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CDC's Disaster Planning Goal: Protect Vulnerable Older Adults

"In Louisiana during Hurricane Katrina, roughly 71 percent of the victims were older than 60 and 47 percent were over the age of 75. There is truly a need to plan and accommodate all Americans during emergencies, particularly older Americans." — Christopher Hansen, AARP Group Executive Officer

Disasters of all kinds affect older adults disproportionately, especially those with chronic diseases, disabilities or conditions that require extra assistance to leave an unsafe area and recover from an event. For this reason, emergency managers need to recognize that the frail elderly are a special-needs population and develop strategies to meet their needs. The term "frail elderly" refers to older adults who have serious, chronic health problems that could make them more vulnerable during disasters [Fernandez, 2002]. Disasters come in many forms, including severe weather-related events, earthquakes, large-scale attacks on civilian populations, technological catastrophes, and influenza pandemics.

Although the September 11, 2001 terrorist attacks focused some attention on vulnerable populations and evacuations of people with disabilities, it was the destruction of Gulf Coast areas by Hurricanes Katrina and Rita in 2005 that marked a major shift in the way disaster preparedness planners approach their job. "9/11 got the attention of the disability community, caregivers, and service providers, but it really didn't penetrate the emergency response community that much. That came with Katrina," explained Vincent Campbell, PhD, Associate Director for Science in the Division of Human Development and Disability in CDC's National Center on Birth Defects and Developmental Disabilities. "Older adults are definitely a population with needs that must be addressed," he added.

In New Orleans, people aged 60 and older comprised 15 percent of the population prior to Hurricane Katrina. However, more than 70 percent of those who died as a result of the hurricane were elderly, according to Grantmakers in Aging, which has been active in the hurricane relief effort. Many of the 200 people who died as a result of the hurricane in Mississippi were also older adults. More alarming, data from the Louisiana Department of Health show that almost 70 nursing home residents died in their facilities. Many were allegedly abandoned by their caretakers. Almost no information is available on what happened to residents of assisted living, board and care homes, and other less-regulated facilities.

Another story, still largely untold, is that of older adults with chronic illnesses, such as diabetes or breathing disorders, who suffered following the hurricane because they were unable to take their medications or lacked access to the technologies that help them function independently.

Since the 2005 hurricanes, emergency response experts have placed a new focus on disaster preparedness and response to better protect vulnerable populations, including older adults, from harm. Numerous tools and strategies are available to help communities accomplish this, including advance planning and training, working in coalitions, ensuring that advocates for older adults participate in emergency planning, and using community-mapping data to identify areas where many older adults live.

CHRONIC DISEASE AND DISASTERS

“Advancing age is a very powerful risk factor for having multiple chronic conditions,” explained George Mensah, MD, Chief Medical Officer, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC). Currently, about 80 percent of older adults have at least one chronic condition such as heart disease, cancer, diabetes, or stroke, and 50 percent have at least two. According to CDC’s National Center for Health Statistics, almost 50 percent of older adults (aged 65 and over) have hypertension, 36 percent have arthritis, 20 percent have coronary heart disease, 20 percent have cancer, 15 percent have diabetes, and 9 percent have had a stroke [CDC-NCHS, 2004]. These conditions can lead to disabilities. For example, 3 million older adults indicate that they cannot perform basic activities of daily living such as bathing, shopping, dressing, and eating.

Traditionally, after any major disaster, the public health sector “focuses on safe water, sewage disposal, and food safety, but rarely do people seriously think about the impact of chronic conditions and the medication and devices that people need on a daily basis,” said Dr. Mensah. “We have to be prepared for chronic illnesses, too.”

Following a disaster, chronic illness can easily worsen due to lack of food and water, extreme heat or cold, stress and exposure to infection [Bierman, 2001; Fernandez, 2002; Menotti, 2001; Mudur, 2005]. Following Hurricane Katrina, more than 200,000 people with chronic medical conditions, who were displaced by the storm or isolated by the flooding, had no access to their usual medications and usual sources of care [White House, 2006]. Even those who brought the recommended three-day supply of medications to a shelter ran out of pills. “If people who are evacuated do not have the medications that have kept their diabetes stable or their breathing problem stable, in three days some of them could have exacerbations that require emergency management. That is the basic message we are trying to convey,” Dr. Mensah said.

