



# For Long-term Care, Readiness Gaps Abound

By KATHYRN HYER, Ph.D., M.P.P.

**T**he nation's 2.4 million people living in special residences for the elderly, including approximately 15,000 nursing homes and 31,000 assisted living and residential care facilities, are especially vulnerable when disasters strike. Typically, these are people with multiple chronic medical conditions that often are accompanied by some degree of cognitive impairment. They can be susceptible to poor outcomes when care and routines are interrupted, even briefly.<sup>1</sup> Age-related sensory deficits, such as limited vision or hearing, or impaired mobility, may make it difficult for them to communicate or navigate the physical environment. Additionally, they may already suffer from, or be prone to, mental health conditions such as depression or anxiety.<sup>2</sup>

The particular vulnerabilities of the elderly — including those living in the approximately 700 long-term care facilities operated by members of the Catholic Health Association (CHA) — are of growing concern nationwide. Recent events have shown that disaster-related outcomes for this population, even when they survive the immediate danger, often are especially poor.<sup>3</sup> Further, post-disaster studies have shown that facilities that care for the elderly, particularly those that are for-profit or privately owned, often have been excluded from or overlooked in community emergency planning.<sup>4</sup>

Even if disasters were rare, it would be incumbent on health care leaders entrusted with the care of our nation's most vulnerable population to be

well-equipped to quickly and effectively respond, and for emergency management services in the community to offer support. As it is, disasters of various types are frequent occurrences. The Federal Emergency Management Agency (FEMA) reports that for the past 10 years, there has been an average of one presidential disaster declaration a week.

Recurring controversies in the news over the past decade have raised serious questions in the public mind about the ability of facilities that care for the elderly to make the best decisions when a disaster occurs or is imminent. Critical questions include how to ensure that 1) leaders of these facilities are prepared for all types of emergencies, and 2) the facilities themselves are tightly





C. PANNELL



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integrated into community disaster planning so that, as much as is humanly possible, residents are shielded from harm.

As an academic specializing in aging policy and long-term care administration, I, along with some of my colleagues, have been studying emergency preparedness in long-term care settings for nine years. In 2004, after Florida was hit by four hurricanes in 44 days, nursing home administrators sought our help in dealing with troubling experiences with regulators and emergency management officials. Often, nursing homes did not have phone numbers to directly contact the local or state emergency management office, nor did local emergency officials know the actual number

of nursing homes in their areas. Despite signed contracts, ambulances designated to evacuate residents in case of emergency were often over-committed or directed elsewhere by local emergency management officials. Medicaid reimbursed nursing homes for evacuating residents but not for returning them to their facilities. Nursing homes often were last on the list for receiving such needed supplies as fuel and water.<sup>5</sup>

### COMPREHENSIVE PLANNING REQUIRED

Fortunately, in the intervening years, administrators of facilities that care for the elderly and community organizations have made considerable strides toward better integration.

All-hazards planning encourages health care facilities to examine risks systematically for every category of disaster, from the most predictable natural disasters and severe weather events to other threats and potential hazards such as bioterrorism, chemical exposures and pandemic outbreaks of disease. Such planning also should include taking into account a facility's geographic proximity to chemical plants, power plants or railroads that carry toxic materials. Developing robust plans and carrying out preparedness drills for an assortment of poten-

## PSYCHOLOGICAL FIRST AID

An often overlooked aspect of disaster readiness is psychological training for the staff so they can maintain a sense of calm during an emergency. Thoughtful preparation of staff and residents about what to expect — and reassuring residents that they will be taken care of during an emergency and that the facility has practiced for different kinds of emergency events — is critical to psychological well-being.<sup>1</sup> With basic training in psychological first aid, all staff can learn the basics of appropriate behavioral reassurance.<sup>2</sup>

During an emergency, residents with cognitive impairment may need additional reassurance. The rushing around and disruption of routine may be terrifying or overwhelming to them, especially if an evacuation is necessary, bringing the likelihood of adverse outcomes.<sup>3</sup> In studies with paraprofessional and

professional staff in nursing homes, we have demonstrated staff can improve their mental health behavioral response skills with psychological first aid training adapted to long-term care environments.<sup>4</sup>

Psychological training needs to take into account the lower stress resistance of people with dementia. An event's longer-term psychological impact should be evaluated as well. If functional issues or distress, unexplained complaints or agitation remain after the disaster has subsided, licensed staff may want to screen residents for trauma and refer those needing additional assistance with recovery to formal treatment. Clinicians may want to learn more about using one screening tool called the "Impact of Event Scale."<sup>5</sup>

### NOTES

1. Lisa Brown, Edward Hickling and Kathryn

Frahm, "Emergencies, Disasters, and Catastrophic Events," *Rehabilitation Nursing* 35, no. 6 (2010): 236-41.

