APIC guide highlights role of ambulatory care in disaster response

A new publication by the Association for Professionals in Infection Control and Epidemiology (APIC) zeros in on the role of outpatient care facilities in responding to disasters—specifically, how they can prevent infection in their patients, staff, and the community at large.

The guide, “Infection Prevention for Ambulatory Care Centers During Disasters,” applies to all types of outpatient facilities, including ambulatory surgery centers (ASCs). It is available for download at no charge at www.apic.org.

The 112-page document, which covers a wide range of natural and human-caused disasters, emphasizes that infection is more than a disease state introduced by bioterrorists; it is a potential byproduct of any kind of disruption of modern living conditions. For example, a major storm may cause flooding or structural damage, resulting in water contamination, which is an infection hazard.

In a disaster, ASCs are likely to cancel elective surgical procedures. They may, however, be called upon to perform emergency surgery for disaster victims or community members that local hospitals cannot accommodate. The guide warns, “The risk of surgical site infections will likely be higher during disasters if resources become limited and crisis standards of care are implemented.”

Detailed directions
According to Terri Rebmann, PhD, RN, CIC, the guide’s author, APIC wanted to offer outpatient facilities the same comprehensive guidance that hospitals have long relied on for disaster planning. Rebmann is an associate professor at Saint Louis University’s College for Public Health and Social Justice. “According to research,” she says, “hospitals are continually getting better at disaster planning, but that’s not true of nonhospital settings. Most are not as prepared as hospitals. They may not have the resources.”

In addition, the regulatory requirement to develop a disaster plan is not followed up by specific details, she notes. “For example, the Joint Commission says a facility needs to be able to handle an influx of patients, such as having extra beds and supplies. There are so many elements that go into that 1 standard. That’s a starting point.”

The APIC guide provides details and practical tools, such as checklists, posters, and policies that can be adopted directly from the document.

The focus is on infection, but the guide also stresses that disaster planning must involve many disciplines. Not only should medical and administrative staff participate, but the ASC should work with public health and emergency management agencies as well as nonprofit groups such as the Red Cross.

The guide draws on US and international agencies, including the World Health Organization, for its material.

ASCs, like all healthcare organizations, must adhere to standard infection control practices. When the unexpected happens, normal procedures may not be practical or
adequate. The guide outlines “crisis standards” that may take effect in emergencies. **Helping hands**

For outpatient facilities, local disasters may trigger preexisting plans that call on them to lend staff, beds, operating rooms, or medical-surgical supplies to support first responders and hospitals. Those that remain open and accept patients may face shortages and need to stretch or substitute resources.

Whenever facilities, people, and materials are used in unusual ways or places, the danger of infection is present. Gurneys in hallways? Power outage? No running water? Insects in the building?

Even shared toys in waiting rooms can be dangerous in a situation where maintaining normal hygiene has become difficult, and the APIC guide contains a section on toy management.

Whatever the circumstances, when an unusually large number of patients arrives, infection will always be a concern. The new arrivals must be screened for infection, then segregated or possibly isolated when serious infection is present. One way to do this when space is limited, the guide suggests, is through scheduling: see the infectious group first, and then treat the others.

ASCs, like all healthcare providers, must have designated infection prevention specialists and must comply with Centers for Disease Control and Prevention (CDC) rules regarding reportable diseases. These include potential bioterrorism agents such as plague, anthrax, botulism, and viral hemorrhagic fever.

Even when the disaster is not related to bioterrorism, infectious outbreaks may result from contaminated water or food. Natural pandemics occur regularly throughout the world and may become serious. A recent example is West Nile virus, a neuroinvasive disease transmitted by mosquitoes. There have been several outbreaks in the United States, most recently in the Midwest. Another virus of concern to the CDC, Rebmann says, is Middle East Respiratory Syndrome Coronavirus (MERS CoV) because it occurs in Middle Eastern countries and may be carried back by travelers to that area. The virus emerged recently in Saudi Arabia, at a time when large numbers of individuals were making the pilgrimage there during Ramadan.

The guide recommends that ASCs participate in local syndromic surveillance programs to help with early identification of infectious disease threats in their communities. Appendix C in the guide lists symptoms to be reported and can also be used as a triage tool for incoming patients.

Few ASCs are likely to have space suitable for isolation, which is especially required for diseases with airborne transmission, but the guide recommends beginning protective measures before transferring patients to a hospital. Diseases to watch for and isolate include tuberculosis, chicken pox, measles, smallpox, viral hemorrhagic fever, and severe acute respiratory syndrome (SARS).

The APIC guide describes personal protective equipment that facilities should have available. An ASC may be well stocked with surgical masks, but it should also have a plan to distribute respirators, which fit tightly to the face and protect against very small particles such as viruses.