In September 2005, the Kaiser Family Foundation conducted a survey involving 680 Katrina evacuees in Houston shelters. The survey found that 41 percent reported having chronic health conditions

such as heart disease, hypertension, diabetes, and asthma; 43 percent said they were supposed to be taking prescription medications; and 29 percent of those who were supposed to take prescription medications reported problems getting prescriptions filled. Most of those surveyed did not give their age, but experts note that many of the people who were in shelters were older adults. The study also found that 415 of the 680 surveyed evacuees did not leave New Orleans before the storm. Of these, 38 percent indicated that they were physically unable to leave or were caring for someone who was physically unable to leave [Kaiser Family Foundation, 2005].

Based on Louisiana Department of Health data, an estimated 1,300 older adults in the state who were living outside of an institution prior to Hurricane Katrina are now in nursing homes, said Jennifer Campbell, PhD, Director of the Hurricane Fund for the Elderly, a program of Grantmakers in Aging. Presumably, these older adults were already living with multiple chronic conditions prior to the hurricane. The actual number is probably higher because it does not include people who moved to other states, Campbell added.

WHAT IS CHANGING?

The impact of Hurricane Katrina on people with chronic illness made it clear that treating chronic diseases after a natural disaster should be a public health and medical priority [Ford, 2006]. Although emergency planners have always been aware of the needs of the chronically ill population during a disaster, “Katrina brought this to light in a way that hadn’t been seen in that magnitude before,” commented Alison B. Johnson, MPA, Deputy Director of CDC’s National Center on Birth Defects and Developmental Disabilities. Since Hurricane Katrina, CDC has worked to ensure that states have plans for vulnerable populations, Johnson said.

AARP has called for organizations that respond to disasters to better define “who should do what when” [AARP, 2006]. It is essential to build relationships among groups before disaster strikes to improve coordination and communication in disaster situations. Equally important is improving identification and tracking of both people and health information, AARP said.

Disaster preparedness planners are beginning to understand the need to communicate with advocates from the older adult and disability communities. Many more planners now understand the importance of reaching out to vulnerable populations prior to disasters to learn what their needs might be. They are striving to create an emergency response system that can better rescue and shelter these populations. Emergency planners also are developing ways to ensure that vulnerable people continue to receive routine health care, such as prescription medications, as recommended by the Chronic Diseases and Vulnerable Populations in Natural Disasters Working Group [Mokdad, 2005], part of CDC’s

Coordinating Center for Health Promotion. CDC also has added a Vulnerable Populations Workgroup to its pandemic influenza task force.

UNDERSTANDING OLDER ADULTS

Not all older adults are more vulnerable to ill effects from a disaster than younger people are. In many cases, older adults have the life experience, wisdom, and mental resilience to survive, help others, and reassure people who are frightened or depressed by the events. Sometimes you will hear an older adult on the news say, “Well, we lost everything, but at least the family is okay. It could have been worse.”

Nonetheless, many older adults who are frail or have special needs require assistance to survive and recover from a disaster. Some older adults are able to live in the community only with the assistance of friends, family members, and social services such as home-delivered meals, chore services, and personal care. Many types of disasters, such as the widespread flooding that occurred in 1993 in nine Midwestern states, can cause major disruptions to these essential services. Any interruption in the continuity of services “creates a grave situation where people are depending on assistance with their activities of daily living, hygiene, eating, meals-on-wheels, and medications,” explained Fran Brooks, CPM, PMP, the emergency operations and disaster preparedness officer for the Florida Department of Elder Affairs. “If any of these services are disrupted, these people are going to develop special needs and either present at an emergency room or call for our assistance, so we really have to go in there and get those services back up quickly.”

The reasons why some older adults are particularly vulnerable during and after disasters include their impaired physical mobility, diminished sensory awareness, chronic health conditions, and social and economic limitations that prevent adequate preparation and hinder adaptability during disasters [Fernandez, 2002]. A November 2005 poll by Harris Interactive Survey conducted for AARP found that about 13 million persons aged 50 and older in the United States said they would need help to evacuate in a future disaster, and about half of these people would require help from someone outside of their household.

Some of the factors associated with the aging process that might affect an older adult’s ability to respond in a crisis are described below.

Sensory, Physiological, and Cognitive Changes. An older person’s sense of smell, touch, vision, or hearing likely has declined over time. This can make it difficult for the older person to communicate and for emergency responders to understand the elder’s needs. Many older adults are overwhelmed by the crowding, noise, and lack of privacy in a general shelter, according to the Florida Department of Elder

Affairs. People with visual impairments are often reluctant to leave familiar surroundings. People with dementia may become agitated during a crisis, especially if they must leave their usual environment.

