In recent years, several large-scale disasters have resulted in less-than-ideal emergency responses. In some cases, resources ran out and patient safety was compromised. To ensure an effective response to an emergency, organizations must consider what items will be needed to adequately care for patients.

In the event that an organization’s community is affected by a disaster and cannot provide resources to the health care organization, plans must recognize the risk that some assets might not be available. One of the key things that The Joint Commission learned in studying the response of organizations to emergencies is that communities, including the health care organizations within those communities, cannot rely on the federal government in the aftermath of a disaster. Organizations should assume that they will not receive federal support and plan accordingly. If a large-scale event occurs, the federal government could be too stressed to provide the type and duration of support needed by an individual community.

This chapter focuses on managing resources and assets—the second critical area of emergency response—and the importance of understanding the scope and availability of an organization’s materials, supplies, services, and so forth. Sidebar 5-1 (page 72) details the Joint Commission’s expectations related to managing resources and assets.

**Assets and Resources During Emergencies**

Organizations are required to develop strategies for managing resources and assets during emergencies, a concept that has been long been an integral component of emergency management standards. This standard recognizes the fact that organizations that continue to operate during emergencies must sustain essential resources, materials, and facilities in order to provide safe, effective care. The emergency operations plan (EOP) should identify how resources and assets will be solicited and acquired from a range of possible sources, such as vendors, neighboring health care providers, other community organizations, state affiliates, or a regional parent company. Emergencies that affect a broad geographic region or continue for an extended period, such as the circumstances seen during Hurricane Katrina, require planning. To address these possibilities, an organization’s plan must proactively identify, locate, acquire, distribute, and account for critical resources and supplies. The plan should recognize that everything will not occur exactly as foreseen.

For example, multiple organizations might be vying for a limited supply from the same vendor. Or, vendors also might be affected by the emergency and have difficulty fulfilling their commitments. Because some assets might not be available from planned sources, contingency plans are crucial for critical supplies.

The infrastructure for supplying and supporting a health care organization is complex, but the hazard vulnerability analysis (HVA) will help identify risks to this infrastructure that can be mitigated. Planning must address managing and maintaining the facility, but also must consider evacuation of the entire facility when the environment is no longer deemed safe.

**Obtaining and Replenishing Supplies**

The issue of supplies is challenging in that organizations must plan for obtaining medical, pharmaceutical, and non-medical supplies that will be needed to respond to an emergency, as well plan for replenishing those supplies. To address these issues, organizations can start by evaluating what supplies are necessary and evaluating what vendors are already in place. Keep in mind also that organizations must plan for self-sufficiency for an extended period of time—96 hours, as described in Chapter 3.
The organization establishes strategies for managing resources and assets during emergencies.

This standard requires organizations to plan for the following:

- Obtaining supplies that will be required at the onset of emergency response (medical, pharmaceutical, and nonmedical)
- Replenishing medical supplies and equipment that will be required throughout response and recovery, including personal protective equipment where required
- Replenishing pharmaceutical supplies that will be required throughout response and recovery, including access to and distribution of caches (stockpiled by the organization or its affiliates, or local, state, or federal sources) to which the organization has access
- Replenishing nonmedical supplies that will be required throughout response and recovery (for example, food, linen, water, fuel for generators and transportation vehicles)
- Managing staff support activities (for example, housing, transportation, incident stress debriefing)
- Managing staff family support needs (for example, child care, elder care, communication)
- Potential sharing of resources and assets (for example, personnel, beds, transportation, linens, fuel, personal protective equipment, medical equipment and supplies) with other health care organizations within the community that could potentially be shared in an emergency response
- Potential sharing of resources and assets with health care organizations outside of the community in the event of a regional or prolonged disaster
- Evacuating (both horizontally and, when required by circumstance, vertically) when the environment cannot support care, treatment, and services
- Transporting patients, their medications and equipment, and staff to an alternative care site or sites when the environment cannot support care, treatment, and services
- Transporting patient information, including essential clinical and medication-related information, for patients to an alternative care site or sites when the environment cannot support care, treatment, and services

Sidebar 5-1. Applicable Emergency Management Standard

Consider inserting a surge clause in contracts with prime vendors to ensure access to vital supplies. Organizations also might wish to prepare pre-emergency purchase orders that can be released to vendors, including out-of-state suppliers, during an emergency. Finally, arrange for vendors to deliver extra supplies before any anticipated emergency events such as a hurricane, flood, or blizzard and return what is unused.

