Maintaining the effective width of the evacuation pathways is of prime importance. Emphasis should be given to designing the emergency evacuation infrastructure and strategies during hospital building planning.

Keywords: disaster; emergency; evacuation; hospital; hospital evacuation
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Model of Independent Nursing Practice in Chemical Warfare

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Biochemical warfare is a threat in today's political arena. The potential and projected numbers of victims of such events have created a medical challenge that may be met by the expanded role of the nurse acting as an essential and independent caregiver.

Current legislation has empowered the Israeli nurse to perform those necessary acts during times of war.

The transformation of the nurse in peacetime involves active programs that anticipate emergencies. The Disaster Nurse Coordinator assesses and interprets military field evaluations and provides care efficiently at the hospital and community levels.

Keywords: caregiving; Disaster Nurse Coordinator; Israel; nursing; war
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Emerging Infectious Diseases: Department Design Makes a Difference

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The physical design and infrastructure of a hospital or institution is an essential component of its infection control measure. Thus, it must be a prerequisite to take these issues into consideration in the initial conception and planning stages of the building. The balance between designing a hospital to be an open, accessible, and public place and the reduction of the spread of infections diseases is a necessity. At Singapore General Hospital, many lessons were learned during the severe acute respiratory syndrome (SARS) outbreak pertaining to this issue. During and subsequent to the SARS outbreak, many changes at the hospital enabled staff to handle and face any emerging infectious situation with calm, confidence, and the knowledge that staff and patients would be in good stead.

Keywords: department design; hospitals; infections diseases; severe acute respiratory syndrome; Singapore
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Radiological Decontamination, Assessment, and Treatment Center

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One of the main outcomes of a Radiological Dispersal Device (RDD) terrorist event will be the probable exposure of the population in the vicinity of the radioactive materials. The central objective of a Radiological Decontamination, Assessment and Treatment Center (RDATC) is to divert a mass of uninvolved population (worried-well), as well as those who were mildly exposed to radiation, from flooding the hospitals. The extent of decontamination capabilities will be influenced by public instructions and recommendations concerning the need to perform a self-decontamination at home before reaching the RDATC. The assessment of a mass population for external contamination can be conducted manually by professional radiation inspectors, but this would take a lot of time. Radiation ports should be used, which are more suitable for detection of gamma radiation. Assessment of internal contamination and exposure are based on estimation of the proximity to the scene, the exposure time to radioactive materials, as well as clinical symptoms and in vitro bioassays (urine samples). Most of the population will need guidance and cognitive support, but some will need decorporation therapy with chelating agents and evacuation to hospitals. Because of its unique role in treating a mass population in such a distinctive event, the RDATC must open soon after the event. Early attempts to inform the public and worried well also should be made.

Keywords: cognitive support decontamination; radioactive materials; radiological dispersal device; worried well
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Challenges and Opportunities in the 2009 Pandemic Influenza Vaccination Program: The Global and Israeli View

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Introduction: Vaccines are a cornerstone in any pandemic influenza preparedness plan. Principles and challenges of the vaccination program are similar but its implementation should be tailored for each country, based on its unique culture, health system, and resources, as well as current epidemiological condition and experience with mass vaccination.

Methods: Challenges and opportunities for the Global and Israeli 2009 pandemic influenza vaccination program were systematically identified and analyzed based on Israel's and other countries' experience with pandemic preparedness and response, as well as mass vaccination program planning. Israel took an active role in the World Health Organization's Workshop on this subject, and common lessons from the workshop were adapted. The analysis considered all the relevant steps for successful vaccination, such as procurement, regulation, prioritization, management, communication, resources, deployment, vaccination, surveillance, and summary.