Some physiological changes make older adults more prone to ill effects from extremes of temperature. During the 1995 heat wave in the Midwest, the median age of those who died was 75 [International Longevity Center-USA, 2006].

Chronic Conditions. Older adults are more likely than younger people to have chronic diseases, functional limitations, or a weakened immune system. Conditions such as arthritis make it difficult to stand in line, walk very far, or sleep on a cot or floor mattress, all of which are typically required in an emergency shelter. “More than half of the people 65 and older have some kind of functional limitation,” said Vincent Campbell of the CDC.

To treat chronic conditions, older adults tend to take multiple medications. Interruptions in medication regimens can exacerbate underlying conditions and increase the risk of morbidity or mortality [Oriol, 1999]. Older adults who take several medications are at increased risk of drug interactions if they also receive antibiotics or other medications following a disaster.

Risk of Trauma. A lifetime of accumulated losses — such as deaths of family members and friends, declines in physical capabilities, losses of vital roles in the workplace and community, and reduced incomes — can make older adults more vulnerable to trauma during a disaster [Department of Veterans Affairs]. Following Hurricane Katrina, CDC estimated that approximately 40 percent of evacuees in shelters might have had post-traumatic stress disorder (PTSD), according to Jenny Campbell. PTSD is characterized by severe anxiety, significant sleep problems and nervousness, functional impairment, and avoidance of anything connected with the event. Because older adults are often reluctant to seek or accept mental health services — which they tend to associate with spiritual or personal failure [Langer, 2004; Oriol, 1999; Poulshock, 1975] — they may not obtain the PTSD counseling they need.

Loss of Pets. One of the main reasons why people refuse to evacuate in the face of imminent life-threatening danger is concern about pets that cannot be evacuated with their owners, according to CDC. Households with pets are almost twice as likely not to evacuate as those without pets [Whitehead, 2000]. According to studies by the American Veterinary Medical Association and national humane organizations, between 60-70 percent of American households have pets. Although there are no specific data on the number of elderly pet owners, research has shown that older adults, especially those living alone, are likely to have a strong bond with their pets and are unwilling to evacuate without them [Garrison, 1989; Heath, 2001]. Following the 2005 hurricanes, Congress passed the Pet Evacuation Transportation Standards Act, which requires state and local governments to include household pets in emergency evacuation plans.

Transportation. Many older adults are unable to evacuate during a disaster. Some are unable to drive or no longer own a car. Others live alone or in rural areas without public transportation. Even if older people live in areas with public transportation, some are unable to evacuate during a disaster because their local transportation services are interrupted or suspended. Those residing in institutions are too frail to be evacuated quickly.

Limited Resources. Many older adults living on fixed incomes cannot recover financially from a disaster that results in the loss of their home. Hurricane Katrina impoverished many people who were living on the edge, according to Jenny Campbell.

Reluctance to Seek Assistance. Older adults are often slower to register for disaster assistance and might not complete the necessary paperwork to obtain assistance, according to the Administration on Aging (AoA). Following the 1977 Kansas City flood, the local area agency on aging convinced FEMA (the Federal Emergency Management Agency) to keep one disaster application center open after the initial six-week period. Half of the 1,700 older adults assisted visited the center after the six-week point.

Nutrition. Older adults face health risks from inadequate nutrition in the aftermath of a disaster, according to AoA. The Meals-Ready-to-Eat (MRE) packages that are often provided following a disaster contain too much sodium, fat, and calories for many older adults, and have the potential to send some into glucose shock from too much sugar or raise their blood pressure from too much sodium, according to Florida's Brooks. When providing pre-packaged emergency food to older adults, responders need to offer shelf-stable meals, not MREs that are formulated for military troops and first responders who need more calories, Brooks said.

Fraud and Abuse. Fraudulent contractors and “con men” who exploit victims financially following a disaster often target older people. In addition, older adults are particularly susceptible to physical and mental abuse as family stresses increase in later stages of the disaster [AoA, 2006].

