

HURRICANE KATRINA

Evacuated Populations — Lessons from Foreign Refugee Crises

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The terms “malfeasance” and “negligence” have been bandied about by many who are frustrated by the official response to Hurricane Katrina. Beginning with the evacuation orders before the hurricane’s landfall, some public officials appeared to be trying hard to take the right steps. It appeared to us, however, that without any experience with crises of similar severity, and lacking guidelines and preparation for dealing with large displaced populations, such officials did not know what those right steps might be. For them, the experience must have been the uncomfortable public-policy equivalent of suddenly having to care for a critically ill patient with a new and unknown disease.

Refugee crises after natural disasters or during armed conflict are characterized by large numbers of people leaving their homes in a short period, often with little notice or time for planning. In these “sudden-onset emergencies,” relatives are sometimes left behind, and property is often abandoned. The people who are forced to leave are not infrequently the poorest or most marginalized members of a society. For economic and environmental reasons, the health status of refugees is often compromised even before their flight.

The international relief community has learned a number of important lessons over the past 30 years about coping with the movement of large populations. We have recognized the impor-

tance of providing several basic resources: adequate quantities of clean water and culturally appropriate and appetizing foods for persons of all age groups; sufficient basic sanitation facilities; adequate space in shelters of prescribed standards; basic health services directed at priority needs; and essential nonfood items such as clothing, bedding, and articles for maintaining personal hygiene. In addition, the collection of basic epidemiologic data, such as the size, age distribution, and health status of the population, can help decision makers. And the importance of individual and family registration systems and of communication between authorities and refugees has become abundantly clear.

Several years ago, more than 100 humanitarian organizations came together to discuss and create qualitative and quantitative guidelines for meeting the essential needs of a large population in the emergency phase of disaster relief.¹ The U.S. Office of Foreign Disaster Assistance (OFDA), part of the U.S. Agency for International Development, has created a field manual that addresses the operational aspects.² Responders to Katrina would have been well served by a familiarity with these two documents.

The first crucial lesson documented in the literature on refugee situations³ is that sufficient priority must be given to critical public health issues. Clinical medical skills are one important

component of the response to refugee flows. Some people will need acute care for injuries and for diseases such as diabetes, cardiovascular conditions, emphysema, epilepsy, and sickle cell crisis; babies will continue to be born, some of them prematurely. Some evacuees and their families may require mental health support after the immediate crisis. But after the first 24 to 48 hours, basic public health interventions such as the provision of sufficient quantities of food, safe water, sanitation, and adequate shelter are likely to be at least as effective as clinical interventions in saving lives.

Second, information about the refugees should be collected and put to use rapidly. Initial and ongoing rapid-assessment surveys and illness surveillance can clarify the health and nutritional status of the population — and hence the urgency of the situation. Initial surveys should address issues such as the status of family members (e.g., present, dead, or missing); recent and current access to food and water; current illnesses; and chronic illnesses, especially those requiring ongoing treatment. Additional surveys could also address water supplies and access to feeding programs and social services, among other matters of concern. OFDA has developed the concept of the Disaster Assessment and Response Team as a way of quickly mobilizing a group of experts with the range of skills needed to assess a crisis setting rapidly

and begin immediate response activities.

Third, great care should be taken in creating congregations of displaced persons. The problems of providing adequate survival necessities such as water, food, and sanitation in large, crowded settings are well known. In addition, the potential for both disease spread and interpersonal violence should be of concern. These concerns need to be balanced against the need to provide services efficiently to large populations, a process that is simpler logistically when they are in one place. Although it is not surprising that large gathering places such as the Superdome and the New Orleans Convention Center were designated as initial staging points for purposes of registration, first aid, and notification and tracing of missing relatives and friends, experience has shown that such venues are not suitable for any but the briefest occupancy.

Fourth, it is important to comprehend the magnitude and urgency of water and food requirements. The OFDA manual calculates water needs on the basis of a minimal requirement of 15 to 20 liters per day, although needs may be greater in hot weather. For 20,000 people — the number said to have been housed in the New Orleans Convention Center — a 15-liter requirement translates into 300,000 liters, or about 79,000 gallons, of water per day. Analogous weight-to-calorie calculations can be performed for food, also with the use of OFDA standards. Failing to pre-position large amounts of water, food, and nonfood commodities in the large venues designated as staging areas in-

creases the likelihood that a human-made disaster will follow the natural one.

