Chapter 2

Addressing Emergency Planning Issues

Catastrophic emergencies are a threat to any health care organization, regardless of size, scope, or location. A single emergency temporarily can affect demand for services, but multiple emergencies that occur at the same time or occur one after another can have serious consequences on patient safety and an organization's ability to provide care, treatment, and services for an extended length of time. This is particularly true in situations in which the community cannot adequately support the health care organization. Power failures, water and fuel shortages, flooding, and communications breakdowns are just a few of the hazards that can disrupt care and pose risks to staff and the organization as a whole. The disastrous and long-lasting effects of Hurricane Katrina in 2005 clearly demonstrated this fact.

Although no hospital or Medicare-/Medicaid-based long term care program can predict the nature of a future emergency or predict the date of its arrival, organizations can and should plan for managing the consequences of emergencies. Planning for emergencies precedes any management efforts, focusing on issues such as identifying events that could affect demand for services or the ability to provide those services and working with community partners to mitigate, prepare for, respond to, and recover from an incident that occurs in a health care organization or its community.

This chapter describes how health care organizations can address emergency planning issues necessary to establish a comprehensive Emergency Operations Plan (EOP). (See Chapter 3 for more information on the EOP) Sidebar 2-1 (page 8) details the Joint Commission's expectations related to addressing emergency management planning issues.

Managing the Consequences of Emergencies

An emergency in a health care organization or in its community can suddenly and significantly affect demand for its services or its ability to provide those services. The standard focused on in this chapter describes the comprehensive planning and work necessary to establish an EOP that will allow for an effective response. The standard includes several elements found in the previous emergency management standards, such as the hazard vulnerability analysis (HVA). It also includes some new requirements, such as the need to establish an inventory of on-site assets and resources that would be needed during an emergency and to determine a way to monitor those assets and resources during an emergency, as described in the following sections.

Leadership Participation

More than any other aspect of environment of care (EC) management, the emergency management function might have the greatest potential for keeping organization leaders awake at night. Hurricanes and natural disasters, terrorist threats, and other emergencies are, by their nature, unpredictable and unplanned.

Effectively managing emergencies requires the commitment and collaboration of organization leaders to anticipate possible events and their effects, and to effectively respond and recover from them. Leaders, by their very definition as individuals who set expectations, develop plans, and implement procedures, must take responsibility for emergency management.

The importance of leadership to the emergency management process is spelled out in this standard, which requires organization leaders to actively participate in emergency management planning. In the hospital setting, leaders include those of the medical staff. In long term care organizations, the leaders involved in this process should include the administrator, the medical director, the nursing leader, and other clinical leaders.

Leaders who are involved in the emergency management process must promote staff participation because it is crucial
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Sidebar 2-1.

Applicable Emergency Management Standard

The organization plans for managing the consequences of emergencies.

This standard requires the following:
- The organization’s leaders (including those of the medical staff in hospitals and including the administrator, medical director, nursing leader, and other clinical leaders in long term care facilities) actively participate in emergency management planning.
- The organization conducts a hazard vulnerability analysis (HVA) to identify events that could affect demand for its services or its ability to provide those services, the likelihood of those events occurring, and the consequences of those events. The HVA is evaluated at least annually, as required by one of the elements of performance (EPs).
- The organization (together with its community partners in both hospitals and critical access hospitals) prioritizes those hazards, threats, and events identified in its HVA.
- When developing its Emergency Operations Plan, the organization communicates its needs and vulnerabilities to community emergency response agencies and identifies the capabilities of its community in meeting their needs.

For each emergency identified in its HVA, the organization defines the following:
- Mitigation activities designed to reduce the risk of and potential damage due to an emergency
- Preparedness activities that will organize and mobilize essential resources
- Response strategies and actions to be activated during the emergency
- Recovery strategies and actions designed to help restore the systems that are critical to resuming normal care, treatment, and services
- The organization keeps a documented inventory of the assets and resources it has on site that would be needed during an emergency. At a minimum, this would be personal protective equipment; water; fuel; and medical, surgical, and pharmaceutical staff, resources, and assets in a hospital or critical access hospital. Note: The inventory is evaluated at least annually as required in one EP.
- The organization establishes methods for monitoring quantities of assets and resources during an emergency.
- The objectives, scope, performance, and effectiveness of the organization’s emergency management planning efforts are evaluated at least annually.

To become involved, leaders should review the emergency management standards to make sure they understand the requirements. They can then examine the functions that are affected by the standards and look for ways to add or mix these requirements and ideas into existing processes to create a coordinated, organizationwide, and proactive approach to emergency management. Leaders need to participate in the emergency management planning process so that the organization can set priorities and leadership can allocate financial, information, physical, and human resources to support these priorities and associated processes. In addition, leaders can encourage communication and cooperation among all staff to implement emergency management processes.
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Although leaders must drive the emergency management planning process and remain engaged in order to ensure that adequate resources are available, Joint Commission standards do not require the chief executive officer, administrator, or other leader to actually coordinate the ongoing emergency management processes after they have been established. Rather, the leadership involvement requirement emphasizes the need to coordinate these activities with accountability for inaction and for success resting with leadership.

Conducting an HVA and Prioritizing

One of the first tasks involved in effective emergency management planning is conducting an HVA. An HVA identifies potential threats, risks, and emergencies and the potential impact these emergencies might have. The Joint Commission requires critical access hospitals, hospitals, and long term care organizations to conduct an HVA to identify events that could affect demand for services or the ability to provide those services, the likelihood of those events occurring, and the consequences of those events. For hospitals, this also includes a requirement that this process include collaboration with community partners. The organizations also need to prioritize those hazards, threats, and events identified in the HVA.