THE ROLE OF THE AGING NETWORK

“You cannot be introducing yourself to the health department, to the housing agency, or to the emergency operation planners when the storm is about to hit.” — Max Rothman

The aging services network — which includes state and area agencies on aging, local service providers, and Indian tribes and Native Alaskan organizations that provide services to older adults — plays a vital role in delivering meals, transportation, information, and other services to older adults. The aging network generally does “a really good job in terms of immediate response, particularly for its own clients, and in working together to get food, water, and ice out to people who need it in the immediate aftermath,” said Max B. Rothman, JD, LLM, Executive Director of the Center on Aging at Florida International University. However, Rothman explained, the network is still developing and practicing its

disaster plans, and ensuring the availability of backup communication systems and transportation. The network needs to be linked in advance to other resources that can assist older adults, including emergency preparedness professionals, the mental health community, housing and food stamp providers, public health professionals, and any other entity that could be called upon to help older adults recover.

Florida International University is developing a plan in collaboration with the University of South Florida with AoA funding for an all-hazards approach for the aging services network. "It will lay out why older people need to have a priority level of attention by disaster planners and the aging network," Rothman explained. The plan is expected to be available in 2007 and will contain detailed recommendations and be adaptable to any county in the country.

AoA developed the *Emergency Assistance Guide 2006* to help professionals plan for emergencies. "The *Guide* is a primer on how to interact with FEMA, Red Cross, first responders and others," according to Irma Tetzloff, Coordinator, AoA Disaster Preparedness. AoA also has a small fund to reimburse state and tribal organizations for some expenses related to a federally declared disaster. "The money goes for familiar Older Americans Act-type services, such as home-delivered meals, assisted transportation, and case management," Tetzloff explained. The fund typically makes \$500,000 to \$800,000 available per year, and state grants range from \$3,000 to \$100,000.

One of the lessons learned from Hurricane Katrina is that when an entire area is devastated, many aging network employees do not return to the area after the disaster ends. In Alabama, Louisiana and Mississippi — already among the poorest states in the nation — "the human services safety net has been devastated," Jenny Campbell said. As of late 2006, the Jefferson Council on Aging, the area agency on aging for Jefferson Parish, La., was operating with fewer staff than prior to Hurricane Katrina, but was serving the same number of elders. New clients had come in from other parishes, especially New Orleans, explained Tom Laughlin, CEO of the Jefferson Council on Aging. Some staffers were living in FEMA trailers or commuting long distances. Many had relocated and some, due to the higher wage market that emerged from the worker shortage, had taken other jobs that paid more. After Hurricane Katrina, the cost of in-home services for which the area agency on aging contracts increased by 70 percent, from \$10 to \$17 an hour, explained Jefferson Council Administrative Director Michael Edwards. Home health agencies cannot find enough workers, so clients often receive only one bath a week.

Many organizations from other parts of the country provided assistance to the region following the hurricane. For example, the Kendal Corporation, which operates non-profit retirement communities, sent staff from Kendal facilities in West Chester County, Pa., to Lambeth House, whose New Orleans staff had lost their homes during Hurricane Katrina. Several area agencies on aging from around the country sent staff to help their colleagues in Houston, Texas, and Jackson, Miss. The Florida Department

of Elder Affairs sent 30 percent of its staff to Mississippi to help aging network colleagues. Georgia's adult protective services staff worked with Louisiana to locate its clients.

In many cases, older evacuees were sent to other states. Following the flooding of New Orleans, 8,000 evacuees were bused or flown to Arkansas over a 48-hour period under an agreement between the two governors. One planeload of nursing home residents arrived without their wheelchairs. "We weren't prepared for that," commented Jennifer Dillaha, MD, Director, Center for Health Advancement, Arkansas Department of Health and Human Services, who was the commander of the emergency operations center when the evacuees were arriving. Fortunately, she said, the health department had a good relationship with the aging department, which assisted the older adults.

Unfortunately, all of this assistance could not meet the New Orleans community's needs. Laughlin expressed the hope that more area agency on aging, home health, and other professionals from around the country would help their New Orleans colleagues rebuild their agencies so that they can meet the community's service needs.

ROLE OF CDC IN PUBLIC HEALTH PREPAREDNESS

CDC supports public health preparedness and response in a multitude of ways, described below.

Public Health Professionals. CDC's Coordinating Office for Terrorism Preparedness and Emergency Response (COTPER) serves as the focal point for many of CDC's preparedness and response activities. "We are the orchestrators," explained Ralph O'Connor, PhD, Operations Chief for COTPER's Division of Emergency Operations. After Hurricane Katrina, COTPER quickly deployed 700 professionals to the affected region. Clinicians and other professionals conducted public health assessments, environmental health screenings, epidemiologic surveillance, occupational health screenings, and vector control to prevent the spread of pathogens. These professionals worked to fill gaps in the local public health infrastructure, prevent disease from spreading, and communicate to the public. These are important functions for protecting vulnerable older adults, as well as all citizens.

