Academia and the Profession

Students’ Response to Disaster: A Lesson for Health Care Professional Schools

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The response of medical students, young physicians, and other health professionals to the February 2010 earthquake and tsunami in Chile provides important lessons about health care delivery during disasters and about the development of professionalism. Tertiary and secondary care of victims of these disasters was possible because local and national resources were available and field hospitals provided by Chile’s armed forces and foreign countries replaced damaged hospitals. However, primary care of persons living on the outskirts of towns and in small villages and coves that were destroyed and isolated by the disaster required the involvement of volunteer groups that were largely composed of students and other young members of the health professions, all of whom were motivated by solidarity, compassion, and social commitment.

On 27 February 2010, an earthquake that reached a magnitude of 8.8 on the Richter scale and lasted more than 3 minutes struck Chile from Valparaíso (latitude 32 °S) to south of Valdivia (latitude 40 °S). This event was the fifth-strongest earthquake to occur since the Richter scale was developed, and it unleashed a tsunami that razed several coastal zones and reached a cove in Juan Fernández Island approximately 644 km from the coast. For over 5 months after the initial earthquake, more than 1000 aftershocks, some of which reached a magnitude of 6.0 on the Richter scale, occurred. More than one half of the Chilean population resided in the affected area. The intensity of the disaster and the amount and nature of damage inflicted on the population—and on the nation’s resources and capability to respond—all factored into the need for international help (1–6).

The earthquake damaged 130 hospitals, and 8 hospitals needed to be rebuilt. Patients had to be immediately evacuated to improvised facilities. Of the 26 372 total hospital beds in Chile’s public health care system, nearly 5000 were lost. More than 100 primary care clinics had to be partially closed or relocated. However, a few hours after the earthquake, most health professionals were at their working posts in their usual institutions, ready to attend to acute surgical, medical, and obstetric needs even though many of their own homes and families had experienced damages and disruptions.

A few days after the earthquake, more complex care was gradually organized in the remaining hospitals and in field hospitals that the Chilean armed forces and foreign countries provided. Numerous volunteer health professionals and personnel qualified in trauma and major surgery joined local resources, but the need for primary care increased for the many persons deprived of appropriate housing and living in dangerously unsanitary conditions due to the lack of drinking water, electricity, and safe food.

In response to the increasing need for primary care services, within 1 week after the earthquake, the Chilean Ministry of Health and the Chilean Medical Association called for volunteers to reinforce primary health care in the most affected localities (6). The response was immediate, and groups of volunteers were quickly trained and received basic equipment and means of transportation. These groups included medical students and young physicians, some of whom had graduated from public and private medical schools in Chile only a few months earlier. Some volunteers responded to the official call for help, and others answered requests from student or local organizations. These volunteers contacted the local health care and administrative authorities, who assigned them to rural or semiurban locations and provided them with shelter, food, and transportation.

The needs that these volunteers fulfilled included treating patients with acute respiratory and gastrointestinal infections and resuming long-term therapy for patients who had lost their medications and prescriptions. However, psychological distress dominated their fieldwork, as frequent aftershocks led to fear, anxiety, depressive symptoms, despair, and panic. To help manage their own emotional distress, volunteers reunited every evening to share a meal, review their activities, summarize assets and weaknesses, and plan a work strategy for the next day. Group leaders attended meetings with local health officials and

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other authorities to plan for future needs. Volunteers from other health-related careers joined the physicians and medical students’ groups, and multiprofessional teams were organized (Figure) (6).

Three weeks after the earthquake, 2 new situations emerged: The local health care teams that had been incessantly working started to show burnout symptoms, and adult earthquake survivors increasingly demonstrated symptoms of posttraumatic stress disorder. Both situations are common experiences after disasters (7). Streets were cleared, roads were reopened, emergency bridges were built, electricity and communications were restored, the drinking water supply was normalized in most urban communities, and a campaign for vaccinations against hepatitis A virus and influenza viruses was implemented. However, major questions from the affected population remained, such as, “When will we be able to move from emergency tents or shelters?”; “Where will I work, since the factory or business where I worked is now closed?”; and “How can I get a new boat and engine to restart fishing?” Although these questions had physical and psychological ramifications, the health care teams could not provide the answers.

Many volunteers began returning to their own homes and usual activities after 2 weeks of fieldwork. However, I suspect that they will never forget this experience or the gratitude of the people whom they had voluntarily helped. One volunteer quoted a touching farewell from an old rural worker who waved goodbye to them and said, “Thank you, and may God bless you all!” (6).

The health care response to the Chilean earthquake yielded many successes but also provided an opportunity to think about how the health profession can ready itself to better serve society when future disasters occur. I present my own reflections as a physician who has lived through 5 major earthquakes. In addition, as a medical intern in 1960, I joined a group of volunteers sent by the Ministry of Health and the University of Chile to Valdivia, a city badly damaged by an earthquake with a magnitude of 9.5 on the Richter scale (5).

First, medical students should understand that they have chosen a career with a strong social responsibility and that they have a pact with society to provide assistance in addition to their role in health promotion and care for individual patients. Medical educators also must have this sense of social responsibility and instill it in their students. The social role of physicians should be explicit in medical schools’ missions and evident in the profile of their graduates (8). Graduates of schools whose missions focus solely on efficiency in practice, that reward specialization, and that favor investment in research could not be expected to provide the collective, fast volunteer response that occurred during Chile’s recent natural disaster.

Second, students in health care careers should be trained to work in “teams” rather than alone or merely in “groups.” Teamwork involves the ability to collaborate with individuals who have different but complementary capabilities and professional backgrounds in order to obtain the best results. For medical schools, professional values, such as attitudes, behavior and ethics, communication skills, and the ability to become part of a health team “to promote, maintain, and improve the health of a given population” (9), are among the “global minimum essential requirements” (9) in competence-
oriented medical education. The ability to work in teams is essential in a disaster but also supremely helpful in the course of normal medical work.

Third, curricula in health professions should include training in disaster medicine, including basic skills in emergency primary care as well as in resuscitation, common emergencies, and self-care. All medical professionals should have a basic understanding of posttraumatic stress disorder (7). Medical schools should expect graduates to fulfill a social mission and should provide them with basic skills to do so in the setting of a disaster.

Finally, medical and other professional schools should be prepared to work with health authorities to organize groups of volunteers, ideally in multiprofessional teams. A centralized organization and control and support of teamwork depend on the country’s health care system, but the involvement of local municipalities and other institutions is crucial to prioritize health care needs and to make the best immediate decisions with the available resources.

Caring for a community after a major disaster is greatly facilitated when physicians and other health care workers have a strong sense of social responsibility. To assure that such a work force exists, medical and other health professional schools must nurture in their students a spirit of solidarity, enthusiasm, compassion, and societal commitment (5, 6, 8, 10). In addition, they should ensure that all graduates possess basic primary care or other skills that will enable them to be helpful when society needs them most acutely.

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