pre-plan for how hospitals would respond to calls for or offers of assistance during internal or external disasters. This task force was chaired by a university-based, emergency physician with expertise in disaster response.
Results: A mutual-aid memorandum-of-understanding was created and endorsed by the Chief Executive Officers from all member institutions in the District of Columbia Hospital Association. This agreement authorizes the exchange of medical personnel, supplies, pharmaceuticals, and equipment between these hospitals. It also addresses evacuation or admission of patients to or from any member facility in the event of a disaster. The mutual-aid plan is supplemented by an interrogatory format to enable hospital administrators to incorporate components of the agreement into their individual disaster response plans.
Conclusion: We report the first mutual-aid agreement among civilian hospitals within the U.S. A multi-disciplinary approach with strong emergency medicine input was utilized to facilitate the process to its successful conclusion. We urge all hospitals in urban areas to consider similar developing agreements to improve the delivery of emergency health-care during disasters.
Key Words: disaster planning, hospitals, mutual aid

Catastrophe Contingency Plan of the Hospital for Accident Surgery in Graz (UKH)

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The preparation and organization of a Civilian Hospital in case of mass causalities and catastrophe is complicated. Most Central European hospitals do not have a computerized system at their disposal.

The Catastrophe Alarm Plan of the Hospital for Accident Surgery in Graz was developed in order to achieve immediate alarming of the employees via telephone. Since November 1995, this system has been available in our hospital. To our knowledge, this is the first organized alarm system in Central Europe.

In case of a mass causality, any authorized person can trigger the alarm in a most simple way. After the identification of the person within the computer program, the appropriate alarm plan must be selected. Several alarm schedules are available in case of catastrophe:

1) Mass casualty, Grade I; 2) Mass casualty, Grade II; 3) Internal alarm; 4) Fire alarm; and 5) Special alarms. Afterwards, the requested persons are called via telephone and a computerized text can be heard on the phone. The employees are requested to dial a certain telephone number and to proceed immediately to the hospital. The input of that number confirms that the subscriber has understood the message. The head of the operation gives the instruction for releasing the alarm, and s/he is able to pursue the cause of the alarm on the screen of the computer.

Some 500 calls/minute can be carried out and eight recalls can be made simultaneously.

The costs of this system range between $100,000 and $120,000. The alarming and recall PC is a 486, 66 MHz with 16 MB of memory. The telephone server is a UNIX-PC with ISDN card using the Austrian Teleconnect System. During the last 18 months, four practice alarms were released and a mass causality Grade II was simulated.

Our preliminary experiences and results of these practice alarms will be focus of the presentation.

The Hospital for Accident Surgery is a Trauma Center with 200 beds and 9 ICU beds staffed by 33 Trauma Surgeons, 8 General Surgeons, and 13 Anesthetists who cover all the fields of Trauma and Pediatric Surgery.
Key Words: catastrophe contingency plan; computerized alarming system

The Role of University Hospitals in a Catastrophe

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Introduction: In 1995, 6,348 people were killed and close to 40,000 were injured by the Great Hanshin Earthquake in Japan. Because many affected people seek medical care in a catastrophe, dispatch of medical care teams becomes necessary it. The aim of this study was to analyze mobilization of medical personnel at medical facilities in the affected region by the earthquake and to discuss how to deal with the shortage of human resources.
Material and Methods: We surveyed the number of patients and medical doctors at hospitals in Kobe City during the first week after the Great Hanshin Earthquake.
Results: Sixty-seven hospitals replied to the survey. On the first day, 11,396 affected people visited the 67 hospitals. The number of patients gradually declined day by day. Only 68% of doctors on duty were available on the first day because of personal difficulties in access. The ratio of emergency patients to doctors ranged from 0 to 148 (mean = 25.8) on the first day. At a private hospital in the most devastated area, only seven doctors had to take care of 1,033 patients, that was the largest in the city on that day. On the other hand, 112 was the largest number of doctors who could take part in medical care at an emergency room. That was at Kobe University Hospital, where 363 patients were treated by doctors including additional 94 doctors such as clinical fellows and residents of other departments, research fellows, medical and graduate students who were called out to deal with the patients.
Conclusion: Imbalance between medical resources and patients was observed in the affected region. University hospitals should recognize their advantage of abundant medical doctors to be dispatched to their own emergency room or other hospitals from the phase 0 in a disaster.
Key Words: disaster; earthquake; latch; physician: patient ratios; staffing; university hospital