Supplies. CDC maintains the Strategic National Stockpile, which contains medical equipment and medications for distribution to disaster areas. In the past, O'Connor said, supplies focused on emergency medicine and infection control primarily for biological and chemical events. When the medical infrastructure was destroyed during Hurricane Katrina, CDC sent maintenance medications for chronic conditions common to the elderly, such as diabetes, heart disease, and high blood pressure, as well as beds, intravenous supplies, adult diapers, insulin syringes, and related items. Many basic pharmaceuticals were in place within hours of Hurricane Katrina's arrival, CDC said. Within a week, CDC had delivered 30,000 vials of insulin to Mississippi and Louisiana.

CDC also can provide 250-bed medical stations, “basically a shelter in a box without a building,” O’Connor explained. The stations contain supplies for medical care and basic pharmaceuticals and are designed to fill the gap between Special Needs Shelter services and hospitalization. CDC has four units ready to be placed on a truck on an hour’s notice, and additional units in preparation.

However, states and localities are not always ready to receive these supplies. According to the Trust for America’s Health [2006], only 15 states and two cities are “rated at the highest stockpile-preparedness level required to provide emergency vaccines, antidotes, and medical supplies from the Strategic National Stockpile.”

Surveillance. CDC can work with local public health agencies to use existing health surveillance systems to estimate the potential need for emergency treatment for chronic conditions and disabilities following a disaster, according to CDC’s Johnson. For example, states and localities can use CDC’s Behavioral Risk Factor Surveillance System (BRFSS), a random, digit-dialed telephone survey of non-institutionalized adults, to collect data on health conditions, treatments, supplies of medicines on hand, and access to health services or treatment facilities. The BRFSS’ flexible design allows states to add questions to their ongoing surveys to address new situations and crises, according to Maggie Moore, MPH, a Public Health Advisor in CDC’s Healthy Aging Program. Following the 9/11 attack on the World Trade Center, Connecticut, New Jersey, and New York added a mental health module to their ongoing BRFSS. The results clarified for public health professionals the importance of addressing victims’ physical and emotional needs [CDC, 2002].

As Hurricane Katrina approached the Gulf Coast, Vincent Campbell analyzed some basic Census Bureau data and found that 21.5 percent of the metropolitan New Orleans population aged 5 years or older (1.2 million people) had a disability and 3.5 percent were unable to perform basic self-care. “The data do not tell you how to find the people, but they do tell you what kinds of disabilities are in certain areas,” Campbell said. Collecting information on diabetes, heart disease, stroke, hypertension, or asthma in advance would give emergency planners a better understanding of the needs of their disabled population. For example, planners could identify the transportation resources available for persons with disabilities and stock appropriate quantities of medical supplies [Ford, 2006].

After Hurricane Katrina, CDC assessed living conditions, access to basic services, and physical and mental health status in New Orleans. It found that 56 percent of housing units had one or more occupants with a chronic health condition and 23 percent had problems obtaining medical care and prescription medications. In addition, half the adults exhibited levels of emotional distress, indicating a potential need for mental health services. The Louisiana Office of Mental Health used this information to set up a crisis-counseling program that supports hurricane survivors [CDC, 2006].

After Hurricane Charley hit Florida in 2004, CDC provided population maps for the three most-damaged counties to help workers identify and interview almost 600 households with an older adult. In one Florida county, one-third of the households with a chronically ill older adult reported that at least one of the older person's conditions had worsened because of the hurricane, and 28 percent reported that an older adult was unable to receive routine care for a preexisting condition. In another county, older adults in 9 percent of households did not have access to prescription drugs. Because of this information, local health providers realized that they needed to accelerate restoration of medical services, including access to medications [CDC, 2004].

Handbook. CDC is developing an “action guide” for public health and aging services professionals on managing chronic disease in vulnerable populations during a disaster. This “awareness tool,” Moore explained, is designed to address issues such as medications, mobility, transportation, access to evacuation information, and “all of the special concerns older adults have in each of those areas.” CDC’s Dr. Mensah said that the guide also explains basic emergency preparedness (incident command, responsibilities of state and local officials, etc.) for those who do not ordinarily work in that arena and discusses pre-disaster planning.