2. To download a free training manual, see *Psychological First Aid: Field Operations Guide for Nursing Homes* [http://agingstudies.cbcs.usf.edu/pdf\\_files/PFA\\_for\\_Older\\_Adults\\_2ndEd.pdf](http://agingstudies.cbcs.usf.edu/pdf_files/PFA_for_Older_Adults_2ndEd.pdf).

3. Lisa Brown, Mark Rothman and Francis Norris, "Issues in Mental Health Care for Older Adults during Disasters," *Generations* 31, no. 4 (2007): 25-30. [http://agingstudies.cbcs.usf.edu/pdf\\_files/PFA\\_for\\_Older\\_Adults\\_2ndEd.pdf](http://agingstudies.cbcs.usf.edu/pdf_files/PFA_for_Older_Adults_2ndEd.pdf).

4. Lisa Brown et al., "A Pilot Study Evaluating the Feasibility of Psychological First Aid for Nursing Home Residents," *Clinical Gerontologist* 32, no. 3 (2009): 293-308.

5. Kathryn Hyer and Lisa Brown, "The Impact of Event Scale — Revised: A Quick Measure of a Patient's Response to Trauma," *American Journal of Nursing*, 108, no. 11 (2008): 60-8.



tial events help staff to be aware of and prepared for a variety of threats.

The April 2013 fertilizer plant explosion in West, Texas, offers a case in point. George Smith, DO, the medical director and administrator of West's only nursing home and director of the town's emergency medical services, had long recognized that the nursing home was close to major transportation hubs for both truck and rail transport. Only two weeks before the explosion, the nursing home staff had held a drill to practice their plan for coping with a chemical spill.

The evening of April 17, a fertilizer plant about 200 yards from the nursing home caught fire. Smith rushed to the facility and, fearing chemical fumes, instructed staff to move residents away from the side of the building nearest the plant. Then the fertilizer plant blew up.

The explosion left a 93-foot-wide crater in the ground, destroyed an apartment complex and grade school and damaged buildings for dozens of blocks around. More than 100 people were injured; 15 were killed, according to news reports.

At the nursing home, windows shattered and the roof began to collapse, raining debris on the elderly residents. Smith ordered immediate evacuation. Even though regular communication channels had been interrupted, the director of nursing and many off-duty staff immediately reported to the nursing home to assist in getting residents to a triage center, then to nearby hospitals and other appropriate facilities.

All the residents were shaken; some were injured. One died shortly after the evacuation. Within the next 30 days, 13 more residents had died, almost double the expected rate, according to a Dallas newspaper.<sup>6,7</sup>

### COMMUNITY INTEGRATION

When my colleagues and I began studying nursing homes and disasters, we learned that nursing homes traditionally have been poorly incorporated into community disaster planning. In Florida, administrators who had a good relationship with local emergency management staff prior to the 2004 hurricanes were far more likely to report receiving help from the local emergency operations center in terms of power restoration or access to fuel for generators.

Many nursing homes, however, reported they

had virtually no knowledge of the local emergency operations center and no ability to communicate directly with them to convey their needs or request assistance. Based on multiple case studies, the Centers for Medicare and Medicaid Services' Emergency Preparedness Recommended Tool for Effective Health Care Facility Planning (see sidebar) advises that nursing homes build relationships with emergency operations centers

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and also learn the language and structure of emergency response, such as FEMA's National Incident Management System.

After Hurricane Katrina in 2005, most administrators became familiar with FEMA's National Response Framework for communitywide emergency planning, and with federal emergency support functions. They revised their disaster plans to incorporate a nursing home-specific incident command structure. *The Emergency Management Guide for Nursing Homes*, developed as part of the John A. Hartford Foundation's support of nursing home emergency preparedness, provides an example (see Resources).

