Disaster Preparedness for Vulnerable Persons Receiving In-Home, Long-Term Care in South Carolina

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Abbreviations:
CHAP = Community Health Accreditation Program
CLTC = Community Long-Term Care
CMS = Centers for Medicare and Medicaid Services
DSS = Department of Social Services
EMS = emergency medical services
EOC = emergency operations center
JCAHO = Joint Commission on Accreditation of Healthcare Organizations
SC-DHHS = South Carolina Department of Health and Human Services
SC-DHEC = South Carolina Department of Health and Environmental Control

Abstract

Purpose: The purpose of this study was to examine how agencies in South Carolina that provide in-home health care and personal care services help older and/or disabled clients to prepare for disasters. The study also examines how agencies safeguard clients' records, train staff, and how they could improve their preparedness.

Methods: The relevant research and practice literature was reviewed. Nine public officials responsible for preparedness for in-home health care and personal care services in South Carolina were interviewed. A telephone survey instrument was developed that was based on these interviews and the literature review. Administrators from 16 agencies that provide in-home personal care to 2,147 clients, and five agencies that provide in-home health care to 2,180 clients, were interviewed. Grounded theory analysis identified major themes in the resulting qualitative data; thematic analysis organized the content.

Results: Federal regulations require preparedness for agencies providing in-home health care ("home health"). No analogous regulations were found for in-home personal care. The degree of preparedness varied substantially among personal care agencies. Most personal care agencies were categorized as "less" prepared or "moderately" prepared. The findings for agencies in both categories generally suggest lack of preparedness in: (1) identifying clients at high risk and assisting them in planning; (2) providing written materials and/or recommendations; (3) protecting records; (4) educating staff and clients; and (5) coordinating disaster planning and response across agencies. Home health agencies were better prepared than were personal care agencies. However, some home health administrators commented that they were unsure how well their plans would work during a disaster, given a lack of training. The majority of home health agency administrators spoke of a need for better coordination and/or more preparedness training.

Conclusions: Agencies providing personal care and home health services would benefit from developing stronger linkages with their local preparedness systems. The findings support incorporating disaster planning in the certification requirements for home health agencies, and developing additional educational resources for administrators and staff of personal care agencies and their clients.

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Introduction

The aftermath of Hurricane Katrina underscored the urgent need to enhance preparedness for vulnerable populations, particularly frail, elderly people. In August 2005, Hurricane Katrina brought massive devastation and long-term disruption to many communities in the Gulf Coast. More than 1,300 people died. The majority of the deaths occurred among older people.[1] Although much attention about the effects of Katrina on older people focused on nursing homes,[2–7] a large number of vulnerable, older Americans receive long-term care services in their homes. Agencies that provide long-term care services in the home are critical components in the continuum of long-term care. Consumers prefer to receive long-term care in their homes. The [US] Supreme Court's 1999 Olmstead Decision continues to promote a shift from institutional long-term care to the home.[8,9] Given the increasing importance of home-based, long-term care, this study was motivated by the following question: How do agencies that provide personal assistance and health care in clients' homes help clients to prepare for disasters? This study also examines how agencies safeguard clients' records in the event of a disaster, and how they prepare their staff. This study used a qualitative approach to elicit perspectives from administrators of personal care agencies and home health agencies in South Carolina, a coastal, southeastern US state with about 4.3 million people. The areas addressed in this study may be relevant to other US states as they work to improve preparedness of healthcare organizations serving vulnerable populations.

During disasters and in their aftermath, the adequacy of response by emergency management organizations, public health agencies, and medical providers depends, in part, on the extent to which planning has addressed the needs of special populations, such as frail, elderly people and disabled individuals.[3,7,10–14] At least some knowledgeable public health experts conclude that the US is not adequately prepared for public health disasters.[15] Agencies providing medical care and other services to clients in their homes can better prepare to respond to disasters by incorporating the special needs of vulnerable older and/or disabled people into disaster planning, education, and training.[3,7,10–14,16–18]

Agencies Providing In-Home Care

Home health agencies provide part-time or intermittent skilled nursing care, as ordered by a physician. These services most often are provided by registered nurses, or under their supervision. Payer sources for home health care include Medicare, Medicaid, private insurance plans, Tricare, and private-pay. In contrast, in-home personal care agencies provide part time assistance with activities of daily living, instrumental activities of daily living, and "companion" services, which provide short-term relief for caregivers and needed supervision of clients. The primary payer sources for personal care agencies are Medicaid and private pay.[19]

