

SCIENTIFIC PAPERS/WADEM

POSTER PRESENTATIONS

Disaster Medicine Issues 2nd Annual Symposium
University of New Mexico and the World Association
for Disaster and Emergency Medicine

Albuquerque, N.M., 14–15 October 1994

13. Disaster Planning and Execution

Lucille Gans, MD, Phuli Lewis, MD, Eric Schmidt, MD
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Purpose: The Joint Commission on Accreditation of Healthcare Organizations requires that all hospitals routinely conduct disaster drills. Emergency physicians are likely to be involved with hospital disaster planning. This presentation described the various types of drills, how to best plan and execute a drill, and most importantly, how to evaluate such exercises.

Methods: There are several potential formats for disaster drills such as phone drills, table-top exercises, and field operation. Each of these activities offers a different experience as well as variable time, physical space, and personnel requirements. The use of medical students as moulaged victims provides both an educational medical school experience and a valuable source for feedback on the effectiveness of the drill.

Results: The key features of an annual, citywide disaster drill involving four hospitals was delineated.

Conclusions: Experience has shown that effective disaster response is dependent on comprehensive planning. This presentation discussed drill type, design, and content, and evaluation, addressed the lack of information currently available on how to develop a hospital disaster drill.

14. Observation of a Multiple Casualty/Hazardous Material Incident Drill Has Little Effect on Emergency Medicine Residents' Perceptions

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Hypothesis: Emergency medicine residency programs require education in emergency medical services (EMS) and disaster medicine. This study evaluated whether participation in a fire department multiple casualty/hazardous material incident (MCI/HAZMAT) drill would change residents' perceptions regarding the difficulties faced by EMS out-of-hospital caregivers.

Methods: An MCI/HAZMAT drill was planned as a coordinated effort between three fire departments, a HAZMAT team, and a sheriff's air-rescue helicopter. The incident consisted of an overturned school bus in a shallow canyon with a hazardous materials spill from a tanker truck on the road above. A 10-question Likert survey was prepared with input from EMS faculty and fire department EMS officers. The survey addressed public-safety and patient-care principles necessary for implementation and effective participation in an MCI or HAZMAT incident. Emergency medicine residents (n = 9)

completed the survey before and after drill participation, and were assigned individually to field officers for the drill.

Results: Survey results showed an increase from partially agree to fully agree in perceptions in some areas, but without overall marked change. On the whole, residents tended to agree fully with accommodation to the public-safety environment. However, they also agreed that estimated time of extrication must be identified to set treatment priorities. Areas of no change that residents did not answer uniformly included delegation of authority, triage principles, and direct triage of a HAZMAT patient to the emergency department. Two survey questions showed small changes on the post-drill survey: three residents changed to agreement with sedative use in a combative patient; two residents changed to disagreement of a stridorous patient being unattended in an unstable vehicle.

Conclusion: Observation alone of EMS officers during an MCI/HAZMAT drill did not markedly change many perceptions in this study. Though many of the residents agreed with the goals set by the EMS professionals, they did so to a varying degree. If MCI/HAZMAT management is to be included in an emergency medicine residency educational program, instruction by out-of-hospital EMS professionals must be included.

15. HAZMAT and the Disaster Team

Henry J. Siegelson, MD, FACEP
Emory University

Hypothesis: Disaster teams are subject to exposure to hazardous materials at disaster sites.

Methods: Local Emergency Planning Committee documents are reviewed for the city of Salt Lake City, Utah.

Results: A significant risk of exposure to hazardous materials exists in cities at risk for significant earthquake activity.

Conclusions: Teams should be prepared to wear personal protective equipment to avoid secondary contamination. Decontamination techniques and equipment should be included in team training.

16. EMS in the Reconstruction Phase of a Major Earthquake: Training Program and Systems Design

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Purpose: To evaluate the emergency medical services (EMS) and the disaster response activities and capabilities of the medical practitioners of Gyumri, Armenia, which was devastated by a major earthquake, in order to design a training program to improve the emergency and disaster health-care delivery system.

Hypothesis: Emergency health-care providers would be poorly trained in the principles of EMS and disaster response, but would be providing extensive emergency health-care services.

Methods: Structure interviews of health-care providers at all levels of the system from the Ministry of Health to the ambulance drivers delineating training, policies, and practical experiences in pre-, intra-, and post-earthquake period and a retrospective frequency analysis of 29,010 recorded ambulance runs by the Gyumrii EMS over a period of 11 months. Runs were designated as: 1) adult medical; 2) pediatric medical; 3) pediatric and adult trauma. The runs were classified as: 1) advanced life support (ALS); 2) basic life support (BLS); or 3) primary care. Disposition was recorded (treated on-site or transported and admitted to a hospital).

Results: Interviews indicated a lack of any structured training or written policies in EMS or disaster response. All personnel noted that expertise resulted only from practical experience. Runs analysis indicated that, of the 29,010 patients treated, 24,684 (85.1%) were adult medical, 3,867 (13.3%), were adult

or pediatric trauma, and 459 (1.6%) were pediatric medical. Only 12% of the patients were transported and admitted to a hospital. The remainder were treated and referred on the scene. Fully 29.5% of the adult medical patients were diagnosed as having a psychiatric disorder.

	ALS	BLS	Primary Care
Trauma	32%	65%	3%
Pediatric	6%	15%	79%
Adult	18%	52%	30%

Conclusions: During the reconstructive phase of a major earthquake, ill-planned relief programs overwhelm indigenous health-care systems with inappropriate interventions. This study examined the emergency and disaster response system in Gyumrii, Armenia in order to design an effective training program that stressed not only classical EMS principles, but primary care and psychiatric assessment and treatment.