Fifth, displaced populations must be kept informed. Providing information while instilling a sense of order, fragile as it might be, has an important calming effect on groups of frightened people. Uncertainty breeds



fear, and fear breeds panic. The use of bullhorns, helicopters with loudspeakers, small aircraft with trailing banners, or even large-scale drops of small, hand-cranked radios could put authorities in direct contact with affected persons before frustration and anger result in violence. Of course, honest and informative leadership will also help.

Sixth, responders should be particularly aware of the most vulnerable populations, whose vulnerabilities are amplified by the stresses and resource shortages that accompany crises. In fact, the very ability to become an evacuee is a clear advantage. The physically and socially weakest are most at risk and require special attention — including active search-and-rescue outreach in places, such as hospitals and nursing homes, where vulnera-

ble people are likely to be and which they may have difficulty leaving. Such locations should be identified during pre-crisis planning. During evacuations, people should be moved by any means available, however sub-optimal they may seem.

It is also important to understand that corpses and nonindigenous diseases do not cause epidemics after disasters. Unless death was caused directly by one of a small number of infectious diseases (e.g., smallpox, typhus, or plague), corpses do not present a risk of contagion. Rumors to the contrary can be problematic, if they lead to mass burials that inhibit the identification of bodies and interfere with culturally appropriate burial ceremonies. Similarly, diseases such as cholera and typhoid are unlikely to be among the major health threats after a hurricane unless they were already present in the environment.

The sudden displacement of a large population creates a public health emergency. Because the United States is less subject to political instability and resource limitations than most developing countries, we should be able to manage population displacements reasonably well. The insufficient response to Hurricane Katrina seems to have been due largely to a lack of appropriate planning. Although many critics have cited incompetence and indifference to the plight of the poor as major factors, we believe that ignorance of the lessons learned from managing similar crises in other countries also played an important role. Surely, planning efforts for the management of future crises in the United States should begin to

Lethal Levels

On Tuesday, August 31, in the wake of Hurricane Katrina, Sylvester Donaldson (not his real name) landed at the emergency room of the Ochsner Clinic Foundation in New Orleans, desperately ill, having missed more than a week of dialysis treatments. He arrived by pirogue, a shallow-draft Cajun boat that has been used for hundreds of years by Louisiana trappers and fishermen to negotiate narrow marsh inlets and bayous.

After Katrina, the flood waters came to within a block of Ochsner. Boats were now traveling a route usually traversed by car or ambulance. Donaldson's journey began in the lower Ninth Ward district on the east side of New Orleans. A rhythm-and-blues singer with a local group, he had returned from California only days earlier to take part in a recording session. He had weathered the storm at his mother's New Orleans home, but when the two-story house became totally submerged by the rising waters, he paid the pirogue's owner \$40 to help him escape.

Donaldson paddled approximately five miles from down-

town New Orleans, westbound along Claiborne Avenue, until the pirogue ran aground. On his way, he witnessed the drowning of a friend who was trapped with his German shepherd in a nearby home and the brutal hijacking of a boat containing two elderly neighbors. Climbing out of the boat, he walked another few hundred yards, severely weakened by an accumulation of fluid in his lungs — the consequence of his missed dialysis treatments.

But he had made it to dry land. Although tentative preparations had been made to evacuate upward from the lower floors at Ochsner, and dialysis equipment had been moved from the first floor to the sixth-floor ICU, the flood had stopped just short of the institution, and the exterior damage consisted of only a few leaks and broken windows.

In the emergency room, it was quickly established that Donaldson's serum potassium had reached potentially lethal levels, and he was admitted to the ICU. Although power had been lost within moments after the storm, Ochsner had three backup generators that

were situated high enough to avoid flooding. So Donaldson was able to receive a dialysis treatment.

During the next few days, about two thirds of Ochsner's patients were discharged or transferred by helicopter and fixed-wing aircraft to hospitals in Baton Rouge, Houston, and Memphis. Critically ill patients who could not travel, including a dozen who required dialysis, remained at Ochsner. After three days of dialysis therapy and antibiotic treatment for the pneumonia he had contracted, Donaldson was ready to be discharged, and he returned to California.

About 10 days after Katrina, some reports suggested that 50 percent or more of the patients who had been receiving dialysis in the New Orleans area had not yet been located. A tracking program to find the rest of these patients has been launched by the Centers for Medicare and Medicaid Services.

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incorporate the accumulated experience from international refugee relief efforts.

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