Moreover, many states now require facilities not only to file their emergency plan with the local agency in charge of emergency preparedness, but also to receive approval of the plan. Some states, including Florida and New York, have checklists and online state registries that require facility administrators to update specific details of the plan, including personnel names and contact information, within 30 days of a change in facility leadership.

It is important, too, to include in plans how volunteers may be used and what tasks are appropriate for them. FEMA now recognizes the importance of voluntary, faith-based and community-based organizations and encourages these organizations to become integrated into disaster preparedness, response and, especially, recovery activities.

The stronger the relationship with local emergency management agencies, the more likely local resources will be marshaled to help long-term care providers. As John Rother, former AARP director of policy and strategy, noted in an AARP report on the effect of disasters on older persons, “Relationships are critical in disaster planning and response, and these relationships must be built before disasters strike.”<sup>8</sup>

### MIXED PROGRESS

The current state of nursing home preparedness is mixed. In recent years, community planners and administrators of facilities for the elderly have made considerable progress toward better

planning, staff training and community integration. Yet, many facilities continue to be ill-prepared in large or small ways, and local emergency officials continue to overlook the specific needs of senior care facilities and their residents.<sup>9</sup>

Recognizing their vulnerability on this issue, many providers have collaborated with each other to reduce redundancy and enhance self-sufficiency. For example, Thomas Church, chief executive officer of Catholic Care Center, Wichita, Kan., a continuing-care community jointly sponsored by Via Christi Health and the Catholic Diocese of Wichita, has worked with other providers to develop mutual aid contracts rather than rely on the county to help.

## 2006 MOTHER'S DAY FLOODING IN MASSACHUSETTS

“We never in our wildest dreams expected to evacuate the facility,” said Stewart Goff, RN, N.H.A., as he recalled the “Mother’s Day floods” that inundated northeastern Massachusetts and a wide swath of coastal New England in May 2006.

Goff is the administrator of Mary Immaculate Nursing /Restorative Center in Lawrence, Mass., a 250-bed facility on the Spicket River and a member of Covenant Health Systems, Inc., based in Tewksbury, Mass.

The facility sits on the “high side of the river bank,” Goff said. But as Mother’s Day weekend approached, days of heavy rainfall from a stalled storm system created increasingly serious flooding in New England. Mary Immaculate’s director of plant operations supervised creation of a 5-foot-high, 300-foot-long, sand and gravel berm on the parking lot between the river and the facility.

Such a berm had worked before to protect the facility from the river’s overflow in 1987 and again in 1996, times of especially high water brought by the spring thaw and heavy rains. Goff said he expected the berm to hold once again, though out of prudence he paid a company to continuously reinforce it “and protect our residents.”

But it kept raining. Flood warnings were issued for the region. In “an abundance of caution,” Goff said, he began to

implement Mary Immaculate’s well-rehearsed disaster plan on Sunday, May 14 — Mother’s Day.

Because he feared the public water system might become contaminated, Goff ordered 864 gallons of bottled water and seven days’ worth of paper goods and

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— Stewart Goff

food supplies, well above the standard emergency supply requirements. He arranged to have evening- and night-shift staff picked up, using Mary Immaculate transportation.

He also wrote a memo, available to all family and friends visiting on Mother’s Day, describing his ongoing communications with emergency management personnel at the city and state levels, the berm, his staffing plans, the bottled water and extra supplies. WE DO NOT ANTICIPATE NEEDING TO EVACUATE THE BUILDING, the memo said in capital letters.

However on Monday morning, the Spicket River had begun to overflow its banks, though the water was still far away from Mary Immaculate’s building

and the berm. Goff spoke repeatedly with the Lawrence fire chief, who was also the emergency operations officer, the chief of police, the mayor’s office, the State Department of Health and other Massachusetts officials.

Even though no evacuation was expected, Barbara Maloit, RNC, director of nursing, ordered the staff at 6 p.m. to begin preparing for the possibility. In accordance with the disaster plan, staff triaged their 244 residents by their mobility status and created for each resident an individually labeled, waterproof evacuation bag containing a change of clothing, clinical record, medication administration sheets, treatment sheets and 24 hours’ worth of medications (except for controlled substances). The residents’ bags were stored on the floors with them.

The city’s deputy fire chief had inspected the berm earlier in the day and deemed it secure, but at 8:25 p.m., staff closed the building’s first floor, where the offices, gym, activity and meeting rooms were located. Goff, Maloit, and the director of plant operations planned to remain in the facility overnight, and berm inspections were held approximately every three hours.