The all-hazards approach to emergency management is a comprehensive approach that enables organizations to be prepared to manage any number or type of emergencies. It facilitates mitigation, preparedness, response, and recovery based on the broad scope of what could happen within the organization and its community. The HVA is a formal assessment of the risks that can potentially affect the health care facility and cause the staff to implement the all-hazards emergency plan. The emergencies identified in the HVA must be prioritized in coordination with the community so that appropriate mitigation, preparedness, response, and recovery activities can be undertaken.

The HVA requirement is a familiar one to health care organizations, which even prior to Joint Commission requirements for an HVA, informally considered potential threats. For example, a hospital in Florida knows that it must address hurricanes but not blizzards. The opposite is true for a long term care organization in Minnesota. However, the standard calling for the management of the consequences of emergencies indicates that a more formal analysis process is necessary.

Organizations that fail to invest adequate time in the HVA process leave themselves vulnerable as emergency events are escalating. Planning for every possible emergency is not realistic, but organizations should assess as many threats as possible. For example, organizations during the past several years have had to come to terms with the need to “think the unthinkable.” Before September 11, 2001, crashing a civilian airplane into a high-rise building was unthinkable. But it happened. Anthrax attacks in fall 2001 also made the possibility of biological, chemical, and radiological incidents more real. All health care organizations need to be prepared to face such disasters, requiring them to redefine the realm of possibility.

An organization can perform an HVA in many ways; there is no right or wrong way. Any system that works effectively should be used and referenced in the EOP. Some systems use a quantitative scoring method to rank the potential emergencies, but this is not essential. The key is that each organization must identify the events to which it must be prepared to react. A description of one approach follows.

BE PREPARED TIP
Involving Medical Staff Leaders
The planning process for emergency management should have direct involvement and input from organization leadership. Input from medical staff leadership is particularly important because the medical staff will play a critical role in response efforts.

BE PREPARED TIP
Involving the Entire Staff
As the planning effort begins to take form, include representatives from across departments. They in turn can get opinions from others in their respective departments. This method of getting feedback makes all employees a part of the process.

BE PREPARED TIP
An Evolving Hazards Vulnerability Analysis (HVA)
An HVA should not be a one-time event, but a continuous process that is thorough and that helps shape an organization’s plans for emergency management and response.
An HVA is based on an “all-hazards” approach. Thus, compiling a list of any possible hazards, emergencies, or incidents that the organization might experience is the place to start. When assembling this list, staff should be careful not to limit the list only to incidents that health care organizations have traditionally thought of as disasters, such as hurricanes, earthquakes, tornadoes, and other natural disasters. Internal events dealing with facility damage or system failures should also be considered, as should intentional man-made incidents, such as chemical and biological terrorism. Staff should remember to list mass-casualty events, such as transportation accidents, that might be commonly experienced. This list is best generated in a brainstorming session or something similar, during which every idea is written down without censorship or editorial comment. A review of community historical data might also provide additional list items.

When brainstorming about possible incidents, organizations often classify events in HVAs as being internal or external. An internal emergency involves the loss of a critical resource or resources needed to operate an organization. It is generally limited in scope to a specific facility, and, due to infrastructure damage, the facility might need to be evacuated. Examples appear in Table 2-1 (page 11). An external emergency is focused outside a facility. In some circumstances, an external emergency can also directly affect a facility’s ability to keep operating. Examples of external emergencies appear in Table 2-2 (page 11).

After the brainstorming session, the organization should begin assessing the various items on the list. One place to start is with the likelihood, or probability, of occurrence. The local emergency planning committee in the community should be able to help with this. Very likely, data on the frequency of given incidents already exist. Your community might even have an HVA of its own that can provide a place to start, but it might not fully address all the health care organization’s potential emergencies.

Disasters that have occurred before in the community and/or the organization will move toward the top of the list of issues to be addressed, whereas those with essentially no possibility of occurrence will migrate to the bottom. In between, staff will determine relative probability of occurrence. For example, earthquakes would be high on the list of potential emergencies for an organization in Southern California, but blizzards would be low on the list. Power failure and flood might be somewhere in between.

Probable impact is the next factor in the analysis. If the event occurs, staff should consider how it will affect the organization. Could lives be lost or the health and safety of individuals be threatened? If the answer to either of these questions is “yes,” the hazard moves up on the list. If the answer is “no,” staff should consider other ways in which the organization could be affected, such as disruption of services or damage to the facility, systems, or equipment. Damage affecting some services will be more important than others. Loss of use of an outpatient waiting area, for instance, would be far less critical than loss of a surgical suite in a hospital setting. Would an evacuation be necessary? Staff determine if the recovery would

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**BE PREPARED TIP**

**Develop a Hazard Vulnerability Analysis (HVA) Tool**

An organization can develop its own HVA tool by classifying hazards and placing them on a simple grid format. Hazards can be ranked by using numbering such as 1 = could occur or high, 2 = might occur or moderate, and 3 = could never occur or no likelihood. The impact on the organization can be rated by using a high-, moderate-, low-, or no-impact ranking. Then the ranked hazards and impacts can be linked with the organization’s resources that could be affected. Identifying how each resource will be affected by each hazard becomes the basis of how the organization will plan for an emergency and respond to it.

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**BE PREPARED TIP**

**Broadening the Definition of Disaster**

Organizations should be careful not to limit the list of possible hazards, emergencies, or events to those they have traditionally thought of as disasters—hurricanes, earthquakes, tornadoes, and other natural disasters. Consider internal events dealing with facility damage or system failures and man-made events. And don’t forget the more commonly occurring mass-casualty events, such as transportation accidents. Finally, consider that health care organizations are vulnerable to more local varieties of terrorism, perhaps carried out by a disgruntled employee or care recipient.
be relatively quick and simple or if it would be involved, cost-
ly, and long-lasting. Staff then adjust the ranking of the poten-
tial hazards according to the answers.

