

medical command vehicle, and linked via an internal network to laptops inside the FMP as well as other commanding vehicles (fire brigade, police,...). Using pull-down menus (WHO diagnosis, HAZMAT events, carriers list, conditioning list,...), requirements for keyboarding are minimal. A few mouse clicks generate a patient's file, position it in the FMP healthcare chain, and initialize automatic timing and data fields that then appear at each stage, as soon as required data of the previous entries are captured. Detailed reports can be printed anytime or transmitted by modem to the regulation centre.

The FMP program has been tested prospectively during the five last small scale (<50 casualties) disaster simulations. In each case, three new users received a 1-hour, field training on the computer before the drill started. All exercises were conducted with FMP specific requirements: short staff, multiplicity of tasks, priority to healthcare.

Results: Except for an incidental generator breakdown that led to use of a failure procedure, the FMP program has been able to deal with small-scale disaster just-in-time necessities, and to provide complete follow-up of any patient from admission to final destination, along with instantaneous reports.

Conclusions: Using an application of a commonly used software package, might be a valuable alternative for anyone with a low credit limit who intends to computerize an FMP.

Keywords: computer; development; disasters; forward medical post (FMP); program; simulations; software

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The Use of Incident Command System for Public Health Disasters

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The incident command system (ICS) has been adopted by many agencies in the uniformed services and business sectors in the United States of America (USA). This system has been adapted for use in the hospital sector and commonly is referred to as the Hospital Emergency Incident Command system (HEICS). Until now, public health has not adopted a uniform system for disaster management.

As the threat of terrorism continues to escalate, public health increasingly will be called upon to be a partner in disaster response. Utilization of a disaster response model that interfaces well with other responding agencies will serve to improve interagency communication and facilitate the overall disaster response. A public health model of ICS will assist in this endeavor.

This paper presents work (done at the Columbia University Mailman School of Public Health, Center for Public Health Preparedness) on adapting the ICS and HEICS emergency management systems to public health disaster planning and response. Utilizing the existing ICS and HEICS framework and nomenclature, a model for public health ICS (PHICS) will be presented.

Keywords: disaster; Hospital Emergency Incident Command System (HEICS); Incident Command System (ICS); public health; responses

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Frontline — Perspectives from a Disaster Medical Team Member

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Every disaster is different and affords us the opportunity to learn and hopefully, to improve performance. New South Wales (NSW) Health has deployed disaster medical teams to numerous disasters over the years, and the involvement of health in disasters is increasing. The scope of the disasters in which disaster medical teams are deployed also is increasing. Feedback from personnel involved in disasters always is important for refining future disaster responses.

This presentation outlines some disasters that the author has been involved with as a disaster medical team member. These include the Hawkesbury train smash in 1989, the Thredbo landslide in 1997, and the NSW 2001 Christmas Bushfires. They are used to discuss various aspects of response management, the role of disaster teams in various settings, and the implications for managers in the health system. The discussion then centres on the similarities and the differences between each disaster response, specifically from an 'on the ground perspective'.

The primary role of communication—both vertical and horizontal—is discussed highlighting some of the problems and lessons learnt. The issue of practicalities of mounting a disaster medical team at short notice and for a prolonged deployment also is discussed. Lastly, the psychological effects that a disaster response not only has on team members, but more importantly, on those health employees not directly involved is discussed.

Keywords: communication; disaster medical team; disasters; feedback; managers; response

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Medical Rescue after Earthquakes

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In China, earthquakes are a frequent occurrence, comprising about 30% of all earthquakes worldwide. Over the last century, there were more than 600 earthquakes in China; nearly 100 of those were a magnitude of 7.0 or above. With its large population and relatively poor quality of building construction, China experiences high death and disability rates due to earthquakes. We must pay more attention to such a serious situation; therefore, earthquake rescue should be an important medical undertaking.

This presentation covers earthquake classification and severity, preparedness of medical teams, data collection and reporting, rescue and treatment of injured survivors, physical and psychological trauma, and prevention of disease outbreaks following an earthquake.

Keywords: China, earthquake

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Medical Rescue for Victims of Earthquakes

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Lying between two great earthquake zones, China is a

country haunted by earthquakes. It is very difficult to avoid casualties once the earthquake has taken place, and prevention of earthquake still is in the research stage. Earthquake disaster events can be classified as original disaster, direct disaster, secondary disaster, and induced disaster.