“We have to think about medications, medical supplies, and assistive devices that people need on a daily basis and plan how best to make them available during major disasters. That is one objective of the action guide,” Dr. Mensah said. Therefore, the guide will address such “nuts and bolts issues” as rescuing pets and providing special cots for obese evacuees and those who have difficulty rising from a low level. “If you are making plans to evacuate an elder population, make sure you have plans or you use vehicles that can also accommodate wheelchairs. All of these issues must be considered in developing preparedness plans. In the end these are the issues that make a huge difference in the quality of life,” he added. The CDC guide, *Chronic Diseases and Vulnerable Populations in Times of Natural Disaster: An Action Guide*, should be ready by mid-2007.

COTPER developed a draft *Public Health Workbook to Define, Locate and Reach Special, Vulnerable, and At-Risk Populations in an Emergency* to help state, local, and tribal planners reach these populations during a crisis [CDC, 2006]. This workbook includes several examples, such as the special needs registration program developed by the Linn County (Iowa) Emergency Management Association. This program uses a geographic information system to map the location of older residents and people with special needs living near a nuclear power plant who would require assistance during an emergency evacuation. Approximately 1,500 people are now registered in the program’s database to receive early evacuation.

Outreach and Training. CDC’s Johnson said that COTPER has worked with the American Red Cross to develop special communication messages for older adults and to help the public understand the

needs of all vulnerable populations. Johnson added that CDC also funds Centers for Public Health Preparedness at academic medical institutions to train a variety of disciplines and groups to do emergency planning.

THE ROLE OF SPECIAL NEEDS SHELTERS

“Using the ‘Titanic’ analogy, it is important to realize that a Persons-with-Special-Needs shelter is a lifeboat not a cruise ship.” — Volusia County (Florida) Health Department

Many states, especially those in coastal areas prone to weather emergencies, offer Special Needs Shelters (SNSs) to care for people with severe medical needs during a disaster. SNSs are operated separately from general shelters and tend to open earlier during an emergency. Rothman of Florida International University said that the shelters are staffed by medical personnel but do not generally have people experienced in working with elders. SNSs are not designed for residents of hospitals or nursing homes, which must make their own arrangements for evacuating patients to other facilities. SNSs are usually run by the state’s health department.

SNS residents must generally bring their own medications, medical devices, bedding, and food, as well as a caregiver. SNSs are often in schools or public buildings with few accessible bathrooms, no shower facilities, and no privacy. They should be considered a last resort for people who cannot stay with friends or relatives outside the disaster area. Many shelters require potential residents to register in advance. Some provide transportation to the shelter, but many do not.

SNS residents tend to be very sick and are able to continue living in the community only with extended care arrangements, explained Dr. Kevin Prohaska, DO, a Public Health Corps officer who served at a Louisiana SNS following Hurricane Katrina. Many of the shelter inhabitants had significant disabilities, and most were older adults. Most clients had a prior stroke, used a wheelchair or had special medical equipment such as a supplemental oxygen tank, gastric tube, or indwelling catheter.

Florida is one of the few states that has a formal discharge planning system for its SNSs, Brooks said. A safety assessment must be conducted before a shelter client can return home; otherwise, the SNS staff must find a hotel, apartment, or alternative housing arrangement for the client.

RESPONSIBILITIES OF LONG-TERM CARE PROVIDERS

Evacuating frail nursing home residents prior to a potential disaster requires a wrenching decision. One overriding concern is that more nursing home residents could die from being evacuated than remaining in place. The logistics of identifying and tracking residents and moving their medical records and medications are also daunting. The American Health Care Association, which represents nursing homes, recently told the National Transportation Safety Board that “impaired and incapacitated residents of nursing homes and assisted living facilities cannot simply be ‘herded’ onto buses and vans.”

Facility evacuation problems during Katrina included transportation contracts that were not honored; lengthy transit times for patients; host facilities that were not ready or available; insufficient staffing, food and water; complicated patient medical needs; loss of facility emergency plans; and staff difficulties entering their own facilities due to flooding or damage [Department of Health and Human Services, Office of Inspector General, 2006]. Prior to Hurricane Katrina, the Office of Inspector General found that 6 percent of the 2,500 nursing facilities surveyed in Gulf Coast states had deficiencies in meeting federal standards for emergency planning and 21 percent had deficiencies in emergency training. The Office of Inspector General called on the Centers for Medicare and Medicaid Services (CMS), which regulates nursing homes, to encourage communication and collaboration between those responsible for emergency preparedness and nursing homes operators.