Another aspect of severity of impact is the community’s per-
ception of the health care organization. An organization’s per-
ception or image is extremely valuable to that organization. An
organization’s reputation can be damaged by its lack of pre-
paredness to manage a foreseeable incident. This could also
have legal ramifications. Failure to live up to community
expectations could result in the loss of the community’s trust,
thus damaging the organization’s reputation and potentially
affecting its marketability and financial standing. Again, staff
might adjust the ordering of list elements, as appropriate, to
consider this possibility.

The long-term effect of an emergency also should be a consid-
eration. For example, if an influx of contaminated patients should
arrive at a facility, and the contaminant is contained, the loss of
life would probably be minimal and the short-term effects rela-
tively minor; however, to address contamination issues, a hospi-
tal might have to take the emergency department off-line for
some period of time. The long-term effects of this aspect of the
emergency could be very significant, and thus this type of emer-
gency could be moved up on the priority list. The final factors
that merit consideration are the organization’s own preparedness

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**Table 2-1. Examples of What Could Lead to Internal Emergencies**

<table>
<thead>
<tr>
<th>Fire, smoke, or irritant fumes</th>
<th>Loss of medical gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Operating room</td>
<td>• Oxygen</td>
</tr>
<tr>
<td>• Recovery room</td>
<td>• Compressed air</td>
</tr>
<tr>
<td>• Emergency department</td>
<td>• Vacuum suction</td>
</tr>
<tr>
<td>• Intensive care units</td>
<td>• Explosion</td>
</tr>
<tr>
<td>• Care recipient and nonpatient care areas</td>
<td>• Police actions</td>
</tr>
<tr>
<td>Loss of environmental support services</td>
<td>• Acts of terrorism</td>
</tr>
<tr>
<td>• Heat</td>
<td>• Hostage situation</td>
</tr>
<tr>
<td>• Water supply</td>
<td>• Workplace violence</td>
</tr>
<tr>
<td>• Air-conditioning</td>
<td>• Bioterrorism or nuclear terrorism</td>
</tr>
<tr>
<td>• Sterilization</td>
<td>• Hazardous materials release</td>
</tr>
<tr>
<td>• Electrical power</td>
<td>- Radiation</td>
</tr>
<tr>
<td>• Telecommunications</td>
<td>- Toxic chemicals</td>
</tr>
<tr>
<td>- Paging</td>
<td></td>
</tr>
<tr>
<td>- Telephones</td>
<td></td>
</tr>
<tr>
<td>• Computer networks</td>
<td></td>
</tr>
</tbody>
</table>


**Table 2-2. Examples of What Could Lead to External Emergencies**

<table>
<thead>
<tr>
<th>Hazardous weather</th>
<th>Commercial transportation accidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Earthquake</td>
<td>• Train derailments</td>
</tr>
<tr>
<td>• Hurricane</td>
<td>• Air crashes</td>
</tr>
<tr>
<td>• Flood</td>
<td>• Multiple highway casualties</td>
</tr>
<tr>
<td>• Tornado</td>
<td>• Hazardous materials release</td>
</tr>
<tr>
<td>• Blizzard</td>
<td>- Radiation</td>
</tr>
<tr>
<td>Regional power outage</td>
<td>- Toxic chemicals</td>
</tr>
<tr>
<td>Civil disturbance</td>
<td></td>
</tr>
<tr>
<td>Terrorism (including bioterrorism)</td>
<td></td>
</tr>
<tr>
<td>Urban or wildland fires</td>
<td></td>
</tr>
</tbody>
</table>

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status and the community’s level of preparedness. If one of the high-ranking incidents on the list took place tomorrow, how well would the organization manage the incident? Would other organizations in the community be able to provide assistance? If the organization is not prepared to handle the incident, it should focus more attention on preparing for that potential hazard than it would for the hazards covered by well-established plans. A gap analysis helps to identify incidents for which the organization is not prepared and the steps that it can take to rectify the situation. If community resources could not be called on for assistance in addressing the incident, staff should move the incident up on the list. This analysis might result in some less-probable events being moved up on the list due to the fact that the most anticipated events are usually those for which the organization and community are already most prepared.

Reviewing the HVA with other emergency response agencies in the community ensures other compatibilities. Again, although there will undoubtedly be differences based on the different concerns of various agencies, there should be similarities in the areas of natural disasters and weather emergencies.

As part of developing the HVA, integration with local and regional emergency management agencies is critical. The standard under discussion recognizes that emergency planning should not be done in a vacuum. Hospitals and critical access hospitals should review their planning process to encourage community cooperation in planning for emergency management, to integrate the resources of the health care organization with those in the community, and to make sure everyone agrees on levels of responsibility.

Health care organizations must understand how they support the community and how the community can support them in an emergency. This requires the participation of health care organizations in community planning activities that extend beyond participation with the immediate community. These activities might include involvement with the local emergency planning committee or perhaps the state emergency management organization. Some communities have had the opportunity to participate in emergency management training sponsored by the Department of Homeland Security. Participation in this type of event is an asset that should be highlighted in the plan.

The completed list of potential hazards will now have those events that merit the most attention near the top, whether because of probability of occurrence, impact on the organization, or level of preparedness. Those less serious and not as likely to happen should be near the bottom. Although the ranking is dependent on subjective judgment and evaluation of the various considerations discussed previously, there should be some rationale for general placement on the list, although it might be difficult to distinguish the placement of two events that are sequenced consecutively. Two organizations within the same community will probably have differing analyses, but an earthquake should not be at the top of one list and the bottom of another.

Organizations might also wish to ask their legal counsel to review the HVAs to address the organizations’ acceptance of risk as implied in the HVAs. Staff should also include the HVA in their annual evaluation of the EC management plan in terms of objectives, scope, performance, and effectiveness. Sidebar 2-2 (page 13) provides information about how to identify the limitations of hazard lists used as part of the HVA process, whereas Sidebar 2-3 (page 14) offers ideas about how to ensure that an HVA identifies realistic threats to the organization.