Reference

For small emergencies, materials already in the hospital or Medicare-/Medicaid-based long term care facility should be sufficient. A slowly developing incident generally provides the opportunity to order additional supplies. The organization must ensure that there is a store of supplies in case of an emergency and that there is a method for checking the cache on a routine basis.

The organization should also determine whether equipment will be needed by the local jurisdiction and should consider methods for getting some equipment to the scene of the emergency, if requested by the incident commander in the field. The request could be for expendable supplies, such as bandages and splints, or for items such as oxygen tanks, oximeters, and ventilators.

An emergency is also likely to create an influx of patients arriving at the health care organization. This will require that the organization have additional equipment, supplies, and staff to support the emergency response. Understanding the type of emergency and knowing the number of victims (as well as having planned for them in advance as part of the HVA) are important factors in managing resources and assets. Although organizations should have on hand supplies for the most likely emergencies as identified by the HVA, common additional supplies needed in an emergency situation include the following:

- Stretchers
- Intravenous supplies
- Oxygen
- Cardiac monitors
- Blankets
- Pharmaceuticals, including narcotics
- Orthopedic software and plastering materials

It is important to keep in mind the scope of activities that might be occurring in the community at any given time. For example, a fire at a large fertilizer plant might release a toxic substance that requires an antidote that is kept in only limited supply by the pharmacy. Realizing that the fertilizer plant is located in the community and that a fire is always a possibility, planning in advance for how the pharmacy would secure the needed medications will ensure an appropriate response.

Most organizations’ HVAs include the possibility of an infectious disease outbreak and contamination. An assessment of the equipment and supplies on hand is an important component of planning for this possible emergency situation.

**BE PREPARED TIP**

**Knowing Your Neighbors**

Know which suppliers and vendors other health care organizations in the community rely on for materials that might be needed during an emergency. Also, know what their backup plans are for supplies in case of an emergency.

Specifically, organizations should determine the current number of the following pieces of equipment: ventilators (adult, pediatric, neonate, and so forth), intravenous (IV) pumps, IV poles, suction machines, beds, stretchers, and wheelchairs. Then determine the current level of medical supplies, particularly items that provide personal protection, such as personal protective equipment (PPE), masks, gloves, eye protection, and face shields.

Organizations should make arrangements with suppliers to receive hand-hygiene products, infection control products, and PPE in the event of an infectious outbreak. Organizations should also determine which vendors of durable medical equipment, such as ventilators, portable high-efficiency particulate air filtration units, and portable x-ray units, can provide these items on short notice. Because supplies might be limited, diverted, or sought by other health care organizations in the community in the event of a regional or prolonged disaster, organizations should also maintain a sufficient amount of these supplies at all times. Maintaining a list of key suppliers also makes sense.

**BE PREPARED TIP**

**Maintaining Supplies**

On-duty staff who are responsible for finding and taking inventory of emergency supplies can use messengers, e-mail, fax machines, and so forth to send supply information to other departments. This effort should be coordinated and overseen by the incident command and the logistics officer. When disaster supplies are dispensed, a computer inventory of remaining supplies can be updated and sent to other departments by the same method. Also, supplies should be prepared to take to each identified care site for each triage category.
Emergency Management in Health Care: An All-Hazards Approach

**Staff Support Activities**

Another important aspect of the EOP related to managing resources and assets is the inclusion of processes for managing staff support activities under emergency conditions. These activities include housing, transportation, and incident stress debriefing.

