

## DISASTERS AND CONFLICTS

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### Summary

The frequency and gravity of disasters has been steadily increasing and their characteristics are becoming more complex, rendering prevention and response more difficult. In parallel with the end of the Cold War, the nature of conflicts is changing, wars becoming more ethnic and intranational rather than international, a phenomenon for which society is ill prepared.

The simplistic, though practical, division of major emergencies into natural and human-made no longer reflects the reality of most disasters, and more technical and study-based mechanisms are evolving for more effective response and prevention. Epidemiological investigations have revealed disease and damage patterns associated

with each kind of disaster, and knowledge of such profiles is strengthening the management of disasters.

Based also on such research, the immediate health needs in drugs and medical equipment are now better assessed. The example of the World Health Organization's Health Kit is given. Wars are disasters in themselves, both in the failure of people to understand each other, and in the destruction of life and material. Against this, the international community is becoming increasingly involved in peace preserving and peace building, and against a backdrop of human loss and health destruction the action of disaster medicine is becoming at once more efficient and more humanitarian.

## **1. Introduction**

Undisturbed, nature is a source of equanimity, health, and satisfaction; rational and free from conflict, humankind is the source of happiness and progress. But let nature be disturbed or people lose reason, and society exposes itself to the full blast of natural catastrophes, human-made disasters, and war.

The frequency and magnitude of such disasters is steadily increasing throughout the world, imposing a heavy strain on the essential services and living conditions of most countries. Drought, famine, war, refugees, epidemics, and technological accidents, whether happening singly or, worse, in conjunction, are events and dangers that threaten growing numbers of people. There is at present a "disaster belt" of earthquakes, cyclones, floods, or desertification, extending over most of the non-industrialized world and affecting some 100 developing countries, few of which have the technical knowledge, planning capacity, and financial resources to cope with nature's fury that can strike at any time. Add to these the growing number of industrial or technological catastrophes like Chernobyl or Bhopal, and the conflict situations created by people, and the world becomes an increasingly fragile spaceship. Hence the need for concentrated action by people, society, and the international community.

### **1.1. Disasters**

The notion of disaster or catastrophe is primarily sociocentric, anthropocentric, for a natural disaster that does not affect people, society, and the environment will remain a mere geological or meteorological event. Thus humankind and human welfare are the focus of concern. A disaster, then, is the result of a vast ecological breakdown in the relations between people and their environment, a serious and sudden event (though sometimes slow, as in drought) on such a scale that the stricken community needs extraordinary efforts to cope with it, often with outside help or international assistance. Clearly the welfare of society, the health of the people, the built environment, and the civic fabric are all seriously endangered, calling for multidisciplinary planning and multisectoral action in an interdependent manner. Here, however, only the health aspects of disasters, commonly called "health disasters," will be considered.

## **2. Disaster Medicine**

Knowledge of wars and other conflict disasters is much more advanced than our knowledge of the effects, especially health effects, of natural disasters. Military medicine, sanitary logistics, and the consequences of war have been observed and studied over several centuries, whereas disaster medicine has only recently attracted serious attention and is on the way to becoming an organized discipline with scientific rigor. A cursory look at this evolution is instructive.

### **2.1. A Brief History**

Perhaps the earliest organized aid was that of hunters and warriors, helping dress each other's wounds. The caves of primitive Lascaux and the exquisite pottery of classical Greece are but eloquent witnesses. Military medicine grew out of that, and in modern times, of course, Florence Nightingale put the stamp of feminine sensitivity on mass casualty care.

From frontline care we gradually proceed to transnational action, with the founding of the International Red Cross and the formulation of international humanitarian law, anchored in the Geneva Conventions. National Red Cross and later Red Crescent Societies were established, subsequently merging into a strong, worldwide federation. In all this international reorganization, the medical profession as such had little involvement, a pattern that has only recently begun to change. What has not changed, however, is the predominantly humanitarian core of disaster assistance, whether in natural and human-made disasters or poverty-based ill health, culminating in the International Association for Humanitarian Medicine.

World War II, like all wars and calamities, brought its horrors and some beneficial consequences. Towards the end of the conflict, the United Nations Relief and Rehabilitation Administration (UNRRA) became the first disaster management enterprise on a global scale. The birth of the United Nations (U.N.) and the World Health Organization (WHO) were the other momentous events in the aftermath of war, and their constitutions have a capital bearing on disaster management.

First of all, WHO redefined health as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity." The victims of disasters are thus, even in the absence of injury, lacking in well-being and deserve care. More specifically, Article 2 of the WHO Constitution states that the organization "shall furnish appropriate technical assistance and, in emergencies, necessary aid." The U.N. Charter has similar instruments concerning people's rights to protection. It is through the moral and intellectual impetus of these global organizations that disaster studies and disaster response are gaining institutional expertise. Disaster medicine, as distinct from trauma management and clinical emergency medicine, is now enjoying an increasingly important place in overall health care delivery and development planning. The scene is now set for the new science.

