

Disaster Medicine and the Flinders Graduate Entry Medical Program

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In 1996, a one-week rural exposure for all students in their second year for the graduate entry medical course was created and implemented. The students were taken to a rural location in groups of 25 to 30 for a week at a time. This allowed three rural disaster exercises per year to be organized in conjunction with the state authorities and local disaster stakeholders. One of the components of this week focused on disaster medicine. There was a collaborative networking venture between the coordinator and the community stakeholders, and a scenario written. This either was a field exercise or a discussion exercise. The students were given roles as victims or assistants to the ambulance officers. The students were briefed about disaster medicine prior to the event.

The learning objectives were:

1. To gain insight from a victim's perspective;
2. To experience time perspectives, resource limitations, extrication, stabilization, communication, transportation, and subsequent management;
3. To learn about the collaboration between the agencies involved;
4. To gain an appreciation of the value of EMST skills and retrieval services; and
5. To be involved in a debriefing after the event and inquire as to why certain decisions were made during the event.

Positives that have stemmed from the project not only are medical educative, but also community, as the author also has evaluated the disasters and advocated for resources where deficiencies were exposed. This project also has become a yearly catalyst to involve multi agencies in a large-scale exercise along the lines of prevention, preparedness, response, and recovery.

Keywords: collaboration; disaster medicine; deficiencies; exercises; resources; stakeholders; students

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Medical Response to Biological Terrorist Incidents

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The threat of biological warfare is realistic. In World War I and World War II, biological weapons were researched, produced, and used. After the world wars, research into biological agents continued. Now many countries, including some developing countries, have the ability to research and produce biological agents.

The use of biological agents by terrorists has caused new problems. The methods used by terrorist organizations are not easy to discover, and may spread easily. In addition, terrorists may falsely claim that they have exposed people to biological agents, so the epidemic prevention worker must pay more attention to detection of such agents.

In a terrorist incident involving a biological agent, prevention of an epidemic is a high priority. Government

departments should pay more attention to disease prevention following biological attacks. In particular, the epidemic prevention department must have the ability to determine quickly the kind of biological agents used and to put forward prevention and treatment measures.

Keywords: agents; biological; effects; prevention; terror; terrorist; weapons
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Using Computer Simulation to Estimate the Need of Ambulances at a Disaster

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This study created and evaluated a computer model to simulate the transportation of patients to available hospitals following a disaster in an urban area.

A more accurate estimate of the number of ambulances needed at disasters could increase the efficiency of the disaster planning. Effective dispatching of ambulances will not only prevent vehicles from being withdrawn unnecessarily from their "normal" duties, but also help to ensure that disaster sites are not overcrowded with emergency workers, leading to the impeding of each other's effectiveness.

With a computer simulation model, "what-if" analyses were performed to predict the consequences of various scenarios, and the number of ambulances needed was estimated for accuracy as opposed to using a conventional stochastic formula.

This study created a model to simulate the transportation of patients to available hospitals following a disaster in an urban area. Applying the advanced dynamic simulation software combined with a geographic information system, the number of ambulances needed was estimated accurately and with flexibility.

Emergency medical service response personnel will find our computer simulation models a useful supplement to their disaster planning and critical response.

Keywords: disaster; computer modeling; patient transport
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Experiences of Threats and Violence in Swedish Ambulance Service

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Introduction: Ambulance personnel often meet people in a crisis situation that requires a readiness to act, and which takes for granted a broad knowledge in caring, together with an ability to size up the circumstances in each separate incident. The afflicted individual's first contact with a medic in an emergency situation very often is ambulance personnel. This first meeting can involve incidents that may radically change the existing state of things for the ill or injured and maybe even for near relatives. Sometimes these situations can lead to threats and acts of violence aimed at the ambulance staff. The aim of this study was to describe how ambulance personnel perceive, are subjected to, and are influenced by, threats and violence in their day-to-day work.

Methods: The empirical study was descriptive and consisted of a questionnaire with 13 questions. The questionnaire

contained structured questions of the multiple-choice type, but a certain number offered the possibility for additional comments; open-ended questions were also included.

Results: Answers from the 66 respondents indicated that 53 persons (80.3%) had been subjected to threats and/or violence. This was experienced by the majority as unpleasant to some extent or other. Moreover, the patient-paramedic relationship is affected as soon as the paramedic is exposed to threat or the use of violence.