Housing is particularly important during an emergency because staff might be prevented from leaving the facility by inclement weather or other circumstances, which means that hospitals and long-term care organizations might need to set up temporary shelter for staff. If housing does become necessary as the incident unfolds, organizations should have a predetermined area to house staff. Because staff members will need adequate rest and food, organizations also must ensure that there is enough food available on site. In the event that the organization runs out of food, it needs to have plans to obtain food, either from its usual food suppliers or from alternative suppliers.

Another issue health care organizations should plan for related to staffing involves staff’s access to transportation or lack thereof during an emergency. When staff are unable to get to the facility because the roads are blocked, alternative transportation needs should be considered. For example, the organization might have to think beyond law enforcement, fire services, or other emergency response agencies, who are likely to be too busy with their own responsibilities to bring stranded staff members to work. Options to consider may be the National Guard or volunteer four-wheel drivers.

Staff might also require expert crisis counseling from behavioral health care professionals during and following an emergency. Organizations should consider having social workers, case managers, and/or pastoral workers available to conduct screenings to assess how staff are affected by the stress of the situation and to follow up with appropriate support. Incident stress debriefing helps staff process the emotions associated with an unusually stressful or traumatic incident. (See Chapter 7 for more information on the psychological impact of emergencies.)

BE PREPARED TIP

**Supplies for Special Populations**

When preparing the cache of emergency supplies, be sure to plan for pediatric casualties by having enough of the proper size of equipment or proper dosages of medications on hand or stored where they can be retrieved easily. Also, consider the needs of other vulnerable populations such as the elderly, disabled, or those with serious chronic conditions or addictions. (See Chapter 9 for more on managing clinical and support activities during emergencies.)

During the emergency, providing information on a regular basis helps alleviate staff anxiety. Staff members need to have accurate knowledge of the situation, such as knowing exactly what has happened, how many patients to expect, and when to expect them, so they can prepare themselves and the facility for responding to the event. Keeping staff informed of the recovery process will keep morale high during what might seem like an arduous process.

Finally, staff support activities should take into account the needs of their families during emergency conditions. Like most people in an emergency situation, staff might be concerned about the safety of family members. Being torn between responsibilities as staff and as family members could add to the stress of working during an emergency. Among the questions to consider are the following:

- How will the organization handle the needs of staff members to contact their families?
- Does the staff have family emergency plans in place?
- How will the organization handle staff members who need or demand to leave to safeguard their own families?

Organizations can undertake a variety of actions to help staff manage their anxiety and to help them focus on the situation at hand. Organizations might consider setting up a call tree to help staff members communicate with their families in an efficient way that avoids overloading the phone system. Because people have a desire to be close to their families, particularly during times of crisis, organizations could set up temporary housing for family members or an on-site day care center if needed.

**Be Prepared Tip**

**Helping Families**

In the event of a pandemic or a biological attack, an organization could serve as a distribution center through which staff members’ families could receive vaccinations, antibiotics, or other necessary medications.
schools are temporarily closed. Although this standard requires organizations to manage staff family support needs, the examples of child care, elder care, and communication are simply examples; each organization should consider what types of support the families of staff members will require and how to properly allocate and manage those resources and supplies.

**Sharing Resources**

A new requirement of the emergency management standards is the potential sharing of resources and assets with health care organizations outside the community in the event of a regional or prolonged disaster. Sidebar 5-2 (page 76) offers recommendations for how to approach emergency situations in which organizations must help themselves rather than rely on government assistance.

Many organizations in the same region use the same vendors for the same supplies, whether it is linens, medications, or fuel. If the emergency is large enough to warrant hours or days of activities, with each organization relying on the same vendors to provide equipment and supplies, these vendors could exhaust their own inventories. Therefore, having a relationship with a vendor that is not in the organization’s region is smart planning. Setting up credit lines before an emergency is much easier than trying to do so during the emergency. Some organizations might find it easier to negotiate with local or national health care associations to help develop shared vendor-purchasing agreements in emergencies. In addition, both health care organizations and vendors should have their own backups in place.