Results: Global and Israeli challenges and opportunities were identified and addressed. Major challenges were found to be common to all countries, such as uncertainty regarding the severity of disease, availability and timing of vaccine

arrival, and safety of the vaccines. Times of crisis also offer opportunities for a change for the better, and the analysis suggests opportunities, such as health promotion efforts exist.
Conclusions: Discovering the challenges is part of the solution, and the major challenge found was the lack of trust in the safety of the vaccine by both the public and medical community. The products of the analysis were implemented in the Israeli vaccination program planning. In order to implement the vaccination program successfully, health officials must invest heavily in an open communication with the medical community and public, based not only on global knowledge but also culturally tailored to the local community. Planners must think globally, but act locally; be prepared, but be flexible.
Keywords: Israel; influenza; pandemics; vaccines; vaccinations
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Surge for Sale

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Objective: The aims of this study were to describe the key components for surge capacity planning, and to appraise the estimated cost of preparing all hospitals in America to manage a sudden, conventional, mass-casualty incident.
Methods: Israeli protocols for hospital planning for mass-casualty incidents (MCIs) were reviewed and applied to the American setting.
Results: Surge capacity is estimated to be up to 20% above the total number of hospital beds. Between 10–20% of victims of a conventional MCI will be categorized as severe or critical. Assuming medical personnel will be available to manage a MCI, the main costs for surge capacity planning are ventilators, monitors, stretchers, wheelchairs, trauma and intensive care portable carts, and communications equipment. There are 5,750 hospitals in America with a total of 980,000 beds. The total surge capacity in the United States will be 196,000 patients, of which 39,200 are expected to be severe or critical. Assuming medical care initially will be provided only to critical patients, the cost of material resources is summarized in the table below.

	1 patient	39,200 patients
Ventilators	$10,000	$392,000.000
Monitors	$5,000	$196,000.000
Stretchers	$1,000	$39,200.000
Medications	$2,500	$98,000.000
Other supplies	$6,000	$235,200.000
Grand total		$960,400.000

Conclusions: When established protocols for hospital disaster planning are used, surge capacity for a sudden conventional MCI in the Unites States may cost <$1 billion.
Keywords: cost; equipment; mass-casualty incident; planning; surge capacity
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A Model of Personnel Mobilization during Mass-Casualty Incidents

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Introduction: During a mass-casualty incident (MCI), emergency department medical and nursing personnel must be reinforced by additional personnel in order to treat the casualties and escort them to the relevant unit. In order to treat and transfer the casualties more efficiently, a new plan for nurse mobilization was developed.
Objective: The goal of this study was to develop a model of critical care nurse mobilization at the hospital to support treatment while escorting casualties from the emergency department to the relevant unit.
Methods: During a MCI, nurses are called from their homes to reinforce the staff in the critical care units. In order to address the need for nurse reassignment to support the emergency department team, the nurses are asked to present themselves directly to the emergency department rather than their home unit.

Each nurse is requested to care for and escort casualties to their unit. Nurses will be assigned based on their skills and their position in the critical care unit.

The mobilization model was tested during MCI exercises. The following parameters were measured: (1) arrival time of nurses from their homes; (2) assignment of the nurses based on their skills to match the severity of the injuries; and (3) the redistribution of workload of nursing staff in the emergency department by:

1. Time/number of emergency department nurses per patient;
2. Number of emergency department nurses outside the emergency department at any given time; and
3. Coordination of patient flow.

In addition, the exercise tested how the various units functioned as a result of the nurse mobilization.
Conclusions: The implementation of the new model ensures a professional and skillful transfer of casualties and efficient reinforcement of the personnel in the various units.
Keywords: emergency department; hospital; mass-casualty incident; mobilization; nursing; transfer
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"We Gotta Get it Right": Planning for Catastrophic Events

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We live in dangerous times. Those who wish to do us harm will use every possible means to inflict damage to achieve their goals, potentially including the use of weapon systems capable of generating catastrophic levels of casualties. The next attack might occur anytime, anywhere. Irrefutably, any attack will challenge our response efforts. These concerns are added to ongoing, routine, and cyclic expectations that naturally occurring disasters such as pandemic disease outbreaks, catastrophic weather, and seismic activity will present and challenge our ability to provide prompt and effective response to an impacted community or region.