Participants in the Nursing Home Hurricane Summit sponsored by the Florida Health Care Association in 2006 concluded that transportation is the “Achilles heel” of nursing home evacuation. The bus fire near Wilmer, Texas, that killed 23 nursing home evacuees fleeing Hurricane Rita in 2005 is a daunting example of the transportation difficulties facing facilities. Yet neither CMS nor the National Response Plan, which provides the framework for federal assistance to states and localities during domestic incidents, address how to transfer residents out of facilities [Government Accountability Office, 2006]. Furthermore, no federal agency is authorized to help with ambulance, helicopter, or other transportation mechanisms to take long-term care residents to an evacuation point such as an airport.

The Louisiana Department of Health is working with nursing homes to create a more centralized system and is building relationships with local emergency preparedness systems. The department wants to ensure that nursing homes do not all rely on the same transportation company to evacuate residents. Linda Sadden, the state’s long-term care ombudsman in the Governor’s Office of Elderly Affairs, said that the state still needs to determine who makes mandatory evacuation declarations, what the legal consequences are for failing to do so, and whether such declarations are legally binding. For insurance reasons, nursing homes seem to generally wait for an official evacuation order. “Otherwise, they face financial risk,” according to Sadden.

Assisted living facilities and board and care homes are regulated by states. In Louisiana, these facilities are only minimally regulated and Sadden said that “no clear guidance” is available for evacuating residents. No information exists on what happened to people in assisted living facilities or board and care homes during the hurricanes. “That story is unknown,” Sadden commented, adding that she did not know of any deaths in this population due to the hurricanes. In 2006, the Assisted Living Federation of America, which represents many of these facilities, developed the *Disaster Planning Guide & Toolkit* to help its members prepare and test their own disaster plans and ensure that community needs are met.

HHS and CDC have developed a checklist to help long-term care and other residential facilities and home care services assess and improve their preparedness for responding to pandemic influenza [HHS, 2006]. The American Health Care Association, Alzheimer's Association and other organizations have guidance on caring for persons with cognitive impairment during an epidemic [AHCA, 2006].

MODEL PROGRAMS FOR DISASTER PLANNING AND RESPONSE

Florida. Florida is one of the few states to have a disaster preparedness leader who focuses on aging issues, although that person has other duties as well. During a disaster, the Florida Department of Elder Affairs works with the state's emergency operations center and maintains daily contact with area agencies on aging to determine whether they need assistance. Florida uses geographic mapping and Census data to set up food and water distribution "pods" in areas where older adults live. This reduces distribution time and gives volunteers and service groups more time to contact older adults and identify their needs. Otherwise, older adults "could get overwhelmed standing in line for hours, could get dehydrated if it is hot, get cold, and face a risk of driving through debris" to get to traditional supply centers, Brooks said. The pods are better suited to older residents than the "Wal-Mart parking lot" approach, where there may be only one distribution center in an entire community.

In Florida, unlike many other states, long-term care facilities are considered essential services for the purposes of both disaster response and basic services restoration. Florida facilities are required by law to file an emergency preparedness plan with the county emergency operations center for approval. Patients requiring dialysis, ventilators, or other electric devices are among the first to be evacuated during a disaster to other nursing homes outside the danger zone. In 2004, more than 10,000 nursing home residents were evacuated during four major hurricanes over a 44-day period without any deaths occurring [Hyer, 2005]. Florida's guidebook, *Disaster Preparedness Guide for Elders*, is used as a model planning tool by other states [Florida Department of Elder Affairs, 2006].

North Carolina. North Carolina has created a registry of all licensed group homes and long-term care facilities as part of its multi-hazard threat database, which includes contact information and geographic coordinates for each facility, according to Steven Cline, DDS, MPH, who heads the epidemiology section of the state's Department of Health and Human Services. The department also has a workgroup that ensures the response plans address special populations, including older adults.

This media background paper was written by Nancy Aldrich. William F. Benson was senior editor and project manager.