**Evacuation-Related Issues**

Although complete evacuation of a facility does not happen often, when it occurs as a result of a catastrophe, organizations must be prepared to efficiently carry out the process. Otherwise, the evacuation adds to the emergency and can itself put patients and staff at risk.

When the physical environment can no longer support care, the organization must have plans for both horizontal and vertical evacuation. Staff members must know their specific roles and responsibilities in preparing for building evacuation, know the location of equipment for evacuating or transporting patients, and understand how to carry out the actual evacuation. Issues to be managed during an evacuation include the transportation of patients, their medications and equipment, and staff. Organizations should consider whether medications will be provided by the sending or receiving organizations and keep in mind that some medications might be needed during transport. Organizations also should determine whether the

#### Resource-Sharing Questions

- What resources and assets (supplies, beds, staff, and so forth) might be shared in a regional or prolonged disaster?
- What could our organization provide?
- What might our organization need from other organizations?
- What provisions can we make to share or obtain resources and assets with health care organizations within our community during a prolonged emergency?
- What provisions can we make to share or obtain resources and assets with health care organizations outside our area during a prolonged emergency?

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### Federal Evacuation Help

The National Disaster Medical System (NDMS), a federally coordinated system, is the primary federal program that supports the evacuation of patients in need of hospital care during natural or man-made disasters. Hurricane Katrina was the first emergency in which NDMS was used to evacuate a large number of people, and it brought to light problems related to evacuating patients from long term care organizations. Nursing home residents were part of the Katrina-related NDMS evacuation efforts; however, the program is not designed to serve this population because it does not have agreements with long term care organizations that could receive evacuated residents.1

#### Reference

original medical record or a copy should be sent with the evacuated patient, realizing that sending a copy might not be practical during an emergency situation. Organizations using electronic medical records or a combination of paper records and electronic records should also determine how they will address this issue during an emergency.

When developing evacuation plans it is important to consider the types of patients being relocated in order to ensure that the alternative site can meet the clinical needs of the patients received. This does not necessarily mean, for example, that a hospital could evacuate only to another hospital. It does mean that it would not be appropriate, for example, to relocate burn patients to a school gymnasium.

The emergency management standard relating to strategies for managing resources and assets also includes a requirement that organizations plan for the transportation of patients, medication, equipment, and staff as part of managing resources and assets during an evacuation. The transportation of patients was included in previous Joint Commission standards, but medication, equipment, and staff have been added to highlight the importance of these issues in providing safe, quality care during an emergency evacuation.
CASE EXAMPLE:
A NURSING HOME’S RIDE FOR SUPPLIES

In the first hours after the September 11, 2001, attacks on the World Trade Center, the staff of St. Margaret’s Home, a long term care organization located six blocks from Ground Zero, inventoried every department’s supplies because they knew that there were not going to be normal deliveries the next day. In fact, although the state Department of Public Health began sending supplies, St. Margaret’s had trouble getting them. No vehicles were moving, and the supplies were being held up at the police checkpoints/incident command post. The organization’s executive director rode his bicycle to the post to get the supplies released. In another instance, he rode his bicycle to meet the milk delivery truck and escort it back through police lines to his facility. The executive director faxed letters of entry for the vendors, giving the incident command post detailed information, including a physical description of the vendor.

Reference

CASE EXAMPLE:
A HAWAIIAN HOSPITAL’S RESPONSE TO AN EARTHQUAKE

At 7:07 A.M. on Sunday, October 15, 2006, the ground began to shake violently on the Big Island of Hawaii. For the next 40 seconds, a 6.7-magnitude earthquake turned a peaceful morning upside down. Maryann Kaduk, the night supervisor at Kona Community Hospital, assessed the situation. She phoned the organization’s CEO, Donald Lewis, at home to tell him that there was considerable damage to the hospital. Lewis is also regional CEO for the West Hawaii area of the Hawaii Health Systems (HHS) Corporation, which includes Kona Community Hospital—a 94-bed facility in Kealakekua, Hawaii.

