Medical Preparedness for Disasters

In the December issue of this journal, Dr. Orient (1) reviewed the planning in several countries for medical responses to disasters. In this thought-provoking article, the author illustrates an increased risk of incidents with mass casualties by referring to the recent Bhopal accident. She points out that there has been little progress in our capacity to respond to medical disasters for many years. She identifies disaster preparedness as a component of civil defense programs. Her article then reviews the medical elements of the civil defense programs of Switzerland and the U.S.S.R., describing in some detail how they were principally designed for war scenarios. The paper deplores the current state of American civil defense programs and appeals for an improvement in American efforts to prepare for disasters.

There is no question that today's population densities have increased the risk of massive casualties accompanying accidents. An earthquake in Mexico City has occurred since Dr. Orient's paper was submitted for publication, and as I write this editorial today's headline reads "Colombian Volcano Erupts, Killing Thousands" (2). The United States is not exempt from this risk. Some heavily populated regions are subject to substantial risk of earthquake, storm, or tidal wave. Industrialized areas of the United States are at risk of technologic accident, which varies according to their facilities, industrial feedstocks, and ultimate products. However, we are a safety-conscious society. Stringent building standards, good engineering, hazard management, and progress in emergency technology (notably in fire service) have spared us
from great numbers of casualties in recent emergencies such as the San Fernando earthquake and the Three Mile Island incident.

Medical progress has had little to do with this. Whereas routine emergency medical services have improved dramatically, there is no question that today's medical response to a disaster would be little improved from that of a generation ago. The hastily assembled medical response for the Mexico City earthquake seems remarkably similar to that for the Texas City explosion of the 1940s (3). Emergency medical care systems in metropolitan areas can now handle multiple-casualty incidents involving dozens of victims but are seldom prepared for larger numbers. Some day, in some American city, there will be a disaster that will produce thousands of casualties, and we will have to care for them. If that disaster strikes today, our medical response will also be hastily assembled and may not perform well. This country needs a means of organized medical response to care for the victims of catastrophe accidents.

To meet this need, the federal government has recently established a National Disaster Medical System (4). This system represents a partnership between federal, state, and local governments and the private sector and is designed to deliver health care to the victims of any catastrophic mass casualty incident. The system will comprise medical teams to respond to a disaster area, a medical evacuation system, and a network of previously committed hospital beds in major metropolitan areas of the country. It is essentially a nationwide mutual aid network. Most of the system should be developed within a 3-year period, after which our nation should be capable of an organized medical response to a catastrophe involving 100,000 major injuries, such as the often-predicted great California earthquake.

Whether such a system could serve as a credible civil defense medical system for a nuclear war is another matter. The Swiss and Russian civil defense medical programs cited by Dr. Orient depend on extensive shelter systems that promise to protect substantial numbers of people from blast, radiation effects, and biologic and chemical agents. Shelters themselves are of debatable usefulness in an era of 5- to 30-minute warning. As the article points out, the United States currently does not have a practical shelter system for civil defense. Without a practical shelter system, an American civil defense medical system would be of little use.

The authors of the National Disaster Medical System state categorically that "the system is in no way designed or capable of caring for victims of nuclear warfare." Proper treatment for 32 million or so casualties surviving a massive nuclear exchange (5) is simply inconceivable. Austere treatment just for the 630,000 casualties that might survive a single-city attack (6) is hardly more feasible. The National Disaster Medical System therefore offers scant comfort for those who desire a credible medical response to nuclear war.

Natural disasters and accidents are a different problem entirely. Medicine can respond effectively to them, if we are prepared. Although one can debate the usefulness of proposals for an improved medical system for civil defense, one cannot disagree with arguments for better disaster preparedness. The risk of disasters is ever present, and the risk of events with massive casualties rises with the growing populations of our urbanized areas. If a disaster occurs here, we will have to treat the injured. An effective means of doing that can be created and can contribute to saving lives and preventing disability. One hopes that through the smoke of the debate over nuclear war, the medical community will recognize this need and prepare itself for this eventuality. (LOUIS EMMET MAHONEY, M.D., Dr.Ph.; National Disaster Medical System, U.S. Public Health Service; Rockville, Maryland)

References