

ABSTRACTS OF  
SCIENTIFIC PAPERS  
ORAL 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

**1. A Mass-Casualty Incident Involving Multiple Patients with Penetrating Trauma in a High-Rise Office Tower**

*S. Marshall Issacs, MD, Pippa Amick, EMT-P, Charles Saunders, MD, Paul Hansen, MD*

San Francisco Paramedic Division, San Francisco General Hospital, San Francisco, Calif., USA

**Purpose:** To describe the events that occurred on 1 July 1993 when a man entered a high-rise office tower in downtown San Francisco armed with semi-automatic handguns. Traveling through four floors of the 48-story building, the assailant shot 14 people before turning the gun on himself.

**Methods:** Debriefings and interviews were performed with pre-hospital care providers, managers, dispatchers, trauma and emergency department physicians and staff, and police and fire personnel.

**Results:** This multiple casualty incident (MCI) avoided the usual lack of central coordination that often impedes effective dispersal of victims to definitive care in a timely manner. However, communications problems secondary to radio reception voids as well as structural and logistical challenges related to the vertically oriented tactical situation were identified and reviewed.

**Conclusion:** This event and its management provided a real-life test of the city's prehospital MCI plan as well as a test of the city's sole trauma center's and emergency department readiness to handle a MCI. The implications for prehospital disaster planning and trauma/emergency services was presented.

**2. Analysis of Patient Satisfaction with One DMAT's Performance during Hurricane Andrew Relief Efforts**

*Kelly Burkholder-Allen, RN, MsEd, CEN, Paul Rega, MD, FACEP, Churton Budd, RN, EMT-P*

Toledo, Ohio, USA

**Background:** The Toledo Area DMAT (TADMAT), a National Disaster Medical System (NDMS) Level-I DMAT, was deployed to Dade County, Florida, to provide medical care following Hurricane Andrew. The team provided care at three sites and maintained a medical outreach program. This was the team's first deployment.

**Purpose:** Although patient satisfaction surveys are accepted evaluation instruments in most medical practices, they have not been utilized in disaster situations. The purpose of this study was to develop and evaluate a disaster patient satisfaction survey for victims of Hurricane Andrew treated by the Toledo Area DMAT.

**Methods:** A retrospective review of treatment records from two austere medical treatment sites was initiated. From these, 318 patients with complete demographic information were mailed a cover letter and satisfaction survey.

**Results:** Seventy-six surveys were returned as undeliverable. Forty-eight surveys were completed, returned and analyzed. Responding patients ages ranged from 4–87 years, with a mean of 44 years, 40% males and 60% females. Their diagnoses were reviewed for severity with 97% nonurgent and 3% urgent. Sixty-two percent of the responders were treated for traumatic injuries and 38% for medical illnesses. Eighty-four percent had established medical care prior to the disaster. Ninety-eight percent felt that they were treated courteously and received easily understood discharge instructions. All were convinced that the TADMAT had acted professionally, and had been satisfied with their overall care. All of the respondents would want the team or one similar to return again in the event of another disaster. Two specific questions were made: 1) more bilingual staff; and 2) stress management assistance.

**Conclusions:** Patient satisfaction surveys can be an important evaluation tool for any disaster agency providing medical care. They should be distributed at the point-of-care to improve response rate. They can serve as a morale booster when shared with the team, as well as functioning as a catalyst for systems modifications at all levels. The return rate was much higher than had been anticipated and suggested a cathartic benefit to the victims of the disaster. In spite of the team delivering health care in an informal and austere fashion, they still were perceived as professionals.

**3. Three Hurricanes in Comparison and Contrast**

*Robert Gougelet, MD*

University of New Mexico

**Purpose:** Comparison of medical aspects of Hurricanes Hugo, Andrew, and Iniki.

**Methods:** Retrospective review of medical records.

**Results:**

**Total Number of Patients and Most Prominent Diagnoses—**By far, Hurricane Andrew was the most devastating of the three hurricanes. The total number of patients seen in the health-care system was more than double those for both Hugo and Iniki. The three most frequently encountered diagnoses were miscellaneous medical, URI/OM/bronchitis, and lacerations accounted for 50.7%, 30.3%, and 20.2%, respectively. These were followed by tetanus immunizations and medication refills at 20.1% and 12.9%, respectively.