Making the Decision to Evacuate
There were 69 patients in the hospital at the time the earthquake hit. The 40-second event rendered the hospital’s long term care unit, medical/surgical unit, obstetrics (OB) department, and two of three operating rooms (ORs) unsafe for patient care. No patients or staff members were harmed during the earthquake; however, by the time Lewis arrived at the hospital, Kaduk had already made the decision to evacuate the previously mentioned areas based on their condition. “The evacuation went very smoothly, and no staff or patients were injured during the process. It is a testament to the skill, professionalism, and compassion of our staff that the provision of care was never interrupted,” says Lewis. Kona’s staff was well prepared for the evacuation procedure because the hospital has a disaster plan that covers potential evacuations and that is exercised twice a year.

Despite the damage to certain areas of the hospital, the intensive care unit (ICU) and emergency department were undamaged. “No one knew if we would be getting an influx of emergency patients from earthquake-generated destruction, so we kept those two departments open,” says Lewis. In addition, the hospital’s inpatient psychiatric unit suffered mild damage but did not have to be evacuated.

(continued)
Creating the Command Center

In accordance with the hospital’s emergency management plan, the admitting department became the disaster control command center. From this location, Lewis was able to retrieve a two-way radio and contact Kaduk. The two conducted a brief walk-through of the entire facility. Parts of the suspended ceiling had come down, along with several light fixtures. Airing-handling diffusers had been ripped apart, and toppled shelving was lying on the ground. The air was full of dust and dirt from the failing debris, and flooding from broken water pipes was occurring in several areas. Walls were cracked, and, in places, interior walls had separated from exterior walls. “The structural integrity of parts of the building became a concern, especially since possible aftershocks couldn’t be ruled out,” says Lewis.

After touring the hospital, Lewis and Kaduk returned to the command center and initiated the following actions:

- Activated the disaster recall protocol for staff
- Obtained a report on the status and disposition of all patients
- Set up a media response process
- Checked the status of the hospital’s emergency water supply
- Checked the status of the hospital’s emergency power supply
- Contacted the Big Island civil defense system and state emergency operations system
- Set up the hospital’s patient emergency response system
- Determined how to contact the families of patients
- Contacted the HHS corporate office to apprise them of the situation

Moving Patients Outside

During the evacuation, patients were moved to several different areas. An OB patient in active labor was moved to the ICU, where she delivered a healthy baby later that day. The acute care patients from the medical/surgical unit were moved into a tent outside, and when that tent filled up, the organization moved patients under trees to take advantage of the shade. The hospital’s 29 long term care residents were moved to shaded areas along the rear parking area of the hospital.

Staff and supplies went with all the patients, and bedridden patients went outside in their beds. “While moving everyone outside to covered areas was an initial response, we knew we could not leave patients outside for too long,” says Lewis. “The sun in Hawaii is very intense, and sunburn and dehydration were potential threats to patients’ health and safety.”

Finding Alternative Sites

The county civil defense plan identified a community meeting center as an evacuation site for the hospital’s patients. “We found out in relatively short order that the earthquake had rendered that facility without power or air-conditioning, and there was no backup generator for the site. The center was not viable for patient and staff use,” says Lewis. “We knew that moving people back into the hospital wasn’t an option, so we had to come up with alternatives.”