**Protecting staff**

Staff may be overlooked in programs designed to protect patients. An upcoming quality-reporting rule will require ASCs to inform the Centers for Medicare & Medicaid Services (CMS) whether staff members have been immunized for influenza. As part of disaster planning, the APIC guide recommends all staff be brought up to date for adult immunizations as directed by the CDC or public health agencies. If an outbreak of any kind occurs, they should be given any appropriate vaccines.
ASCs dodge wind, water, and infection risk

Recent disasters such as bridges collapsing, mass shootings, bombs, and explosions have led to mass injuries that have been particularly challenging for local hospitals to treat.

Natural disasters—windstorms, fires, and floods—likewise wreak havoc, damaging or destroying healthcare facilities and disrupting supply distribution just when those resources are critically needed.

During Colorado’s major flooding from heavy rains in September 2013, communities found themselves isolated because of washed-out roads, and water supplies were at risk of contamination. The state health department warned Boulder-area residents to boil water before drinking it.

Yet some locations were spared any damage.

According to Chris Skagen, JD, MELP, executive director of the Colorado Ambulatory Surgery Center Association (CASCA), the “vast majority” of ambulatory surgery centers in the flood area were able to remain operational. CASCA participates in emergency planning with the Federal Emergency Planning Agency and the Colorado Department of Public Health and Environment, he says.

Harmony Surgery Center in Fort Collins, Colorado, is located on 1 of the few roads not closed by floods. Nearly all staff and patients were able to reach the center, which was not damaged. “Our patients did not want to cancel,” recalls CEO Rebecca Craig, BA, RN, CNOR, CASC.

Infection control is always critical following a disaster, and proactive response is vital, she notes. “During the storm we were in disaster mode,” she says. “If we had had damage, we would have had to cancel all our cases to protect both staff and patients.”

In fact, earlier in the summer Harmony faced an increased risk of infection because of a heat wave. After a very warm weekend, the staff returned to find the rooftop ventilation units had shut down but the humidifiers had continued to run. “It was like a little rain forest in there,” Craig recalls.

The center canceled all OR cases for the day while HVAC crews made repairs and staff worked to mitigate water damage.

Following the incident, Harmony conducted hazard risk assessments that included repeated mold testing, visual inspection of ductwork, and ventilation studies. Harmony’s quality resource director, Cassie Seiler, RN, CSHA, notes, “Post-event activities were just as imperative as initial response to ensure long-term patient safety.”

Preparation pays off

One spring day in 2011, Tuscaloosa [Alabama] Surgery Center administrator Jeffrey Hayes walked out on the loading dock at 5 pm. A series of tornadoes had been harassing the Southeast, and now the city was under a warning with a massive tornado on the ground headed for the center of the city. After losing local television coverage, Hayes wanted to see the situation for himself.

“I could hear it and see the rotation,” he recalls. “I really thought we were about to get hit.”

The center’s disaster plan was already in effect. One patient remained in the recovery room with her 2 visitors, a child and a teenager. The staff had quickly moved the patient to a “safe room” in the building’s interior, where there were no windows. The young visitors were directed to stay inside to avoid the storm.

“We were all hunkered down in the corner,” Hayes says of the tense minutes that followed. The storm swept by 2 miles to the south and caused no damage to the facility.

Hayes called 1 of the surgeons to report they were safe and to offer help to the nearby medical center because of washed-out roads, and water supplies were at risk of contamination. The state health department warned Boulder-area residents to boil water before drinking it.

Yet some locations were spared any damage.

According to Chris Skagen, JD, MELP, executive director of the Colorado Ambulatory Surgery Center Association (CASCA), the “vast majority” of ambulatory surgery centers in the flood area were able to remain operational. CASCA participates in emergency planning with the Federal Emergency Planning Agency and the Colorado Department of Public Health and Environment, he says.

Harmony Surgery Center in Fort Collins, Colorado, is located on 1 of the few roads not closed by floods. Nearly all staff and patients were able to reach the center, which was not damaged. “Our patients did not want to cancel,” recalls CEO Rebecca Craig, BA, RN, CNOR, CASC.

Infection control is always critical following a disaster, and proactive response is vital, she notes. “During the storm we were in disaster mode,” she says. “If we had had damage, we would have had to cancel all our cases to protect both staff and patients.”

In fact, earlier in the summer Harmony faced an increased risk of infection because of a heat wave. After a very warm weekend, the staff returned to find the rooftop ventilation units had shut down but the humidifiers had continued to run. “It was like a little rain forest in there,” Craig recalls.