Be Prepared Tip
Understand Community Roles
In a communitywide emergency, all responders and all health care organizations are interdependent. For this reason, it is important that all responding agencies understand what services each can provide and what support each will need from other sources. In other words, it is essential that the health care organization understands how it is supporting the community and conversely how the community is supporting the organization.

Be Prepared Tip
Involve Patients and the Community in Planning
The elderly, children, and people with disabilities—whose lives depend on the strength of emergency planning—must be involved in the emergency planning process. Forming partnerships with regional agencies and organizations that serve as advocates for children, the elderly, and those with special needs can be beneficial in both assessing needs and educating these populations about emergency and disaster planning.
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Communicating with the Community About Needs

The standard requiring the management of an emergency’s consequences requires a health care organization to communicate with its community about the organization’s needs and how the community can help meet those needs. The previous standards required health care organizations to establish with their communities the organization’s role in an emergency. But in some cases, as for example with a long term care organization, the organization might not have a specific role in an emergency. The organization would still have to have its needs met, though, and the organization might have to rely on the community to meet those needs. Consequently, the organization has an obligation to communicate its needs and understand if and how the community will be able assist in meeting those needs.

Involving and communicating with the community about emergency preparedness is critical to an effective response and recognizes the fact that organizations cannot develop an emergency management program in isolation. By collaborating with the community in the planning process, an organization can develop stronger relationships with other community partners that promote greater understanding of the interactions that will be crucial during any type of disaster.

Organizations seeking to meet this requirement can think about existing relationships that might already be in place with the community. For example, most hospitals and long term care organizations have relationships and agreements in place with the public health department, emergency medical services, fire department, and police department. Hospitals are
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What Are the Risks?
As part of a 2006 survey, emergency preparedness officials were asked whether their hospitals were at risk for any particular hazards or threats. Although the most common concern was hazardous materials, weather-related disasters also ranked high on the list.

**Human-made hazards:**
- Hazardous materials: 76.0%
- Terrorism: 47.1%
- Nuclear: 25.9%
- Military installation: 17.9%

**Natural hazards:**
- Winter storms: 67.3%
- Tornado: 62.1%
- Floods: 41.9%
- Extreme heat: 33.0%
- Earthquake: 24.7%
- Hurricane: 24.5%
- Wildfire: 16.7%
- Dams: 12.4%
- Landslide: 4.5%
- Tsunami: 2.4%
- Volcano: 1.4%


Sidebar 2-3.
Getting Input

A hazard vulnerability analysis (HVA) is effective only if it identifies realistic threats to the organization. Ensuring that all potential events are identified requires input from multidisciplinary groups. Some organizations choose to involve the entire emergency management committee in the HVA process. The committee identifies and prioritizes risks related to security, facility, safety, infection control, and radiation issues. When assessing the risks in each area, it is important to have the appropriate people make the evaluation. For example, the facility manager should evaluate facility issues. This person is very aware of the potential risks to which his or her facility might be subjected and what systems would be most affected by a particular emergency. Consider this example: An organization was updating its HVA, and the emergency management committee assumed that an electrical power outage would be a catastrophic issue for the facility. However, the facility manager pointed out that due to backup power systems, a power outage would not be catastrophic, but a water outage could shut down the entire institution in a short period of time. His input into the HVA process helped redirect the organization’s focus and shape its response efforts.

Organizations should also include senior leadership in the HVA process. Organization leaders should be aware of what the emergency management committee considers potential threats to the institution, given that leadership is ultimately responsible for making critical decisions during a crisis.

Mitigation, Preparedness, Response, and Recovery
For each emergency identified in the HVA, organizations must then address the four phases of emergency management activities: mitigation, preparedness, response, and recovery.

Mitigation activities are designed to reduce the risk of and potential damage due to an emergency. These activities may be part of other efforts to meet codes and standards. For example, compli-
Mitigation begins with identifying hazards that could affect the organization and analyzing the vulnerability to those hazards of care recipients, personnel, facilities, telecommunications, and informational resources. Conducting an HVA is generally one of the first mitigation activities that an organization undertakes.

Some experts categorize mitigation activities as hard or soft. Hard mitigation activities “harden” a facility to make it withstand a disaster with little active human intervention. This traditional strategy involves constructing the built environment to withstand natural hazards, such as adding uninterruptible power supplies, standby power generators, fire suppression systems, and structures that can withstand damages from wind and earthquakes. Soft mitigation activities reduce the effect of disasters that cannot be adequately alleviated by hard mitigation measures. Such activities might include sandbagging against a flood.

Decisions regarding which mitigation activities to pursue should be made based on a cost-benefit analysis, weighing the costs of both the losses and the needed action for mitigation against the likelihood of the disaster. Some mitigation activities cost next to nothing, such as placing certain flammable materials in fireproof containers; others require significant investment, such as battery-powered lighting for all floors and added structural modifications to protect against collapse during floods or hurricanes.

Preparedness refers to activities that will organize and mobilize essential resources. Preparedness involves planning how to respond if a disaster occurs. This step has been the foundation of health care emergency planning for many years. Some important preparedness steps include the following:

- Creating an inventory of resources that might be needed in an emergency, including prearranged agreements with vendors and health care networks
- Maintaining an ongoing planning process
- Holding staff orientation on basic response actions
- Implementing organizationwide exercises to test the plan

A checklist that could be used as a starting point for backup resources and supplies that might be needed appears in Table 2-3 (page 16).

Response includes the strategies and actions that are activated during an emergency. It involves treating victims, reducing secondary impact to the organization, and controlling the negative effects of emergency situations. How an organization responds to an emergency is absolutely critical. As with preparedness, many health care facilities, particularly hospitals, might be well equipped to manage this phase because treating victims is what they do on a daily basis. Other health care organizations might not be as well equipped to treat victims (for example, when a long term care organization receives trauma and burn victims from a terrorist attack in the community, or when a sudden influx of patients occurs in a hospital in the middle of the night when sufficient staff are not available). Response activities are best divided into actions that all staff must take when confronted by an emergency, such as implementing “RACE” in response to a fire (Removal of patients from danger, Alarm activation, Closing of doors, and Evacuating of staff), and those taken by management, such as initiating the plan, assessing the situation, issuing warning and notification announcements, setting objectives and priorities, and serving as a liaison with external groups.

The recovery phase involves restoring the systems that are critical to resuming normal care, treatment, and services. In other words, how will the organization get back to business? The plan, of course, depends on the nature of the incident, whether the emergency is ongoing, whether the facility itself is affected, and whether the local area or region is still affected. The recovery phase of the EOP should specify recovery steps or stages, similar to how implementation of the emergency management plan is described in stages or steps. Financial, staffing, and service implications need to be considered.

Recovery planning also includes such things as insurance coverage and inventory records. In addition, the facility must consider management authorizations for purchasing, document security, and outsourcing of services that temporarily cannot be provided internally. The plan should also include readjusting staff schedules during stand-down, if necessary. Employees who leave the facility might not be able to return immediately to their regular work schedules if they have to attend to their families and homes. Getting back to providing care is integral to disaster recovery under some circumstances, and this will incorporate the concerns of affected staff members and physician offices. Repair of facilities might also be an issue. Mental health issues of staff, as described in Chapter 7, should be con-
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Table 2-3. Backup Supplies Checklist

Organizations should consider the following as a starting point in their process of identifying backup supplies that might be needed in emergencies. Organizations must be prepared to function completely on their own for at least 24 to 48 hours, in the case of an emergency in which federal resources would be mobilized, and preferably for up to 72 to 96 hours.

Basic materials:
- Food
- Water
- Linens
- Blankets
- Flashlights
- Batteries
- Extension cords
- Stockpile rope
- Water-purifying tablets
- Flares
- Duct tape
- Markers
- Work gloves
- Brooms
- Masks
- Matches
- Sandbagging equipment
- Plywood (for windows)
- Physical map of the facility
- Utility system blueprints
- Fuel for generators
- Binoculars
- Victim tags
- Updated physical plan of facility and blueprints of utility systems

Basic tools:
- For fixing plumbing leaks
- For splicing cables
- For repairing or insulating electrical wiring

Back up communication devices:
- Walkie-talkies
- Radios
- Cellular telephones
- Other devices that would function if utility systems failed

Spare parts:
- Full list should be developed of critical equipment parts.

Medical supplies:
- Full list should be developed, including supplies that can be expected for use in treating certain types of injuries, such as multiple fractures, serious cuts, or electrocutions. These can be predicted for almost all disasters.
- Portable lifesaving equipment such as manual ventilators and gas systems
- Tape, gauze, needle assortments, endotracheal tubes, portable oxygen, defibrillators, splints, gloves, disinfectants

Pharmaceutical supplies:
- Full list should be developed based on what can be expected for use in treating care recipients and staff.
- Backup suppliers?
- Standing orders created?
- Credit lines preestablished?
- Phone number list placed with disasters supplies and at the command center?

Placement of backup/disaster supplies:
- In a nearby location outside the facility


considered. Even critiques of the disaster incident are part of the recovery process.

Assets and Resources

The revised standard addressing the management of the consequences of emergencies also includes new requirements for health care organizations related to assets and resources. One of the requirements under the standard is for the organization to keep a documented inventory of the assets and resources it has on site that would be needed during an emergency. The minimum inventory requirements include personal protective equipment; water; fuel; and staffing, medical, and pharmaceuticals resources and assets. For hospitals and critical access hospitals, surgical resources and assets are added to that minimum list. As part of another requirement, which is discussed later in this chapter, the inventory must be evaluated annually. The standard also requires organizations to establish a method for monitoring consumption of assets and resources during an emergency.
These new requirements tie in with the standard that is the focus of Chapter 5, requiring the management of resources and assets during emergencies. Organizations, however, cannot meet this requirement or effectively create an emergency management plan without first knowing exactly what they have. By keeping a documented inventory of these essential supplies, organizations can assess how emergencies identified in the HVA would impact the inventory. Organizations must keep track of assets and resources used during an emergency so that resources can be resupplied or, if not possible, rationed until recovery is possible. Monitoring resources and assets during an emergency also will provide for more effective emergency management by the organization in the future by providing a better understanding of what items are necessary.

**Evaluating Planning Efforts**

The final element of performance for the standard discussed in this chapter requires organizations to evaluate the objectives, scope, performance, and effectiveness of emergency management planning efforts at least annually. This requirement, which has been relocated from previous EC standards, is a precursor to developing and maintaining an EOP as required by the standard discussed in this chapter, and the standard calling for regular testing of an organization’s EOP (see Chapter 10).

Evaluating the planning efforts’ objectives means determining how well the planning effort accomplished what it set out to do. If the objectives are appropriately laid out at the beginning of the year, their assessment at the time of the evaluation can be very straightforward. The same objectives can be carried forward from year to year in the planning process if they remain appropriate.

The scope of the emergency management planning effort is defined by its breadth. Some planning efforts cover only one facility; others cover all facilities within a larger organization. Thus site information is part of the scope. For this portion of the annual evaluation, the organization assesses whether the planning effort’s definition of scope remains appropriate or whether something has changed in the composition of the organization.

Emergency planning lacks meaning without performance measurement—a way to measure whether and how well the organization is planning and implementing its EOP. The performance-monitoring data that are collected for the EOP form the backbone of the performance section of the annual evaluation. Thus, it is appropriate that these data be presented, trended, and analyzed. Following an actual emergency, an organization collects and analyzes data related to its implementation of the EOP. In the absence of an actual emergency, data related to planned exercises and other items, such as effectiveness of training, should be collected and analyzed. Documentation provided by drill observers can provide relevant performance data on the adequacy of staff training, risks and needs, missing steps, and opportunities for improvement. A sample run chart that tracks the effectiveness of emergency management training appears in Figure 2-1 (page 18). Or, for example, performance measures might examine management and staff activity. By focusing on improving rather than on just getting by, organizations can choose a new aspect of performance to measure after effectiveness is demonstrated and return to monitor previous performance measures from time to time.

The section of the annual evaluation on the effectiveness of the emergency management planning process is subjective. This is where the responsible parties consider what went well during the previous year and what needs to be improved. It should also identify and lay out issues on the horizon and objectives for the coming year. The evaluation of the emergency management planning effort is a key troubleshooting activity. Being prepared means realizing what could go wrong before it does. No one can predict or address all possible contingencies, but several areas are often neglected during an initial response plan analysis. By considering the priority of potential emergencies, an organization can generate first-line and backup processes that convey critical information and are still flexible enough to address a wild card, such as a tight-fitting or torn decontamination suit.

One way to evaluate emergency management planning efforts is to bring an interdisciplinary and interdepartmental committee to the table. An interdepartmental and interdisciplinary team will likely identify the greatest number of issues to address in the plan.

Asking questions helps to identify weaknesses in planning efforts. However, exercises are the best way to discover problems with the plan and to identify areas that still need improvement. (See Chapter 10.)

The disaster readiness checklist published by the American Hospital Association following the September 11, 2001, attacks provides an overview of emergency management plans that should be reviewed by every health care organization. This appears as Table 2-4, page 19.
**Figure 2-1.** Sample Run Chart: Effectiveness of Emergency Management Training

This run chart shows that staff members demonstrate the highest level of understanding of the emergency management program one month after training occurs.

Table 2-4. Disaster Readiness Checklist

- Focus your efforts on a general “all-hazards” plan that provides an adaptable framework for crisis situations. The terrorist attacks have revealed that the unimaginable can become reality.
- Upgrade your disaster plan. The attacks have dramatically altered the potential range of disasters communities might face. Be sure that your plan includes components for mass-casualty terrorism, including the potential for chemical or biological incidents.
- Connect with your community’s emergency response agencies. This is a good time to integrate your plan with your community’s rescue squad and police and fire departments. Specifically, make sure you have the latest contact numbers for key agencies and that they, in turn, have an up-to-date list of your organization’s key contacts.
- Develop a plan to support the families of staff members. Staff members want and need assurances that their families are protected and cared for, especially if the incident involves chemical or biological exposure. This is likely to involve agencies and resources from the broader community.
- Develop a simplified patient registration procedure in the event of a very large number of casualties.
- Review your backup communications capabilities. Traditional telecommunications mechanisms can become overwhelmed. Pay special attention to backup communications mechanisms, such as Internet-based communication tools and even couriers.
- Ensure that essential information systems and data storage have off-site storage and recovery capabilities. In the event of a large-scale incident, you might have to rely on resources outside your own community.
- Be prepared to talk with your community and its leaders, lawmakers, and others about how your organization would deal with a mass-casualty event, especially an incident with large numbers of survivors. Also be prepared to provide a medical advisory to the mayor and other public officials who might be the primary foci of the media.
- Review your supply and inventory strategy. Many organizations have moved to “just in time” supply schedules, which keep enough supplies on hand to care for expected patients. Although state and federal resources will become available, communities might be “on their own” for at least 24 to 48 hours. Include the possibility that traditional transportation systems could be disabled.
- Examine how to protect the physical security of your organization by limiting access to the facility.
- If your organization is part of the National Disaster Medical System, review who the contact is within your organization and who the federal coordinator is in your area. If located in an urban area, determine if there is a Metropolitan Medical Response System plan in your community and know how it can complement the organization’s own plan.
- Ensure that the organization and its medical staff report unexpected illness patterns to the public health department and, if appropriate, the Centers for Disease Control and Prevention.
- Finally, with the armed services calling up reserves (and individual states’ National Guards) and the possibility that the Department of Health and Human Services’ Office of Emergency Preparedness might need to call up response teams (Disaster Medical Assistance Team [DMAT], Disaster Mortuary Operational Response Team [DMORT], and Metropolitan Medical Response System [MMRS]), take time to inventory who on your staff, including medical staff, could get called, what your policies are for job retention and benefit continuation, and how activation might affect your operations.

Emergency management planning and implementation must be a team process and must involve key individuals within and outside the organization, including volunteers, agencies, and community contacts.

The Organization’s Team

Emergency management planning should be a team process within the organization. A team approach brings increased creativity, knowledge, and experience to each phase of the emergency management planning process, including mitigation, preparedness, response, and recovery activities. A team provides a powerful and successful way to effect plan implementation. The team approach starts with a leader who is motivated to make emergency management work. This leader can be the safety officer or someone else. He or she should begin with the leadership from the organization’s administration and the medical staff.

The goal in successful planning is to involve all the organization’s facilities and departments, as they will all be affected and play a role in the emergency response. Representatives of many areas should be included, such as administration, risk management, safety and security, public relations, materials management, pharmacy, and clinical staff. Those individuals in charge of the organization’s information management and patient safety departments also should be included.

Clinical staff, such as pharmacists, physicians, and nurses, have much to contribute in preparing for an emergency response. They will be providing care to disaster victims and can provide expertise during the planning process. For example, pharmacists develop formularies of medications for use at the disaster site and consider the ease of use, storage requirements, and shipping ability of the medications that will be dispensed and other formulary requirements such as the availability of potable water and security needs.1 One of the key tasks of the emergency management planning team is to determine the most appropriate and effective incident command structure for the organization, as described in Chapter 3.

Emergency management planning teams might also include representatives from outside the organization. For example, the team might include representatives from the local emergency preparedness office; representatives from state health care organizations; a media representative (who can serve an important communication function during external natural disasters); a Red Cross representative; police officers; and representatives from fire, gas, electrical, and other utility companies.

Another key task of the emergency management planning team is to facilitate the creation of emergency response teams within the organization. Some organizations begin with the departments that are organization-based and active 24 hours per day, as appropriate. If the facility has several buildings, departments in the main building of the campus are the first to be considered. The planning team identifies representatives from these departments and brings them together with an experienced facilitator and a leader. This core group will establish basic ground rules and set the group’s goals. Representatives should seek out opinions from others in their departments and be sure to involve the safety committee when it is appropriate. Most safety committees are already organized to address preparedness plans for both internal and external emergencies. A subcommittee reporting to the safety committee often performs the emergency management planning function.

Reference

Sidebar 2-5.
Selected Emergency Management Planning Questions

- What credible threats might the organization need to respond to?
- Who needs to be involved in this response, both inside and outside the organization?
- What response services must the organization provide?
- What provisions need to be made to provide services to specific populations currently served by the organization and those in the community?
- What is the “big-picture” response system in the community and nation, and where does the organization fit in?
- Is the organization’s emergency management plan both compatible with and complementary to plans developed by other health care organizations in the community?
- Who is in charge of the organization’s response, and what aspects do these people handle? What role does each key responder play?
- In addition to casualty care, what are the other elements of preparation for the organization?
- What staff will be needed to handle an emergency? How will the organization ensure the availability of those staff? What are the contingency plans if staff cannot get to work or, as might be the case in an incident or a threat involving biological agents, don’t wish to report to work because of concern about their own safety?
- How will the organization handle “contaminated” casualties?
- How will the organization practice its response to emergencies and assess its performance?
- How do leaders assess the organization’s state of readiness?
- Where do leaders currently go and where should they go to get reliable, accurate, and accepted information about emergency response?


Sidebar 2-6.
Nursing Homes and Public Health Emergencies

To date, most health care preparedness planning efforts are focused on hospital and first responder preparedness. Nevertheless, we know that the elderly population is particularly vulnerable to bioterrorism and other public health emergencies due to their complex physical, medical, and psychosocial needs. The potential role and question of preparedness on the part of nursing homes has emerged in local and national preparedness discussions. However, we have little understanding of the extent to which nursing homes have planned for and/or have been incorporated into local or regional planning efforts.

A recent Agency for Healthcare Research and Quality study of planning activities among nursing homes in five states concludes that nursing homes have prepared for natural disasters but have given very little thought to bioterrorism. Facilities reported having disaster plans in place, some more comprehensive than others, and reviewing these plans with nursing staff at orientation and during regular in-service training. Disaster plans appeared to focus on the natural disasters most prevalent in a region (for example, wild fires, earthquakes, floods, hurricanes). Only a few facilities reported including policies and procedures specific to bioterrorism in their disaster plans.

The report noted concerns about caring for special patient populations that require specialized equipment or nursing care during an emergency. In particular, participants were concerned about patients with Alzheimer’s and other cognitive impairments. Many facilities caring for these patients have locked facilities with high-tech monitoring systems that could easily fail during power loss. Participants also were concerned about the logistical difficulties involved in moving or evacuating patients with limited physical abilities. Linked to concerns about patient care were concerns about staffing. Participants were concerned about maintaining staffing levels because nursing staff would undoubtedly want to care for their own families or might have difficulty getting to work.

(continued)
Sidebar 2-6, continued
Nursing Homes and Public Health Emergencies

Several issues raised could be of concern to the larger health care community. These include the following:

- Maintaining adequate pharmaceutical and medical supplies
- The ability of generators to support an entire facility and the adequacy of fuel supplies
- Feeding the resident population and keeping them adequately hydrated

The results also suggest a number of potential roles nursing homes could play in the event of a public health emergency. Nearly all participants reported they could accept transferred residents back from area hospitals to free up bed space in those facilities. Most facilities acknowledged the possibility of receiving additional patients from the community and were willing to accommodate those patients if they could. In doing so, however, they had two major concerns: patient acuity and staffing. Many facilities specialize in caring for patients with certain conditions. Thus, one facility might be able to take a transferred ventilator patient whereas another could not. This suggests that area hospitals wanting to transfer patients need to know what the nursing homes in their area are skilled in. Nursing homes also need staff with the knowledge and expertise in providing care to higher acuity patients if they accept them.

Nursing homes could provide a variety of additional resources during an emergency, including basic medical care and short-term shelter. Participants agreed that nursing staff had the skills to provide a certain level of medical care to outside community members. They suggested staff could provide vaccinations, basic first aid, or triage services.


Coordinating with the Media

The media can provide health care organizations and the communities in which they operate with a powerful means of communicating during disasters. This has far-reaching consequences for organizations experiencing the effects of an emergency.

Considering the role of the media should play a part in emergency planning efforts because emergency management responses are improved when the media are given accurate and current information. In a large, regional emergency, the media might be one of the only available communication routes. Organizations might wish to consider how to engage in integrated communication planning, coordination, and public education as part of the emergency management planning process. One place to start is to discuss the issue with other community stakeholders and organizations involved in emergency response planning to review and adapt communications.

Finally, it should be noted that the media’s sources also might be unavailable, so organizations work with local and/or regional emergency operations command systems to be a part of their linked communication networks.

Strategies for delivering information to the public and employees through the media are discussed in greater detail in Chapters 3 and 4.
Table 2-5. A Comprehensive Approach to Planning for Managing the Consequences of Emergencies*

To define a comprehensive approach to identifying risks and mobilizing an effective response within the organization as well as in collaboration and coordination with essential response partners in the community, the following four elements must be in place:

1. Leaders, including those of the medical staff, actively participate in emergency planning.
2. A hazard vulnerability analysis (HVA)† is conducted to identify events that could affect demand for services or the ability to provide services, the likelihood of those events occurring, and the consequences of those events.
3. The establishment, in coordination with community partners, of priorities among the potential hazards, threats, and events identified in the HVA.
4. Communication of organization needs and vulnerabilities to community emergency response agencies and identification of the capabilities of the community in meeting needs.
5. For each emergency identified in its HVA, the organization defines the following:
   - Mitigation activities to reduce the risk of and potential damage due to an emergency
   - Preparedness activities that will organize and mobilize essential resources
   - Response strategies and actions to be activated during the emergency
   - Recovery strategies and actions designed to help restore the systems that are critical to resuming normal care, treatment, and services
6. The organization keeps a documented inventory of assets and resources it has on site that would be needed during an emergency (at a minimum, personal protective equipment; water; fuel; and staffing, medical, and pharmaceuticals resources and assets for long term care organizations; critical access hospitals and hospitals also must add surgical resources to that minimum list.
7. A method is established for monitoring quantities of assets and resources during an emergency.

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* This list is required for Joint Commission–accredited critical access hospitals, hospitals, and long term care organizations.
† HVA (hazard vulnerability analysis): The identification of potential emergencies and the direct and indirect effects these emergencies may have on the healthcare organization’s operations and the demand for its services.
CASE EXAMPLE: A COORDINATED EMERGENCY RESPONSE

Although the revised emergency management standards went into effect January 1, 2008, some organizations were actually already meeting the intent of these standards due to their exemplary emergency response efforts. The following example describes the emergency response of one health care system to one of the largest natural disasters in our nation’s history.

At the end of August 2005, Hurricane Katrina struck Louisiana, Alabama, and Mississippi, leaving behind devastation, destruction, and thousands of people in desperate need of health care with nowhere to go. Baptist Health System, a five-hospital system located in San Antonio, Texas, received some of these displaced patients and effectively met their health care needs while continuing to serve its own patients and community.

Shortly after the hurricane hit, the governor of Louisiana and the governors of surrounding states, including Texas, began talking about evacuating people from Louisiana. The governor of Texas agreed to house evacuees and began coordinating through the state emergency management (EM) agency where people needing health care would go.

“Our organization participates in a regional emergency planning group called Regional Medical Operations Center (RMOC), along with representatives from other hospitals throughout the area, subject matter experts—such as epidemiologists and radiation experts—the public health department, and EM services. The RMOC reports to and receives orders from San Antonio’s Emergency Operations Center. The RMOC was notified about 10 hours before the evacuees began arriving that our area would be receiving patients,” says Bill Waechter, director of emergency services and emergency management, Baptist Health System. “Due to the nature of the evacuation, we didn’t know much more about the patients other than they were coming via airplane and approximately what time they would be landing.”

Preparing for the Influx

After getting the news that they would be receiving patients, the five Baptist Health System Hospitals declared a standby Code Gray—the organization’s disaster code—and began preparing for the influx of patients. The hospitals participated in a systemwide conference call, in which they discussed their disaster plans and how they were going to apply to this situation. “We talked about staffing, resources, communication, and other topics. As a group, we decided to establish alternate emergency areas within each of our facilities so as not to overtax our existing emergency departments (EDs) with the influx of Katrina evacuees. We were starting a holiday weekend (Labor Day), and we knew our EDs were going to be busy, regardless of the Katrina evacuees,” says Waechter.

In addition to designating the alternate EDs, the hospitals pulled together multidisciplinary groups to staff these areas. A group included a hospitalist, nurses, a laboratory technician, an x-ray technician, and a representative from the registration department. This group was in charge of triaging the evacuees and facilitating their transfer into the facility.

When the plane carrying the evacuees landed, local EMS personnel met the plane, performed initial triage, and communicated with the RMOC about each patient. Based on bed availability and capacity within each of the hospitals participating in the RMOC, patients were distributed across the area.

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Ensuring Effective Communication

Baptist Health System used various means of communication to ensure that all staff members were informed about the emergency and the status of the response. Baptist has an electronic Web-based communication tool that allows anyone across the system who has access to quickly see bed availability, resources, task force assignments, weather, and so forth. Multiple people throughout the system are in charge of maintaining different aspects of the tool to ensure that communication is up-to-the-minute and accurate. This tool also houses a chat room where significant events can be discussed and addressed. “During this particular emergency, we used the tool to communicate about resource needs. For example, one of the hospitals in the system needed wheelchairs and newborn isolettes. The hospital posted the need on the Web, and another hospital was able to provide the resources,” says Waechter. To ensure that this system could keep operating during the emergency, the organization has a wireless local area network (LAN) that can serve as a backup. This LAN is independent of the organization’s normal information technology structure. In addition to the Web communication tool, the organization also used 800 MHz ham radios to help facilitate communication.

Baptist Health System also addressed other issues during the emergency. For example, it controlled access to its facilities to ensure security, and it frequently monitored supply levels to ensure the appropriate amount of resources and supplies.

Receiving a sudden influx of patients from another state due to a hurricane does not happen every day. However, by having a well-considered, collaborative, and detailed emergency response program, the Baptist Health System hospitals were able to successfully treat Katrina victims and address their health and safety needs.


For Additional Assistance

In identifying and assessing the impact of possible emergencies that could affect the organization, individuals responsible for emergency management planning should consider using a variety of information sources, such as population density, seismic, and water table maps of the area. These maps can be obtained from agencies such as the National Earthquake Information Center (http://earthquake.usgs.gov/regional/neic/) and local courthouses.

Other sources of information that might be useful in the HVA process include the following:

- Local Emergency Planning Committee Database: http://yosemite.epa.gov/oswer/lepcdb.nsf/HomePage

References