At 6:15 a.m., the berm was breached, and water surrounded the building. Some seepage under closed doors was controlled on the first floor, but then water began to rush in from the base-



### EVACUATE OR SHELTER IN PLACE?

Clearly, facilities that care for the elderly need to have evacuation plans in place; in some cases, evacuation is essential. However, research my colleagues and I have recently completed shows that during the four hurricanes in Louisiana and Texas (Katrina, Rita, Gustav and Ike) residents who were evacuated from nursing homes had higher post-storm death rates and hospitalizations compared with residents in facilities that sheltered in place. Our conservative estimate is 94 “excess” deaths are due to evacuations resulting from those four storms.<sup>10</sup>

Analyzing the data for residents evacuated versus those sheltered in place for Hurricane Gus-

tav, we also found increased death rates for those severely cognitively impaired residents who were evacuated.<sup>11</sup>

Although the best decision in a given situation will vary according to circumstances, we believe sheltering residents in place is preferable to evacuation, assuming the building remains safe and inhabitable. Why deaths are higher for residents who are evacuated is not well understood, but the very effect of evacuation seems to increase adverse outcomes.

### BEST PRACTICES

Consequently, our findings strongly suggest that the best practice is for nursing homes to develop

ment through a 30-inch elevated exterior ventilation pit.

Fearing the rising flood water would reach the electrical outlets, Goff called the fire department, the mayor and the CEO — in that order. The fire department arrived with the city electrical inspector; power was shut off to the first floor, then completely. It was agreed that the residents should be evacuated, and members of the National Guard came to help.

A sand and gravel bridge covered with multiple sheets of plywood was constructed at the doorway near the street exit where emergency transport would wait. By 8:15 a.m., evacuation was under way, moving residents in order of their mobility status. Members of the fire department and National Guard carried groups of four to six residents, strapped in ambulance chairs, down the stairs to the flooded first floor.

In a moment of creative ingenuity, Mary Immaculate staff collected their large waterproof laundry bins and placed them at the base of stairs, allowing residents to be seated in the bins along with their individually labeled, waterproof bags of clothes, medications and medical records. Accompanied by a nursing staff member, firemen and National Guardsmen surrounded the seated residents and floated them through the hallway to the exit.

As part of the evacuation plan, nursing

staff had matched each resident with a receiving hospital. However some destinations changed, based on the fire chief’s judgment, and Goff placed a nurse at the ambulance loading point to record resident names with receiving hospitals.

A resource station set up at a neighboring elder housing complex handled delivery of supplies such as flashlights, deployed and replaced staff as needed and forwarded phone lines to a central call area to answer family questions about the evacuation and where residents were sent.

### LESSONS LEARNED

By constantly discussing the local conditions with community emergency management partners, Goff felt informed and also kept others informed. He credits the safe evacuation of 244 residents to reviewing the steps set out in Mary Immaculate’s disaster plan, specifically the evacuation plan that he and Maloit implemented.

“The disaster checklists really help, because in the moment, you just can’t remember every detail,” he said. “You realize that all those details had been thought about and listed in the plan at a time the entire nursing home team was thinking about every aspect of operations.”

Executing the plan also reveals ways to make improvements, he added, “and

we did that after the flood, as well.”

Goff praised his staff, prior emergency drills the facility had conducted, the support of the Mary Immaculate Health Care system, the city of Lawrence and the plan itself, which was developed before he became the administrator.

The Mary Immaculate building reopened in August 2006. Of the evacuated residents, 73 percent of the residents chose to return; 11 percent remained in their relocation facility; 9 percent had died; 5 percent were unsure about relocation; and 2 percent returned home.

Goff described three blessings he believe occurred during the evacuation:

- There were no resident or staff injuries or deaths
- The berm was breached at approximately the same time staff shifts changed, so both day and night staff members were on hand.
- When the berm was breached, the governor of Massachusetts already had declared a state of emergency. That meant National Guard personnel were available to help evacuate residents.

— Kathryn Hyer

operationally sound disaster plans for facility-specific risks, practice drills routinely, and recognize that creative problem-solving is important. Ensuring that the facility has enough resources to be self-sustained for a period during an event is certainly a best practice. Another is making sure that supplies, personnel and fuel can be replenished during the aftermath, before systems return to normal. Depending upon the severity of the

event, it is the inability to sustain operations during recovery that may compromise resident safety.