STORY IDEAS FOR JOURNALISTS

- 1) What has changed in your community since Hurricane Katrina? Find out what disaster preparedness plans are in place for your area. How will those plans affect older adults? Are they comprehensive? Are they realistic? Does your community have plans for Special Needs Shelters? If so, tell your readers about these shelters and how older adults with certain medical conditions can use them during a disaster.
- 2) Talk to local aging services network professionals to find out if they are working with emergency planners and public health agencies. How do they plan to respond during a disaster? What will they do to ensure delivery of services, especially to homebound older adults? Could senior centers shelter their clients?
- 3) Who is tracking chronic disease trends in your area? Has that information been linked to the emergency response system?
- 4) Does the emergency response system address the needs of older adults? Have all organizations involved in the emergency response system identified “who will do what when”?

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ADDITIONAL RESOURCES:

General Preparedness:

- 30 Tips for Emergency Preparedness, http://www.dhs.gov/xcitizens/editorial_0711.shtm
- Are You Ready? An In-depth Guide to Citizen Preparedness, www.fema.gov/areyouready (Spanish version, http://www.fema.gov/spanish/areyouready/index_spa.shtm)
- Dealing with Disasters, http://assets.aarp.org/www.aarp.org/_articles/states/dealing_with_disaster.pdf
- Disaster assistance website, http://www.aoa.gov/ELDFAM/Disaster_Assistance/Disaster_Assistance.asp
- Disaster Preparedness for Seniors by Seniors, http://www.redcross.org/services/disaster/0,1082,0_9,,0.html

Disaster Supply Kit, <http://elderaffairs.state.fl.us/english/EUDisaster/kits.html>
Emergency Preparedness Checklist, <http://www.fema.gov/pdf/library/epc.pdf>
Emergency Preparedness Tips for Older Adults, http://www.healthinaging.org/public_education/disaster_tips.pdf
A Health Guide for the Public in Disaster Planning and Recovery, http://www.wvdhhr.org/oehs/disaster-readiness-response-folder/DisasterPlanning_HealthGuide_booklet.pdf (large-print version, http://www.wvdhhr.org/oehs/disaster-readiness-response-folder/DisasterPlanning_HealthGuide_%20large%20print.pdf)
Just in Case: Emergency Readiness for Older Adult and Caregivers,
http://www.aoa.gov/PROF/aoaprog/caregiver/overview/Just_in_Case030706_links.pdf
Pandemic Flu Operational Plan, http://www.aoa.gov/press/preparedness/pdf/AoA_Flu_Pandemic_Draft_Plan_7-20-06a.doc
Prepare Yourself—Disaster Readiness Tips for People with Disabilities,
<http://www.floridadisaster.org/disabilities.htm>
Preparedness Today: What You Need to Do, http://www.redcross.org/preparedness/cdc_english/CDC.asp
Preparing for Disaster for People with Disabilities and other Special Needs,
http://www.fema.gov/pdf/library/pfd_all.pdf
Preparing for Disaster for People with Disabilities and other Special Needs,
http://www.redcross.org/services/disaster/0,1082,0_603_00.html
Preparing Makes Sense for Older Americans, http://www.ready.gov/america_downloads/older_americans.pdf
Ready America website, <http://www.ready.gov/america/getakit/seniors.html>
Tips for Seniors and People with Disabilities: Establish a Personal Support Network,
<http://www.redcross.org/services/disaster/beprepared/mobileprogs.html>
Updating Your Disaster Plan,
http://www.aahsa.org/qualityfirst/resources/governance_accountability/security_emergency_management/documents/Updating_Disaster_Plan.pdf

Mental Health:

A Guide for Older Adults, <http://mentalhealth.samhsa.gov/publications/allpubs/KEN-01-0094/default.asp>
Maintaining a Healthy State of Mind: for Seniors, http://www.redcross.org/preparedness/cdc_english/mentalhealth_6.asp
Mental Health Resources for Natural Disasters, http://www.ltcombudsman.org/ombpublic/251_1339_11978.cfm

Nursing Homes:

Emergency Preparedness: Questions Consumers Should Ask, http://www.nccnhr.org/public/245_1268_12002.cfm
The Role of Long-Term Care Ombudsmen in Nursing Home Closures and Natural Disasters,
<http://www.ltcombudsman.org/uploads/OmbinNHclosures.pdf>

Pets:

Helping Pets, <http://www.fema.gov/rebuild/recover/pets.shtml>
Prepare Yourself: Disaster Readiness Tips for Owners of Pets or Service Animals,
<http://www.nod.org/resources/PDFs/epips5animals.pdf>
Resources for Planning How to Protect Your Pets in an Emergency, <http://www.bt.cdc.gov/disasters/petprotect.asp>

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