowed to create surge capacity strategies before and/or during the exercise. Expert evaluators (physicians, nurse and risk managers) observe. Immediately post-exercise, participants and experts were asked for their opinion as to what worked to reduce the impact.

**Results:** Four major strategies were identified as useful:

1. Treatment and release directives for paramedics and nurses;
2. Diversion of “walking wounded” to a community or family health centers;
3. Well person or minor illness centers (including flu and immunization clinics) staffed with students, supervised by nurses and on-line control provided by physicians; and
4. Sequential organ failure assessment score for determining who should receive critical care.

**Conclusions:** These surge strategies may reduce hospital overcrowding.

**Keywords:** disaster; drill; exercise; overcrowding; simulation; surge capacity

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