Results: The current system of ambulance service is progressing slowly. There are many unused ambulances, and those in use do not include the minimum equipment standards suggested by the American College of Emergency Physicians (ACEP). They also are not classified according to level of care provided, and are not registered with the Department of Traffic.
Conclusions: When a mass-casualty incident occurs, an ambulance must be sent to the scene, even though it does not have the minimum amount of required equipment. National politics to establish norms for their use and to improve the equipment of ambulances should be implemented according to international norms.
Keywords: ambulance; developing country; equipment; guidelines; supplies
Prehosp Disaster Med

Mass-Casualty Incidents under Low Temperature Conditions: Lessons Learned from the Chorzow Disaster

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On 28 January 2006, the roof of the exhibition building of the International Katowice Fair collapsed under masses of snow. It caused the structural collapse of the hall, entrapping approximately 700 people. Most of them suffered from a range of mechanical injuries, and all were exposed to the sudden temperature drop of the from +20°C inside the building to -19°C outside. During the night, the temperature dropped to an additional -22°C.

There was a total of 65 fatalities (including two deaths in the hospital); 173 people were admitted to the hospitals, and nearly 200 others were treated on-site by ambulance staff. The range of evacuation time of the entrapped victims was 15 minutes to 31 hours.

Medical data of patients indicated the following diagnoses: crush syndrome, multiple fractures, chest injuries, frostbite, and hypothermia. Two patients died in the hospital due to multiple injuries. The forensic examination showed that all on-site deaths were related to suffocation or severe trauma; none of them were related to isolated hypothermia.

The rescue effort was particularly difficult due to the ambient temperature. The use of therapy for hypothermia on the large scale (both on-site and in-hospital) were exercised. The operation also was a huge logistical and technical operation; it provided insight into the value of different urban search and rescue tools and procedures.
Keywords: Chorzow Disaster; mass-casualty incident (MCI); rescue; roof collapse; sub-freezing
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Risk Assessment for Healthcare Facilities: A Practical Tool

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Introduction: To be prepared to cope with emergencies, healthcare facilities must engage in a process with their community to determine specific risks and vulnerabilities. They also must prioritize planning activities to ensure that they are prepared for the highest risk events and those with the potential for greatest impact.
Methods: The emergency management, emergency medicine, and emergency response literature were reviewed to identify models that have been proposed for assessment of hazards, risk, and vulnerability in all settings. A model specific to healthcare settings was developed and pilot tested in an acute care hospital.
Results: No existing model was found that combined a quantifiable probability estimate and multiple components of impact for health care facilities into one formula. No published models had been tested for usability or outcome. Using the concept of:

risk = probability x impact

a probability rating for healthcare facilities was developed and impact was defined along three key domains: (1) human impact; (2) property impact; and (3) business impact. *Risk* was defined as the probability x sum of impact rating in these domains. The risk rating for each type of threat was referenced to a matrix and determined to have one of 16 possible categories, which were further divided into four levels of risk: (1) high; (2) moderate; (3) low; and (4) very low. The model was pilot tested and was felt to be practical.
Conclusions: The model is relevant and useful for facilities to identify and prioritize planning activities for emergencies.
Keywords: assessment tool; healthcare facility; risk assessment; tool
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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. A new plan of nurse mobilization was developed in order to treat and transfer the casualties more efficient.
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 desginated unit. Nurses are assigned based on their skills and their position in the critical 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 severity of the injuries and (3) the redistribution of workload of nursing staff in the emergency department, including the: