Battle-tested hospitals offer 12 pointers to beef up EOPs

Safety managers in New England and Kentucky were among the most recent to learn how well their hospitals’ emergency operations plans (EOP) operated over the long haul.

Ice storms in those regions in December 2008 and January 2009 knocked out power to a grand total of nearly 2 million homes and businesses, many for 72 hours or more, and put EOPs to the test.

Martin Wheatley, director of engineering and safety committee manager at Muhlenberg Community Hospital in Greenville, KY, and Troy Walker, director of the hospital’s ambulance service, coordinated response efforts while the hospital went 76 hours on backup power.

Meanwhile, Scott Janssens, RRT, MBA, CMRP, director of materials management and safety at Heywood Hospital in Gardner, MA, saw his facility stay on generators for 48 hours. However, because the rest of the small city and surrounding area remained without power for much longer, Heywood Hospital extended its emergency operations to 105 hours total.

“We learned a great deal about how the hospital functions on emergency generators long term,” Janssens says. “The hospital was not really designed to be on generators 24 hours and beyond. We’re very good at the short-term things, but the long-term? It requires additional thought.”
found innovative ways to get word to their departments about when they could come in, mainly through word of mouth via people who could get onto the roads, says Wheatley.

“We had sections of the county we could not get to by ambulance or any other means,” Walker says.

**EOP contingencies to pursue**

Based on the experiences at Muhlenberg Community and Heywood hospitals, review the following 12 tips with your emergency planners:

1. **Run a full incident command center as part of your next emergency drill.** Officials at Muhlenberg Community Hospital realized that when the power outage hit, their prior drills had not envisioned a large enough area for an incident command center. Their first location—administrative offices—wasn’t adequate, and their alternate location worked better, but not perfectly. Fully evaluate your primary location and its backup, which is on Muhlenberg’s to-do list for sharpening its response plan.

2. **Cozy up to local ham radio operators.** At Heywood Hospital, amateur ham radio was the fallback communication system for a period when the hospital’s phones went down and cell phones weren’t working.

3. **Understand which electrical outlets your emergency power system covers.** At Heywood Hospital, it was ironic to note that some ICU areas had no power to bathrooms, copiers, or vending machines, yet the Christmas lights remained on. Officials there will review emergency power availability to avoid this situation in the future.

4. **Designate staff members to pick up employees who want to come in but encounter obstacles.** Muhlenberg Community Hospital established a shuttle service to fetch workers stranded in their homes for one reason or another.

5. **Plan for pharmacy customers to show up at your door.** Until every local drugstore and retail chain pharmacy gets its power back or community responders set up temporary pharmacies elsewhere, hospitals must prepare to fill prescriptions from folks who need their medications. (For more on this aspect, see “Hospitals will wear even more hats during a community disaster” on p. 3.)

6. **Plan for gas stations to be without power.** How will your employees get to work if they can’t gas up their vehicles? In Kentucky, county responders helped one station set up emergency power,
commandeered the fuel for emergency services, which included hospital employees, and rationed fuel until other stations came back online. Fuel for employee vehicles is an important resource easy for hospitals to overlook in emergency planning, says Wheatley.

7. **Plan for your cafeteria to do booming business.** Wheatley and Janssens say their cafeteria was one of the few working restaurants in town—at times, it was the only one. Your EOP should anticipate serving additional employee meals if workers have been called in and meals for community residents who can’t get food anywhere else if grocery stores are without power.

8. **If you store supplies in a warehouse, ensure that it has backup power.** Warehouses need light, access to computerized inventory systems, and possibly power for overhead doors if they’re too heavy to open manually.

9. **Keep patient registration and billing computer systems on generator power.** Billing is the financial lifeblood of a hospital. If you lose the ability to bill, you face trouble in terms of a longer recovery from a disaster.

10. **Anticipate the bathing needs of employees.** If local water pumping stations lose electricity or homeowners can’t power their private wells, it may be impossible to use the shower at home. Hospitals may need to designate showers in which workers can bathe, Janssens says. The same concern applies to washing personal laundry.

11. **Pick temporary shelters that have backup power systems.** Doing so will allow the hospital to avoid performing routine care (e.g., providing electricity for home medical equipment) during a time of urgent need. Janssens says that shelters should retain some medical staff members who can take care of minor concerns that would otherwise precipitate a hospital visit and who can deal with less acute patients who have been discharged to a shelter. It’s also important to verify that shelters are handicapped accessible, say Walker and Wheatley.

12. **Develop mutual aid agreements with distant ambulance services.** Choose ambulance companies in areas remote enough that bad weather in your community won’t affect them. Muhlenberg Community Hospital assembled a strike team of 10 ambulances from facilities unaffected by the ice storm. The assisting ambulances helped speed up a 12-patient evacuation and provided transportation for patients.

**Hospitals will wear even more hats during a community disaster**

When ice storms knocked out power in the communities served by Heywood Hospital in Gardner, MA, and Muhlenberg Community Hospital in Greenville, KY, utility companies were at first unable to pinpoint when they could restore service to the general public.

In such situations, hospitals generally receive priority assistance to get power back up, which leads to medical centers becoming sought-after sites for those in the general public who need electricity or services provided by electricity.

For example, when power loss shuts down local pharmacies, a hospital not only has to continue patient treatment, but also must act as the corner drugstore. Healthcare facilities may also be called upon to help people on oxygen therapy whose equipment doesn’t work at home without electricity.

The surprising part for Heywood and Muhlenberg Community hospitals was how they ended up assisting the public in nonmedical ways, safety managers at both sites say. For example, the facilities accommodated cold citizens who came to warm up in buildings that had heat. Muhlenberg Community Hospital also provided temporary housing for staff members who had no means of getting home or who elected to put in as much overtime as needed.

“A lot of people [either] stayed or couldn’t leave,” says Martin Wheatley, director of engineering and safety committee manager at Muhlenberg. “We put them up in extra rooms we weren’t using.”

These scenarios may be interesting to debate at your hospital, either with a full-blown drill or as an agenda point on the next safety committee meeting.
Simple steps may help avoid life safety compliance woes

Although it might sound like obvious advice, plenty of safety officers have nonetheless slipped on this thought: If you want to stay on top of Joint Commission life safety compliance, you first need to carefully look over the life safety and EC standards.

As a firsthand observer of life safety compliance concerns, Brad Keyes, CHSP, said he is stunned at how many managers haven’t actually read the standards in the first place.

Keyes, who is a consultant at The Greeley Company, a division of HCPro, Inc., in Marblehead, MA, spoke during HCPro’s free January 29 audio conference, “Hospital Safety in 2009: A Sneak Preview of the 3rd Annual Hospital Safety Center Symposium.” He will also be a featured presenter at the 3rd Annual Hospital Safety Center Symposium, which takes place May 14–15 in Las Vegas (go to www.hospitalsafetycenter.com for more details).

Keyes offered the following suggestions for hospitals to polish their life safety compliance efforts:

➤ Understand which codes apply to you beyond the Joint Commission standards. Find out which National Fire Protection Association standards, local and state fire codes, and other applicable regulations apply to your locale—and read them.

➤ Verify that you’ve documented the results of your inspections. This seems like simple advice, but Joint Commission surveyors are continually citing facilities for slipups with fire protection inspection and documentation requirements under EC.02.03.05. That standard’s predecessor, EC.5.40, was among the top 10 most-cited standards in hospitals in the first half of 2008, according to the most recent Joint Commission statistics. Don’t forget to have paperwork handy that details how you corrected any deficiencies found during inspections.

➤ Take advantage of renovations and construction. If crews are popping a room’s ceiling tiles or gutting walls, or new construction is showing the bones of a structure, grab your flashlight and conduct an inspection on the spot for improperly sealed smoke barrier penetrations from pipes, computer wiring, or other objects.

➤ Track down undocumented room changes. Life safety deficiencies sometimes crop up from projects that safety managers or facilities directors were unaware of involving repurposing of rooms. For example, find out whether patient rooms have been taken out of service and turned into storage. Such changes may trigger additional Life Safety Code® requirements under new construction for items such as sprinklers and rated doors.

➤ Keep administrators informed about plans for improvement (PFI) in your Statement of Conditions. Remember that when you open a PFI, it enters your hospital into a contract of sorts with The Joint Commission (formerly JCAHO) to address the deficiency. The PFI includes a completion date that figures into accreditation decisions under LS.01.01.01 if the deadline isn’t met or formally extended. Keep administrators apprised of your actions at every turn in the process so they don’t try to pull funding for a PFI, which won’t meet Joint Commission muster, Keyes said.

➤ Continue to use a building maintenance program (BMP). Although a BMP no longer gives hospitals a scoring break come survey time, conducting a BMP still gives you a structured, regular method of assessing your life safety compliance.

Free audio conference is now online

If you missed HCPro’s free audio conference, “Hospital Safety in 2009: A Sneak Preview of the 3rd Annual Hospital Safety Center Symposium,” you can listen to an online recording of it.

Go to our blog, “Mac’s Safety Space,” at blogs.hcpro.com/hospitalsafety and type “free” into the search bar.
New federal funds coming
Keep new technology leashed until you learn its behavior

Given the Obama administration’s goal of improving healthcare information technology (IT) systems, many hospitals are taking a hard look at how medical equipment interacts with such networks.

The way these items coexist—in harmony, one hopes—is defined as “convergence.” It’s a new term because up until a few years ago, most patient monitoring systems and other devices plugged into the wall and worked on their own. Now, many of these machines send information directly into the hospital’s main network and interact with software such as electronic recordkeeping programs.

Unfortunately, when devices and networks don’t converge as planned, errors can occur, especially when:

- Caregivers ignore safety alerts and alarms from devices
- Patient privacy rules are violated as machines automatically pass protected health information into unprotected, accessible areas of a network
- Staff members enter wrong drug names into pharmacology systems

Devices closely interact with technology

“Medical devices are becoming more and more computer-based,” says James Keller Jr., vice president of health technology evaluation and safety at the ECRI Institute, a health research firm in Plymouth Meeting, PA. “Much of the data that is being stored and used within medical devices is being transmitted across hospital networks.”

In fact, it can be difficult to tell the difference between a computer and a medical device.

Safety managers, even if they’re not convergence troubleshooters, play an important role in sniffing out problems and marshaling the resources to fix them. According to a Joint Commission Sentinel Event Alert issued in December 2008, safety officers also need to get more vocally involved in equipment purchases.

“This is a really big issue,” says Frank Painter, MS, CCE, hospital technology consultant at Technology Management Solutions in Trumbull, CT. “It’s a change in the way information is going to be obtained and passed around the healthcare organization ... It’s going to affect not only the quality and reliability, but the integrity of care and their confidence in the system.”

Stay grounded as funds become available

Hospitals will likely buy more hardware and software this year compared to years past if Congress passes President Obama’s healthcare reform bill as written at presstime in mid-March. The bill calls for $19.2 billion to be disbursed to hospitals for upgrading their IT infrastructure.

Keller and Painter say that hospitals, especially those that receive grant money, should heed warnings about hasty spending decisions and take time to evaluate new technology and how it will integrate into a facility’s particular environment.

Given the money available, Keller warns of hospitals being sold on technologies that aren’t ready for the medical setting. Rushing a purchasing decision can lead to costly mistakes.

Painter recommends that hospitals avoid buying cutting-edge equipment unless the facilities have sophisticated biomedical departments that can handle such projects. Instead, hospitals should consider systems and equipment upgrades that already have proven track records in the industry, he says. (See “Answer these questions about your next technology purchase” on p. 7 for more assistance in determining how new technology fits in with your existing systems.)

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Technology < continued from p. 5

Get involved in piloting new technology

The Sentinel Event Alert, titled “Safely Implementing Health Information and Converging Technologies,” warns that technologies designed to cut down on medical errors can, in some cases, actually create more of them.

Although The Joint Commission (formerly JCAHO) references specific information management and leadership standards in the alert, it stated in an accompanying press release, “Since technology is so common in healthcare, from admitting patients to the operating room to ordering and administering medication, any Joint Commission accreditation standard can be tied to technology.”

The Joint Commission and the ECRI Institute, which participated in announcing the alert, recommend hospitals create multidisciplinary teams that review current technology and evaluate new gear ahead of purchasing to make sure it fits in with the hospital’s existing systems and the way staff members work. Safety managers need to be part of that evaluation, along with physicians, nurses, IT staff members, and others in the facility involved in buying or using technology.

Multidisciplinary analysis of new technology is critical in seeing through marketing and sales smoke, which is often based on optimistic laboratory tests that can sound good to your IT department, but may not reflect actual performance in your hospital, Painter says.

Strategies to consider

The Joint Commission recommends hospitals take 13 specific steps to combat technology convergence problems. The steps are somewhat similar to those set forth in a guidance document published in the ECRI Institute’s October 2008 Health Devices. They include the following:

➤ Get safety managers involved in risk assessments before new technology is introduced
➤ Encourage IT buyers to visit other facilities using a prospective technology to see how it works in the real world before signing a purchase order
➤ Monitor staff members to make sure technology work-arounds aren’t causing or obscuring errors
➤ Develop a system of safety alerts and a protocol for dealing with them
➤ Monitor skipped alerts and investigate how and why they happen
➤ Establish training programs for each department that will interact with a new technology

The multidisciplinary team that safety officers should be a part of should develop what the ECRI Institute calls a strategic vision, defined in a mission statement for implementing new technology that aligns the business and safety values of the facility.

“It’s important for safety managers to participate on a collaborative team to help establish a vision and provide their unique perspectives on patient safety and general safety in the hospital,” Keller says.

Editor’s note: To read the full Sentinel Event Alert, go to www.jointcommission.org and click the Sentinel Event tab near the top of the page.
## Answer these questions about your next technology purchase

If you can answer yes to the following list of questions when considering the safety implications of a new piece of equipment or software at your hospital or evaluating existing equipment in a routine review or after a problem arises, you’re well on your way to avoiding error-prone technology:

- Do we have a strategic safety vision that defines our approach to integrating new equipment and technology?
- Does this piece of equipment or software fit into that vision?
- Have we done a risk assessment of this technology?
- Have we concluded that the pros outweigh the cons for this technology?
- Does this technology’s ease of integration with our hospital’s servers and operating systems compare favorably to its competitors?
- Does this technology meet our standards and fit into our best practices for that category of device or software?
- Have we critically analyzed our staff’s work flow, including that of physicians and nurses, and determined that this product will help the work flow, not hinder it?
- Has this technology’s performance in pilot projects and test runs satisfied us?
- Did we consult with caregivers, nonclinical staff members, and patients in choosing the best device or software for the job?
- Have we addressed all the issues that caregivers, nonclinical staff members, and patients have raised related to this technology?
- If this technology involves medication, have we consulted with pharmacists?
- Can this technology’s safety alarms be forwarded or passed over? If so, do we have staff members who are trained and able to monitor alarms so that they don’t get forwarded to a dead end?
- If this technology eliminates any safety checks we currently conduct, can we replace the lost checks with equally effective ones?
- Does the vendor understand our clinical area, and is this technology recommendation based on that understanding?
- Do we have a schedule for maintenance and upgrading equipment and its various components?
- Have we limited potential distractions in the environment for users of this technology?
- Has the hospital planned for any unique or additional maintenance activities that this product will require?
- If a device works on its own proprietary network, is it worth the purchase as opposed to a device that integrates into the hospital’s servers and operating systems?
- Does this technology protect private patient information when applicable?
- Has the hospital’s wireless device point person determined that this product will not interfere with other devices?
- Will our Wi-Fi signal reach this technology, if applicable?
- Has our hospital’s medical error reporting system been updated to reflect the new product going into service?

Additional comments and observations:

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Sources: Based on material from The Joint Commission, the ECRI Institute in Plymouth Meeting, PA, and Frank Painter, MS, CCE, hospital technology consultant at Technology Management Solutions in Trumbull, CT.
Survey monitor

Hospital proves its 96-hour mettle in emergency plans

Hurricane Ike displaced a lot of people and changed a lot of plans, including Huntsville (TX) Memorial Hospital’s Joint Commission survey. The survey was originally scheduled to take place in the second week of September 2008, but as Ike’s path became clear and disaster preparation escalated in earnest, the accreditor decided to reschedule.

“If [surveyors] wanted to know my disaster plan, they should have showed up then,” says Charlene Gordon, RN, the ER clinical coordinator and emergency preparedness manager at Huntsville Memorial. “I’d have given them a vest and put them to work!”

The survey took place January 12–16, and the hospital had all the right answers for surveyors in terms of emergency management planning, Gordon says.

Reflecting on a past response

The 75-bed hospital lies about 90 miles north of Houston, an area “run over by Ike,” as Gordon puts it.

The facility went without power for about 96 hours during the storm, and the emergency operations plan and backup power systems held firm throughout. Although there was no major wind damage to the building, a downed power line near the hospital’s oxygen system did initially complicate Huntsville’s response efforts.

Hospital staff members made it through with help from a county emergency operations center, which sent a utility crew to remove the power line after verifying that it wasn’t live. The county set up remote facilities to take care of patients who needed help with minor concerns and sought supplemental generators to aid the hospital in bringing up more systems had Ike hit even harder than it did.

‘We did our 96 hours for real’

Gordon and her colleagues got to share the whole episode with The Joint Commission (formerly JCAHO), which chose Huntsville Memorial as one of the first to be surveyed under the 2009 standards, including the 96-hour provision under EM.02.01.01.

“We did our 96 hours for real,” Gordon says. The hospital’s binder on the experiences of Hurricanes Ike and Gustav are 4 inches thick and full of information detailing the county’s response plans, problems, and solutions.

“That’s the kind of thing [surveyors were] looking for,” she says.

Planning with community is key

The emergency management tracer the surveyors conducted involved a chlorine leak. They closely examined the plans Huntsville Memorial had made with other community agencies and staff members’ knowledge of those plans.

Surveyors asked many questions regarding how the hospital would notify the public of its role in the disaster response, as well as how it would coordinate response efforts with county and city police, the fire department, emergency medical services, and public health officials.

They also drilled deep into communication protocols, including those called for under EM.02.02.01. Gordon and her colleagues were ready, having weathered Ike and recently tapped into a new reverse-911 system through which the county can broadcast messages via mass phone calls. Gordon also laid out recent drills the hospital conducted, including local television and radio stations, which tested notification and broadcast procedures.

“As soon as things start to go bad, wherever it is, we start to come together immediately,” she says, explaining that information gets disseminated through the hospital’s and county’s public information officers.
“We function as one team, and I was able to prove this to the surveyors,” Gordon says. “I was able to show them the brochure and the agreement and all the things that we are able to do to communicate to the community instantly.”

**Adjusting to new standards and scoring**

The life safety specialist came separately—and stayed in a different town and hotel—from the physician and nurse surveyors, but the visits overlapped, Gordon says, adding that the regular surveyors didn’t talk much with the life safety specialist until they met at the end of the survey.

The specialist checked fire doors and smoke penetrations, as is customary. He also followed the forwarding of fire alarms and asked for detail on what happens on overnight shifts when staff members take breaks, says Gordon.

Because of the new scoring and reporting system, the hospital did not receive an immediate full report of its survey results, but instead was given a tentative preliminary report.

“They don’t give you everything right away. They make you wait weeks to get all your information, [so] we weren’t really sure how we did,” Gordon says. She notes that the surveyors were fair and knowledgeable, especially considering that everyone was working under a reorganized set of standards.

**Immediate record of the proceedings**

Gordon says Huntswood Memorial, at least initially, learned more about its survey results through employees assigned to follow surveyors and write down what they overheard. The hospital not only had scribes, but also runners, who would take off to notify the person in charge of a particular area when surveyors uncovered a compliance issue.

Gordon recommends other safety officers and survey prep coordinators follow suit if they want to get a jump on fixing compliance issues in the weeks-long gap between a survey and The Joint Commission’s report notifying the hospital of its results.

“Make sure they have someone by [surveyors’] sides at all times and they have a nice little notebook and a sharp pen,” she says.

When surveyors pointed out defects, the scribes would record the observations, which allowed the hospital to fix many small problems immediately.

If you choose to use scribes, remember to plan ahead for these people to be designated and available when surveyors arrive unannounced.

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**Life safety violations top most-cited standards list**

In what is bad news for safety officers and facility directors, the former EC.5.20 was the most cited Joint Commission standard in surveyed hospitals in the first half of 2008.

According to The Joint Commission, during that period, 46% of hospitals received citations under EC.5.20, which required compliance with the *Life Safety Code®* and the *Statement of Conditions*.

EC.5.20’s provisions expanded into the new life safety chapter, which debuted in January. With a total of 10 standards and more than 100 elements of performance in the new chapter, the potential for citations has increased.

EC.5.40 (inspection, testing, and maintenance of fire protection equipment) was cited in 28% of hospitals in the first half of 2008, making it the sixth most cited standard. EC.5.40 has become EC.02.03.05 in the 2009 standards.

**Survey at a glance**

➤ **Emergency management highlights:** Surveyors examined past documentation relating to Huntsville (TX) Memorial Hospital’s response to Hurricanes Ike and Gustav. Surveyors also asked questions about the facility’s 96-hour provisions and communication strategies during an emergency.

➤ **Life safety highlights:** Surveyors reviewed how staff members monitored and handled fire alarm signals when they were forwarded.

➤ **Standards focused on:** EM.02.01.01 (emergency operations plan), EM.02.02.01 (communication during an emergency), and LS.02.01.34 (fire alarm systems).
Nurses’ union pact aids emergency preparedness efforts
New Minnesota agreement also satisfies Joint Commission requirements

The Minnesota Nurses Association and Allina Hospitals & Clinics came to terms on an interesting agreement in early February that hardwired staffing strategies into the system’s emergency management plans.

The pact satisfies the following issues that many hospitals face:

- It works out in advance how Allina hospitals will honor staffing rules set forth in labor agreements (e.g., no mandatory overtime) during disasters.
- It fleshes out a nursing staffing plan that everyone’s agreed to in advance and that can be invoked during emergencies.
- It will cut down on medical errors by ensuring shifts no longer than 12 hours and limiting total work hours for a given week.
- It calls for training a group of nurses who can be summoned to a hospital to supplement staff members who are unavailable or unable to get to work during a disaster. These supplemental nurses will be prepped on arranging for family care and bringing along a personal kit with things they need for a prolonged stay at work (e.g., clothes, extra uniforms, and personal medications).

The agreement also helps the hospital comply with many emergency management requirements of The Joint Commission (formerly JCAHO), some of which include:

- Honor staffing rules set forth in labor agreements (e.g., no mandatory overtime) during disasters.
- Fleshes out a nursing staffing plan that everyone’s agreed to in advance and that can be invoked during emergencies.
- Cutting down on medical errors by ensuring shifts no longer than 12 hours and limiting total work hours for a given week.
- Calls for training a group of nurses who can be summoned to a hospital to supplement staff members who are unavailable or unable to get to work during a disaster. These supplemental nurses will be prepped on arranging for family care and bringing along a personal kit with things they need for a prolonged stay at work (e.g., clothes, extra uniforms, and personal medications).

The Minneapolis response plan divides the city into two regions and includes several hospital systems. Originally set up a few years ago as a basic ambulance mutual aid agreement, the regions’ cooperative pacts have grown to include hospital emergency preparation.

Representatives from Allina and the union realized they needed to create an agreement in the wake of the 2007 Minneapolis bridge collapse that upended transportation and created an influx of patients, as well as disaster plan reviews in advance of the 2008 Republican National Convention held in the city.

“[Employers] think that, in time of crisis, they can use mandatory overtime, or nurses are going to volunteer, and it’s not going to be an issue,” says Allina’s Marie Stuewe, RN, who chaired the negotiating committee and represents the union. “We have to take care of the nurses, too, in these times. They have to be assured that they are going to be safe if they are here, and we have to realize they have commitments at home and they have to balance the two.”

Minneapolis’ response plan divides the city into two regions and includes several hospital systems. Originally set up a few years ago as a basic ambulance mutual aid agreement, the regions’ cooperative pacts have grown to include hospital emergency preparation.

When emergency planners started discussing the sharing of resources, such as deploying nurses from one hospital to help out in a burn unit across town, Allina realized that it was time to call its various unions to get the employees’ perspectives on how to best serve their needs.
After consulting the HR department, Allina decided to negotiate first with the nurses and then other unions one by one. “[The nurses’ union] was very good about understanding our needs and goal that we needed to go for,” Studer says.

Nurses step forth for extra training
Allina is in the process of setting up a volunteer program in which nurses sign up for training and agree to be deployed in a disaster as a way to augment the nurses working at a given hospital.

A pilot program for the training will begin this summer, conducted with educational resources inside and outside Allina. The training will not only give nurses the skills they need if they are assigned different work than usual, such as behavioral first aid to help patients cope with the mental aspects of a disaster, but will also educate them on how to access and use personal protective gear when appropriate.

The training will also show nurses strategies for communication with their families while potentially away from their homes overnight, as well as teach them how to set up a personal disaster plan that helps them manage family care issues in advance of a crisis that might pull them out of their homes for a few days.

Allina employs about 5,000 nurses; it estimates it would need 2,100 nurse volunteers per day during a significant disaster to meet the community’s needs.

Hospital disaster plans should account for a 20%–30% employee absenteeism rate when a crisis hits, regardless of whether employees have unions, says Marsha Studer.

Safer employees equal safer patients
Stuewe says regardless of whether a hospital develops a union disaster agreement, administrators should invest more in employee safety, a trend she sees as just catching momentum in this decade.

She commiserates with safety managers who battle budget and resource constraints in their efforts to make hospitals safer places to work.

“It’s only been in the last eight to nine years that employee safety has been really recognized and addressed in the everyday working situation,” Stuewe says, adding that safety is even more critical when disaster strikes.

“There seems to be the prevailing mind-set out there that it’s part of the job if you get hurt at work,” she says. “That’s not true. It doesn’t need to be that way. If you have safe employees, you’re going to have safe patients.” This mind-set also demonstrates the clear connection between the physical environment and patient safety.
Hospitals in the compliance soup of the Environmental Protection Agency’s (EPA) new rule mandating only full loads run in ethylene oxide (EtO) sterilizers—unless a physician or other authority determines it medically necessary to run a partial load—may be interested in an alternative approach.

Some readers have reported that the EtO regulation is onerous because their hospitals rarely have enough gear to run a full load in the sterilizer. An option may be to use an air pollution control device (APCD) that filters EtO waste gas, as outlined by the EPA in a brochure about the regulation at www.epa.gov/ttn/atw/area/sterilizersb.pdf.

“Hospitals which route [EtO] to an air pollution control device are in compliance with the rule requirements,” the EPA states in the brochure.

The agency has found that collectively, hospital EtO sterilizers account for a significant source of pollution, a fact that inspired the new rule. As many as 1,600 of the nation’s 5,800 hospitals may be affected.

If your sterilizer existed before November 6, 2006, you have until June 26 to file an “initial notification of compliance status” with the EPA. This notification will explain which compliance path you plan to take: the management practice of monitoring full loads and logging them or the use of an APCD. Newly constructed sterilizers must send in initial notification within 180 days of startup.

In the initial notification, the EPA requires hospitals to certify one of the following:

- The hospital sterilizes full loads of items with common aeration time except under medically necessary circumstances
- The hospital operates sterilizers with an add-on APCD required by a state or local regulation and follows APCD manufacturer recommendations
- The hospital operates sterilizers with an add-on APCD (but is not subject to a state or local requirement to do so), venting EtO emissions from each sterilizer to the APCD, operating the APCD during all sterilization processes, and following APCD manufacturer recommendations

To read the EPA’s full EtO regulation, go to www.epa.gov and search for the term “FRL-8512-1.”

All subscribers to the Hospital Safety Center can read more about the ethylene oxide regulation in our blog, “Mac’s Safety Space.” Go to blogs.hcpro.com/hospitalsafety and type “ethylene oxide” into the search bar.
Prepare security officers for emergencies involving hazardous materials

During normal rounds of the hospital, one of your security officers notices an unmarked box left in a waiting area. As the officer approaches the box, he notices stains on the cardboard exterior and a small amount of smoke or fumes coming from the package’s seams.

Does your officer know what to do? Does he back away from the box to prevent exposure to the fumes? Does he evacuate any healthcare personnel or patients from the area? Does he know who to call to report the box and activate your emergency response team?

Whether it’s the scenario above or the discovery of a leak or hazardous spill, security officers are often among the first people on the scene.

“They are the eyes and ears of the safety department after hours and on weekends,” says Thomas J. Huser, MS, CHSP, CHEP, safety coordinator of emergency management and hazardous materials at Clarian Health in Indianapolis.

At Clarian, security officers play a key role in reacting to potential hazards. The hospital instructs staff members to call the security dispatch if they discover a spill or release of a known or unknown substance, see a fire, notice burning or strange odors, or find a suspicious package, Huser says.

Because of their risk of exposure to hazardous substances during emergencies, OSHA recommends that security personnel in all industries receive training on this issue.

In fact, OSHA prepared a report, Preparing and Protecting Security Personnel in Emergencies, to help employers understand these training recommendations. In an emergency, security officers could be exposed to hazardous substances that include chemical, biological, radiological, and even nuclear materials.

Hospital environments carry risk

Although security officers working at chemical manufacturers and industrial facilities that use hazardous substances are at high risk, hospitals are not immune from incidents involving hazardous materials and should train their security officers for these emergencies. For example, in March, National Jewish Health, a respiratory hospital in Denver, had to evacuate about 500 staff members and students after a worker accidentally mixed two incompatible chemicals, creating toxic fumes in some buildings on the campus. There were no serious injuries, but 44 people went to other hospitals for minor treatment after inhaling the fumes, according to the hospital.

Emergency planning in preparation for hazardous substance emergencies is key to successful implementation of emergency response operations, OSHA said in its report. “The role that security personnel will have in an emergency is important with respect to the success of emergency response operations,” the report noted.

At Clarian, security officers undergo environment of care training as part of their annual training, which includes their roles and responsibilities when it comes to safety, fire response, disaster response, and dealing with hazardous materials, says Huser. It’s important that hospital security personnel are trained in hazardous materials...

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so they can handle day-to-day operations and major emergency situations, says Barry D. Watkins, MBA, MHA, CHSP, senior environment of care specialist in corporate safety at the Carolinas Healthcare System in Charlotte, NC.

Consider the following when it comes to training security officers:

➤ **Determine the role you want security officers to play.** It’s important to determine the level of involvement officers will have in advance of an emergency, says Watkins. You want to know your limitations. It’s also important in determining the personal protective equipment (PPE) that the hospital must provide so security personnel can safely perform their duties.

➤ **Train security officers based on their predetermined level of involvement.** OSHA standards specify levels of training that security employees should have based on what employers expect them to do during an emergency.

“Security personnel who are expected by their employer to provide support during an emergency involving a hazardous substance release, arising from natural disasters, or involving weapons of mass destruction must receive training in accordance with OSHA requirements,” OSHA noted in its report.

Security personnel expected by their hospitals to assume an emergency responder role during a hazardous substance release are covered by OSHA’s Hazardous Waste Operations and Emergency Response (HAZWOPER) standard or OSHA-approved state plan standards. The HAZWOPER standard (29 CFR 1910.120) describes the level of training for personnel involved in emergency responses based on the types of activities and duties employers expect them to perform during emergency response operations.

In most settings, security officers will serve at the first responder awareness level, in which they are limited to initiating emergency response procedures by notifying the proper authorities, OSHA said in its report. However, in hospitals, officers’ roles may be more extensive, and facilities may want to train them to serve at the first responder operations level.

The first responder operations level of training is necessary if you expect security officers to respond in a defensive fashion as part of the initial response, protecting nearby persons, property, or the environment from a safe distance. This level is also needed if you expect security staff members to be part of a decontamination scenario, in which they may come into contact with contaminated victims, equipment, or waste. Think about the role security officers will play if victims of a hazardous material exposure come to your facility. Will security officers help control any contaminated people to reduce exposures or help ensure that they undergo proper decontamination processes? (For more information on the differences between first responder awareness and first responder operations, see the sidebar on p. 3.)

Hospitals may also want to review another OSHA report, OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances. OSHA defines first receivers as hospital employees who risk occupational exposure to hazardous materials when they treat contaminated patients, particularly during mass casualty incidents. At Clarian
A Web site Watkins recommends for more information is Haz-Mat for Healthcare (www.hazmatforhealthcare.org).

**Equip security staff members based on their predetermined role.** OSHA standards speak to this requirement as well because the selection of equipment is an important step in protecting staff members.

Determine what kind of PPE security officers will need, says Watkins. This may include respirators, suits, gloves, footwear, and face and eye protection. OSHA requires employers to select PPE based on an assessment that identifies the hazards to which security officers might be exposed during an emergency. Will officers need respiratory protection such as powered air-purifying respirators?

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**Match training to the emergency response roles of security staff members**

OSHA’s Hazardous Waste Operations and Emergency Response standard specifies the level of training security employees should receive based on the roles and responsibilities an employer expects them to fill during an emergency involving hazardous materials.

In most circumstances, hospitals should train security staff members at the first responder awareness level or the first responder operations level.

**First responder awareness level**

At the first responder awareness level, security officers will notify the appropriate authorities of an emergency. They should have training or sufficient experience to demonstrate competency in the following:

> An understanding of hazardous substances and the risks associated with them in an accident
> An understanding of the potential outcomes in an emergency involving hazardous substances
> The ability to recognize the presence of hazardous substances in an emergency
> The ability to identify hazardous substances, when possible
> The ability to determine whether additional resources are needed and notify the communication center as appropriate

**First responder operations level**

Security staff members at this level are prepared to respond in a defensive manner during an emergency, protecting nearby people, property, and the environment from a safe distance.

Personnel must receive at least eight hours of training or have sufficient experience to objectively measure competency in the areas previously listed for the first responder awareness level.

In addition, they must have an understanding of the following:

> Basic hazard and risk assessment techniques
> How to select and use proper personal protective equipment (PPE)
> Basic hazardous materials terms
> How to perform basic control, containment, and confinement operations given the capabilities of the resources and PPE available
> How to implement basic decontamination procedures
> Relevant standard operating and termination procedures
Have a plan for what action your security staff should take. OSHA considers sound planning the first line of defense in any emergency. Keep in mind that the release of hazardous substances can result from numerous incidents and involve a wide variety of substances and hazards. An incident may be caused by anything from the release of a hazardous gas to an influx of patients exposed to chemical contamination after a train derailment in your community. With the increased threat of terrorist attacks, the range of possible scenarios is even greater, OSHA said in its report.

“Have a plan, know the plan, and practice the plan,” says Watkins.

Be sure security knows what to do in various instances. When officers get a call from staff members about a problem such as a chemical spill, they need to make decisions based on what they find, says Huser. For example, they may evacuate the area and call for the hospital’s spill response team. If people have been contaminated, officers will need to get them out of the building. They may need to set up a perimeter around the area of the incident.

Security staff members at Clarian Health will soon be carrying handheld radiation detectors. If the detector is activated, staff members will know to call the fire department and the facility’s radiation safety officer, Huser says.

Don’t forget about refresher training. Once initial training has occurred, don’t forget to keep that training up to date. OSHA states that security officers who are required to receive initial training must also receive annual refresher training to maintain their skills and competencies.

“Training is your best investment,” says Huser. “The more training security staff members receive, the more competent they are, and the more appropriately they can respond to an emergency.” Don’t increase the risk to security officers as well as the rest of your staff and your patients by failing to properly train them, he says.

What kind of protective clothing will your hospital provide? At Carolinas Healthcare, security staff members are equipped with respirators and Level C impervious suits, gloves, and boots, Watkins says.

Make sure security officers know your facility and its areas of operation. Security officers need to know what services your hospital provides throughout its campus, says Watkins. Are you a small, stand-alone community hospital, or is your hospital part of a research campus with laboratories that may deal with experimental agents or dangerous pathogens? Security personnel should know those risks, he says.

Orient your security staff to the activities that go on in your various areas of operation. Think about the potentially hazardous materials in all of your hospital’s departments, says Watkins. You may be surprised by the risks that are present.

“We’re such a complex technological environment and industry—people don’t realize how sophisticated healthcare really is,” he says.

For example, the radiology department can present risks from radioisotopes, ionizing radiation, or the potential for oxygen-deprived environments if MRI machines malfunction. Your laboratory likely contains hazardous chemicals such as flammable liquids, gases, solids, and biohazards. Even your grounds department will likely store flammables, solvents, pesticides, and herbicides in a building on your campus, Watkins says.

Be sure security staff members know who they need to contact, depending on the emergency. Security needs to know who to call when something goes wrong so your hospital personnel can make an intelligent decision about how to react in an emergency, says Watkins. Officers should know how to get in touch with the hospital’s safety officer, radiation safety officer, health physicist, laboratory director, plant operations or maintenance manager, and grounds director.

Be sure security staff members are well versed in your emergency alert and communication procedures.

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