### **2.2. The Scientific Base of Disaster Medicine**

Disaster medicine is more than age-old bandaging of wounds or providing urgent relief. It has evolved into a complex managerial system that, to be effective and efficient, must

comprise all the phases and facets of the disaster cycle, including preparedness, prevention, immediate response, relief, reconstruction, rehabilitation, and development, with built-in quality control mechanisms. In this sense, disaster medicine is defined by Gunn as:

The study and collaborative application of various health disciplines, e.g. pediatrics, epidemiology, communicable diseases, nutrition, public health, emergency medicine, community care, international health, humanitarian law, to the prevention, immediate response and rehabilitation of the health problems arising from disaster, in cooperation with other disciplines involved in comprehensive disaster management.

Disasters are always sad and destabilizing crises, and disaster response has not always been successful. More has been undertaken on goodwill than good knowledge. To be successful, the knowledge mechanisms and action have to be based on more solid scientific and tested precepts. There are positive developments in this regard, and undeniable progress now in process is the increasing amount of technology involved in disaster management. However humanitarian disaster medicine may be—and it is essentially humanitarian—it must strengthen its scientific base and develop strong technical underpinnings. This applies as much to disaster medicine in the specific sense as to disaster management in the wider, multidisciplinary sense. Research and field surveys during the 1980s and 1990s shed new light on the effects of disasters and led to better ways of providing the appropriate response proactively as well as after the impact. From these studies and field experiences, 10 principles can be enunciated for the scientific basis of disaster management:

- (i) Preparedness is possible and essential. The greater the preparedness for foreseeable events or probable hazards, the more effective relief operations will be.
- (ii) Prevention of many natural disasters is possible, while prevention of all human-made disasters should be possible.
- (iii) No two disasters are alike, but the problems that certain categories of disaster are likely to create are quite foreseeable. Disasters have profiles.
- (iv) Based on such profiles, the disease pattern of and response to each kind of disaster can be foreseen and formulated epidemiologically.
- (v) Planning and preparation on sectoral, national, and international bases are possible and essential for effective multidisciplinary response.
- (vi) Mobilization of multisectoral human and material resources (in the case of health action: nurses, doctors, nutritionists, social health workers, paramedics, pharmaceuticals, medical transport, health centers, etc.) must be so organized as to be able to respond immediately when disaster strikes.
- (vii) Risk assessment, evaluation of hazards, estimation of the effects of one's intervention, and a study of the post-disaster situation are essential.
- (viii) The post-emergency phase offers a rare opportunity for taking steps, and if necessary corrective action, to mitigate the effects of a subsequent disaster. Each disaster is a lesson.
- (ix) The reconstruction phase begins at once, and it is part of development.
- (x) Disaster management takes into full account the stricken community, its contribution, capacities, customs, and institutions involved.

The more one provides a scientific base, the more one becomes convinced that for truly effective disaster management the key is preparedness and prevention, rather than *post hoc*, firefighting type emergency response (Principle No. (i) above).

For this kind of scientific approach and technical reinforcement, special studies, surveys, bench and applied research, social and natural science investigations, and managerial techniques are being applied. One particular endeavor that has proved most promising in health disasters is epidemiology.

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### **Biographical Sketch**

**S. William A. Gunn, M.D., M.S., D.Sc. (Hon), FRCSC**, is a Canadian surgeon and senior international health official involved in disaster management and humanitarian medicine. He was Head of the Emergency Relief Operations of the World Health Organization (WHO), leading many missions and field operations in countries stricken by catastrophes, complex disasters, and wars. He compiled the first WHO emergency medical and equipment kit, contributed to the WHO study on the *Effects of Nuclear War on Health and Health Services*, co-produced the Greater London War Risk report *London Under Attack*, and authored the now classic *Dictionary of Disaster Medicine and International Relief*, translated into several languages. Other writings include *The Management of Mass Burn Casualties*, *Refugee Community Health Care*, *Health Technology Standards*, and over 150 scientific papers. He is editor of the *Journal of Humanitarian Medicine*, *Annals of Burns and Fire Disasters*, and on the boards of *World Journal of Surgery*, *Prehospital and Disaster Medicine*, and *Disaster Prevention and Management*.

A precursor in spearheading humanitarian medicine and establishing disaster medicine as a discipline, William Gunn was awarded the honorary doctorate of Palermo University. He founded and has been Director of Education at the European Centre for Disaster Medicine, President of the Medical Society of WHO, President of the Mediterranean Council for Burns and Fire Disasters, and President Emeritus of the World Association for Disaster and Emergency Medicine. A Fellow of the Royal College of Surgeons of Canada, the Royal Anthropological Institute, he is Secretary General of the International Federation of Surgical Colleges, and has been continuously active in favor of developing populations. Academic affiliations include the Universities of British Columbia, Bradford, Palermo, and the Chinese Academy of Medical Sciences.