The center canceled all OR cases for the day while HVAC crews made repairs and staff worked to mitigate water damage.

Following the incident, Harmony conducted hazard risk assessments that included repeated mold testing, visual inspection of ductwork, and ventilation studies. Harmony’s quality resource director, Cassie Seiler, RN, CSHA, notes, “Post-event activities were just as imperative as initial response to ensure long-term patient safety.”

Preparation pays off

One spring day in 2011, Tuscaloosa [Alabama] Surgery Center administrator Jeffrey Hayes walked out on the loading dock at 5 pm. A series of tornadoes had been harassing the Southeast, and now the city was under a warning with a massive tornado on the ground headed for the center of the city. After losing local television coverage, Hayes wanted to see the situation for himself.

“I could hear it and see the rotation,” he recalls. “I really thought we were about to get hit.”

The center’s disaster plan was already in effect. One patient remained in the recovery room with her 2 visitors, a child and a teenager. The staff had quickly moved the patient to a “safe room” in the building’s interior, where there were no windows. The young visitors were directed to stay inside to avoid the storm.

“We were all hunkered down in the corner,” Hayes says of the tense minutes that followed. The storm swept by 2 miles to the south and caused no damage to the facility.

Hayes called 1 of the surgeons to report they were safe and to offer help to the nearby medical center because of washed-out roads, and water supplies were at risk of contamination. The state health department warned Boulder-area residents to boil water before drinking it.

Yet some locations were spared any damage.

According to Chris Skagen, JD, MELP, executive director of the Colorado Ambulatory Surgery Center Association (CASCA), the “vast majority” of ambulatory surgery centers in the flood area were able to remain operational. CASCA participate...
The guide also stresses that employees should not come to work when they are ill, despite the natural tendency to want to help in time of need. “[ASC] staff should not work while ill because they can contribute to disease transmission,” the guide states. “This is important for all disasters, but will be essential during infectious disease disasters because infected staff can contribute to disease transmission to patients and other staff.”

The same caution applies to staff members who are more susceptible to disease, such as those who are pregnant or whose immune systems are compromised. The danger increases if the infectious disease is transmitted by air or droplets.

In addition to staff, visitors may also be a source of infection. The guide advises discouraging children and family members with compromised immune systems or symptoms of illness from accompanying patients.

**Food and drug safety**

Vaccines and drugs should be on hand or readily available in case of disease outbreak. However, disasters often are accompanied by power loss or damage to storage areas. Civil authorities may designate an ASC or other outpatient facility as a “closed point of dispensing” during a disaster, meaning it would serve as a source of medication for patients, staff, and the families of staff members. The disaster plan should provide for alternative means of temperature regulation (such as a cold storage unit) following a loss of power for refrigeration. “The cooling system for medications/vaccines must be separate from refrigeration used for food,” the guide notes.

It may be necessary to store food on site as well, for patients and employees who are caring for them. As part of the disaster plan, an ASC should work with community and public health organizations to arrange for delivery of food as needed.

**What about waste?**

Caring for additional patients will generate more waste, both ordinary and infectious. Meanwhile, waste disposal may be hampered by conditions following a disaster. The guide warns of the potential for trash to attract insects and rodents, creating another possible source of infection.

APIC advises separating regular and infectious waste, and storing both types in a holding area. The holding area for disposal of waste materials should be safe, clean, and free of access by vermin and insects. After trash and recycling items are picked up for disposal, the holding area should be cleaned and disinfected to remove accumulated organic material; this will prevent infestation by insects, animals, and vermin.

Disposing of human waste may present a different challenge if sewer or water lines are disrupted. Toilets may be unusable or supplies may run short for incontinence hygiene. The guide warns, “If any part of the ASC is flooded with potentially contaminated water or fluid, immediate steps must be implemented to prevent infection spread.”

In a section called “Postmortem care,” the guide says a disaster may result in more deaths than facilities are used to handling and that a deceased body may be a source of infection. Work with the coroner and health department to develop a plan for managing fatalities. The plan should include arrangement for supplies such as body bags.

Wounds should be packed and bandaged to prevent exposure to body fluids. Bodies should be stored or transported in accordance with state health codes.

**Planning for the unimaginable**

Because every disaster is unique in some way, no plan can cover all possibilities. Rebmann notes that most plans, including those at the community level, focus on natural
disasters. “There are so many pieces to the puzzle,” she says. The APIC guide aims to make it easier to control infection risks in any disaster. However, the infection control coordinator must participate in overall design and testing of disaster plans, within and outside of the organization. “Try to be involved in disaster drills in the community,” Rebmann says. “It needs to be a group process.”

—Paula DeJohn

Reference