1. Characteristics of earthquake casualties: Injuries in earthquakes are related to: (1) time; (2) season; (3) population density; (4) the structure of the buildings; and (5) the geological environment. Earthquake events have the following characteristics:

1.1 Result in massive numbers of casualties

1.2 Block of rescue

1.3 Produce massive secondary disasters

2. Rescue:

2.1 On-the-spot rescue — on-the-spot rescue should be carried out as soon as possible after the earthquake, though it is dangerous and extremely difficult. The principal task of on-the-spot rescue is to extricate trapped persons.

2.2 Medical treatment — disaster medical stations are formed to provide primary treatment and triage of victims for priority transport for further medical care. Medical stations also perform necessarily emergent treatment and surgeries for disaster victims. The medical station can be divided into several professional groups.

2.3 Hospitals — manage incoming disaster victims after triage at the medical station.

Keywords: China; disaster; disaster response; earthquake
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Maritime Radio-Medical Services: The Singapore General Hospital Experience

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Medical care for the sick and injured at sea involves unique logistical problems, including scarce resources, distance, isolation, communications, and weather. In 1980, the Department of Emergency Medicine at Singapore General Hospital took over the responsibility of radio-medical advice from the Port Health Authority. This paper analyzes 2,409 calls received over a period of 22 years (January 1980 to December 2001). It highlights the common consultations, modes of communications, treatment and management prescribed, and training requirements, as well as the challenges for the future.

Keywords: radio-medical advice; sea; Singapore
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Red Cross International Medical Relief for Earthquake Victims in Afghanistan (2002)

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On 05 May 2002, a basic healthcare Emergency Response Unit (ERU) was established at Naharin in the Baglan province of Afghanistan. Mission goals included:

1. Establish a temporary clinic
 - a. Follow-up and rehabilitation of patients who suffered earthquake-related injuries

- b. Treatment of new injuries caused by secondary event
- c. Treatment of patients with chronic diseases, i.e., respiratory infections
- d. Examination of female patients by midwives.

2. Reinforcement of the ARCS mobile teams with training

3. Surveillance for contagious diseases

4. Treatment of patients with the post-traumatic stress disorder (PTSD) patients

5. Disaster preparedness

Results: From 05 to 26 May, 1,357 patients were treated: 351 surgical, 875 internal medicine, and 131 gynecological and obstetric patients. Of the 351 surgical patients: (1) 187 (54%) were new patients; (2) 145 (42%) were earthquake-related; and (3) 19 (5%) were war-related. Surgical pathology included: (1) Fractures, 19 (6%); (2) Burns, 25 (7%); (3) Acute injuries, 122 (36%); (4) Infected wounds, 153 (45%); and (5) Others, 32 (9%). Surgical interventions included: (1) Incision and drainage of pus, 23 (45%); (2) Suturing, 13 (25%); (3) Atheroma extirpation, 8 (16%); (4) Cast and its removal, 6 (11%); and (5) Above-knee amputations, 1 (2%).

Summary: Conventional customs and mass destruction of the infrastructure forced the victims to live with poorer hygiene, which resulted in easy access to infection. Proper medication or simple operations under local anesthesia generally gave them a cure within one week.

Keywords: Afghanistan; anaesthesia; clinic; disaster; earthquake; healthcare emergency response team; infection; infrastructure; Japan; post-traumatic distress disorder (PTSD); preparedness; Red Cross

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Serious Disasters of Seacoast Provinces in China

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Statistics of the China Reduced Disaster Committee showed that the seacoast provinces of China from north to south consist of Heilongjiang, Liaoning, Hebei Shangong, Jiangsu, Zhejiang, Guangdong, Guangxi, and Heinan. The economic development of these seacoast provinces is of great importance to China. In recent years, National Financial Statistics showed that the output value of coastal provinces was about 1,581 hundred millions of dollars (55.9% of total national output value). But, calamities in this area also are very serious. Recent statistics show that the economic loss caused by calamities is about 18,800 dollars per square meter of coastal area. The main events that occur along this coast include:

1. **Earthquakes:** The geography of the coastal area is part of the seismic zone of the Pacific Rim. Statistics indicate that during last 40 years, there were 22 earthquakes. In 1976, the magnitude of the Tang Shan earthquake was 7.8 (Richter scale) and resulted in 242,000 persons killed and an economic loss of about 1,900 millions of dollars.

2. **Floods:** Rain storms have caused serious floods in low-lying parts of coastal area. According to the records of the Yangtze River from the Han Dynasty (206 BC–AD 2200) to recent time, floods occurred more than 2,000 times.