Permanent residents of nursing homes are an exceptionally vulnerable population. Because their severe physical and cognitive impairments make it impossible for them to live independently, they are among the frailest of all elders. Administrators and staff must recognize that our goal should be best practices that emphasize

## RESOURCES

### **The Centers for Disease Control (CDC) Emergency Preparedness and Response**

The CDC provides information and resources for preparing for and responding to public health emergencies. Specifically, the site defines types of disasters and provides a framework to examine potential hazards. The website keeps the public informed about public health emergencies and provides the information needed to protect and save lives. <http://emergency.cdc.gov/>.

### **Emergency Preparedness Checklist**

The U.S. Department of Health and Human Services and the Centers for Medicare & Medicaid Services have prepared a survey and certification checklist as a tool for health care facilities to use in their all-emergency planning. [www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertEmerg-Prep/Downloads/SandC\\_EPChecklist\\_Provider.pdf](http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertEmerg-Prep/Downloads/SandC_EPChecklist_Provider.pdf).

### **Federal Emergency Management Agency (FEMA)**

FEMA offers a wealth of information on its website. The review of federal, state and local response to Hurricane Sandy has resulted in a revised National Response Framework. For an overview of the structure as well as its goals, systems and plans, visit the FEMA national preparedness resource library, [www.fema.gov/national-preparedness-resource-library](http://www.fema.gov/national-preparedness-resource-library).

FEMA also offers a variety of training to help improve disaster preparedness and awareness of how local, state and federal resources are organized during disasters. The National Incident Management System (NIMS) identifies concepts and principles used in emergencies regardless of their cause, size, location or complexity. NIMS provides a consistent, nationwide approach and vocabulary for multiple agencies or jurisdictions to work together to build, sustain and deliver the core capabilities needed to achieve a secure and resilient nation. Learning the vocabulary of NIMS and creating a local Incident Command Structure — the facility's organizational response for emergencies — improves long-term care providers' ability to communicate with local emergency staff and their ability to request help and offer assistance to others. These FEMA resources can be found at [www.fema.gov/training-0](http://www.fema.gov/training-0).

### **The Emergency Management Guide for Nursing Homes**

With a grant from The John A. Hartford Foundation and funding from CDC, Florida's Department of Health, the Florida Health Care Association and the University of South Florida created an all-hazards disaster preparedness guide for long-term care providers. A companion guide for assisted living facilities is also available. Details about the guide, emergency management tools to develop an all-hazards emergency preparedness plan or enhance an existing plan and other resources for long-term care facilities are available from the FHCA website. [www.fhca.org/facility\\_operations/emergency\\_preparedness](http://www.fhca.org/facility_operations/emergency_preparedness).

### **Geographic Information Systems (GIS)**

This system can help providers and public health officials analyze location of facilities or populations at risk, community resources and potential hazards. In Hawaii, the state departments of health, civil defense and the executive office on aging worked with the Pacific Disaster Center to include GIS mapping as part of its emergency planning. The result is a map that identifies the adult day care and assisted living facilities serving older adults, as well as potential hazards (volcanoes and flood zones) for those facilities. Although the maps are specific to Hawaii, the tools used to create the maps are free and available to encourage other states and communities to improve their all-hazards planning. See [www.pdc.org](http://www.pdc.org).

### **"All Hazards" Disaster Planning**

With federal funding, Mather's LifeWays Institute on Aging, of Evanston, Ill., developed PREPARE disaster education for long-term care leaders. PREPARE is a disaster preparedness webinar series, workshop and toolkit that teaches senior living community staff to manage natural disasters and other public health emergencies. The program trains participants as PREPARE specialists capable of teaching the information to others. It is available from [www.matherlifewaysinstituteonaging.com/senior-living-providers/prepare/](http://www.matherlifewaysinstituteonaging.com/senior-living-providers/prepare/).





residents' physical and psychological well-being. Our ethical standards and commitment to resident care demand that quality of life and quality of care should remain as close to the usual care as humanely possible. That is a very high bar, but thoughtful and detailed preparedness will go a long way to ensuring such high quality physical care, and psychological training for staff will help bring residents reassurance during emergency situations.

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