The administrative service building is right across the driveway from the main portion of the hospital, and it has two large classrooms on the lower level. After a quick assessment of the building, it was determined that although the upper level was damaged, the lower level was not and could accommodate the displaced patients. Hospital staff and civil defense volunteers moved classroom contents into nearby hallways and offices and cleaned the classrooms. All the medical/surgical patients—along with their beds, supplies, and staff—were moved to this location, where the hospital was able to provide care.
By the end of the day, all patients who required continued hospitalization were flown to Hilo Medical Center, located on the east side of the Big Island of Hawaii. “We have an ongoing relationship with Hilo. Kona and Hilo are part of HHS Corporation’s network of hospitals that exists throughout the Hawaiian Islands. We have standing protocols to help each other however we can,” says Lewis. “Hilo is at least two hours away from Kona—if the traffic isn’t bad and the roads are open; however, the earthquake made driving to Hilo out of the question,” says Lewis.

Getting patients to Hilo Medical Center was a community effort. Ground transportation to the airport was provided by a local ambulance service. The coast guard provided a disaster medical assistance team along with a C-130 transport aircraft. Kona’s long term care patients were temporarily housed in the conference area of a local resort. “Our local fire chief had contacted the Sheraton Keahou resort, and they agreed to help,” says Lewis. Spearheaded by the facilities director, the hospital moved the 29 residents, their beds, and other equipment—including a medication dispensing system—the nine miles to the Sheraton. Wheelchair-bound residents were moved in the hospital’s handicapped-accessible van, and a local tour bus company made buses available to move the ambulatory residents. In addition, a local trucking company provided trucks and staff to help move the beds, tables, and other equipment the residents were going to need.

Establishing Relationships Before an Emergency

Prior to the earthquake, Kona Community Hospital had established a relationship with its community’s emergency responders, including fire, police, county, and coast guard officials. One of the organization’s annual emergency management drills is a coordinated drill with other community agencies. Through this drill, the hospital has become familiar with the capabilities of the community’s disaster preparedness system. “We also have a dedicated emergency preparedness committee at the hospital, and the committee keeps abreast of countywide disaster readiness plans,” says Lewis.

Managing the Press

Within one hour of the earthquake, the press descended on the hospital. Inquiries came by phone and in person, from all over the world. The hospital maintained a designated area for the press to congregate in the lobby. Via the command center, the hospital kept the acting public relations officer updated with minute-to-minute information on the status of the emergency response.

Ensuring Constant Communication

In the aftermath of any disaster, ongoing communication with all the key stakeholders is essential. To that end, Kona held senior staff meetings each morning, followed by a meeting with all department managers, which in turn was followed by a meeting with all available employees. A written status report summarizing key issues was produced daily and distributed to all employees, the medical staff, the press, and the corporate office. “Within several days of the earthquake, we did our first debriefing on what worked or didn’t work in the emergency response. We wanted to get that information while it was still fresh in people’s minds,” says Lewis. “The feedback will be used to improve our emergency response system for the future.”

Responding to the Emotional Needs of Staff

When dealing with the aftermath of a disaster, post-traumatic stress disorder should not be overlooked. Kona’s medical director, who is also a psychiatrist, conducted postdisaster stress and anxiety counseling sessions for any hospital employ-
Case Example: A Hawaiian Hospital’s Response to an Earthquake, continued

ees who chose to attend. In addition, the local Adult Mental Health Division offered counselors to work with hospital employees. Both approaches helped employees cope with the psychological impact of the earthquake. “We are also fortunate to have healing touch and massage therapists associated with the hospital. We made their services available to our staff,” says Lewis.

Cleaning Up and Moving In
Within hours of the earthquake, a civil defense structural engineer came to the hospital. He toured the building and told the organization that the building appeared to be structurally sound. Over the next hours, days, and weeks, the organization cleaned up and made repairs. Before moving anyone back into the hospital, all equipment and systems were checked and double-checked for safety and cleanliness as needed.

To acknowledge the efforts of staff, Lewis personally wrote to thank each employee and member of the medical staff. In addition, the hospital took out half-page ads in the local newspaper thanking everyone and every organization that came to its aid.


For Additional Assistance
- Centers for Disease Control and Prevention, Strategic National Stockpile: http://www.bt.cdc.gov/stockpile/

Reference