Conclusion: Threats and violence are a reality in the provision of ambulance service, and measures must be taken so that the effects on caregivers as well as patients are allayed.

Keywords: ambulance providers; emergency medical care; paramedics; patients; threats; violence

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Utilization of Communication Technology to Improve Team Recall Efficiency

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Background: The Disaster Medical Assistance Team (DMAT) in Taiwan was organized through voluntary individual hospital participation starting in 2000. At present, there are two levels of DMATs (national vs. local) made up of 60 and 20 people, respectively, as basic operation modules. The National DMAT of the south consisted of six local DMATs. Efficient communication (vertical vs. horizontal) during the time of recall as well as team status update, warrants opportune response and deployment.

Methods: A voice message center was set up on a GSM mobile phone system in a preregistered call list. For a deployment order, the executive office only has to send one voice message by predetermined priorities such as individual mobile phone first, followed by work phones, and then home phone. A pilot test was carried out from 11 to 21 November 2002. Horizontal contacts among 13 team leaders (Group I), and 18 team members in one operation unit (Group II) were processed vertically.

Results: The average response times in Groups I and II were 5.2 and 4.9 minutes (min), respectively; the 90% fractile response time was 14.3 and 11.7 min. The percentage of calls received and confirmed by reply in Group I was 67.1%, and in Group II was 61.4%. To increase the overall coverage rate, a tiered call-out system was supplemented by written message via mobile and fax.

Conclusion: To improve communication management, it's important to modify message delivery. Message contents were categorized into emergency, urgent, and routine notification. Emergency recall will be made by voice message, urgent communication by written message, and routine by fax. In general, this modified recall system with the advancement of communication technology can serve as a DMAT quality indicator. Periodic auditing will strengthen the chain of command, and also prompt the recall process to provide a better disaster response.

Keywords: communication; medical assistance team (DMAT), disaster management; messages; quality; recall; response times; technology; voice message center

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Medical Assistance in International Media Center

during 2002 FIFA World Cup Soccer Games in South Korea

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Introduction: The International Media Center (IMC) was made up of an International Broadcast Center (IBC) and a Main Press Center (MPC) for the 2002 FIFA World Cup Soccer Games. It was established and maintained in Seoul, South Korea, and covered an area of 40,000 square meters, which served approximately 12,000 press personnel and related persons. A medical-aid station was established in the IMC and operated for 45 days during the World Cup competitions. This presentation provides a description of characteristics and medical data obtained in the IMC medical-aid station.

Methods: Data were abstracted from preformed, special medical records of IMC medical aid. Some of the variables collected and analyzed included: (1) Total numbers of patients; (2) whether a first visit or revisit; (3) simple drug requirements; (4) native or foreigner to South Korea; (5) chief complaint; (6) disease or injury; (7) proportions of treatments by class; and (8) courses after medical care. Data also were analyzed for serial change by week, patterns according to characteristics of games, and for days with or without games.

Results: 1,000 patients visited, with an average 22 patients per day; 68% of patients visited the station for the first time, and 59% were foreigners. There was no serial increase of numbers or the rate of patient visits except for revisiting patients. There were more males than females overall (except for patients in the second decade of age); and all of the patients over 60 years of age were male. Sore throat was the characteristic chief complaint of patients working in IBC. The rate of patients injured was 19.6%, and the maximal number of patients injured were males in their fifties. Of all patients, 89% were discharged, and 2.3% were transferred. Among treatments, excluding those requiring medication, 11% required dressings. 73.9% of patients received oral medication, and 10.0% required injections.

Conclusion: Medical assistance for media centers in large sports events have different characteristics compared with medical assistance required for sports events. Preparedness and planning should be different, and suited for the patterns of patients. It will be necessary to study more cases to characterize various patterns of patients in a media center.

Keywords: demography; football; mass gathering; media center; medical aid; patterns; planning; preparedness; soccer; sports event; World Cup
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Medical Emergency Center of Wuhan, China

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Wuhan is a center of industry, finance, business, science, culture, education, and health in the middle of China. It has 8.13 million people in an area of 8,467 sq km. It is called the River City because both the Yangtze and the Han rivers run through it. Wuhan is a vital point of land