In the US, 7,628 Medicare-certified home health agencies serve nearly 3 million Americans annually.[20] National health expenditures for home health care are expected to reach $57.9 billion in 2007.[21] Although, until recent years, only a small proportion of Medicaid long-term care spending was directed to home care, 37% of that spending now is devoted to support such services.[22] In 2002, the most recent year for which reliable estimates are available, personal care agencies served nearly 1.2 million Americans through Medicaid waivers for older persons and state plans for personal care services. National expenditures for personal care were >$9 billion in 2002.[23] In South Carolina, most personal care agencies are contracted to provide services to clients enrolled in the Community Long-Term Care (CLTC) program, a Medicaid home- and community-based service waiver program serving approximately 12,500 clients who qualify for both Medicaid and nursing home placement. To obtain reimbursement through Medicaid, personal care agencies serving CLTC clients must be approved by the South Carolina Department of Health and Human Services (SC-DHHS), the agency that manages the program.[24]

Previous Studies of Preparedness of Agencies Providing In-Home Care

Little research has addressed disaster preparedness in agencies providing services to older and/or disabled clients in their homes. Almost all of this research has been limited to narrative reports about the impact of a disaster on clients of home care services,[25] narrative accounts of community-based initiatives,[26] responses of a single agency after a disaster,[27] or ways home healthcare nursing can better prepare to care for clients.[28–31] One recent descriptive account was based on a mailed survey of eight home care agencies located near the World Trade Center at the time of the 11 September 2001 terrorist attack. That account concludes that preparedness needs include improved planning and greater cooperation between agencies.[32,33] Only two more developed empirical studies were identified by the literature review conducted for this study. One was a descriptive study of a mailed survey of 30 home healthcare agencies in San Diego County, California, conducted in the early 1990s. Ninety percent of these agencies reported having written disaster plans. However, only one-third conducted regular drills, and nearly one-third anticipated that they would be unable to meet the needs of their clients during a disaster.[34] In recently published work, researchers used qualitative methods to evaluate how five home health agencies in Orleans Parish, Louisiana, responded to Hurricane Katrina. Although all of the agencies had preparedness plans, there was a widespread breakdown of communications, primarily due to the loss of cellular phone operability. Results also showed a lack of coordination among government and home health agencies. The researchers recommended more practice drills to train agency staff and identify clients who are reluctant to evacuate, enhanced communications and transportation, and early evacuation.[35]

Preparedness Regulations for Home Health Agencies and Personal Care Agencies

At the federal level, the [US] Centers for Medicare and Medicaid Services (CMS) requires home health agencies to have disaster plans. However, there are no specific rules governing the content of those plans, or requiring specific types or regularity of training. Home health agencies must be certified to obtain Medicare reimbursement; most states

also require licensure.[19] Home health agencies also can seek accreditation from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) or the Community Health Accreditation Program (CHAP).[19,36–39] One framework for home health agencies, based on the JCAHO's standards for comprehensive emergency management planning, recommends that plans address mitigation, preparedness, response, and recovery using an all-hazards approach in the mitigation phase.[40] The all-hazards approach involves identifying all potential hazards to patients, employees, critical operations, and the community, and then ranking these risks by priority. Effective in 2006, JCAHO enacted standards for JCAHO-accredited home health agencies that incorporate an all-hazards preparedness approach. Home health agencies are required to conduct one disaster drill per year under the recently enacted JCAHO standards.[39]

In South Carolina, all home health agencies are licensed by the South Caroline Department of Health and Environmental Control (SC-DHEC). The SC-DHEC also directly operates 11 home health agencies; at the time this study was conducted, there were 68 home health agencies operated by other organizations.[41] In the event of a disaster, home health nurses employed by the SC-DHEC are required to staff special needs shelters, which are located throughout the state. The SC-DHEC *Patient Information Booklet*, distributed to all home health agency clients, addresses disaster preparedness planning. It includes a survival kit description, a suggested emergency checklist, and information about Red Cross and special needs medical shelters. When clients are accepted for home health services, they are asked to indicate their plans in the event of a disaster, such as remaining in their residence, staying with a relative in the area or elsewhere, or going to a special needs shelter.[42] According to an expert interviewed for this study, the information collected from clients can be used to generate a report for the county emergency management system describing client preferences in the event of a disaster.

To the authors' knowledge, there are no federal regulations governing disaster preparedness for personal care agencies. In South Carolina, case managers employed by CLTC are required to ensure that clients receiving services from personal care agencies have disaster plans. Case managers help each client and/or a designated caregiver to develop an "emergency preparedness checklist" and "emergency telephone list". Case managers assess clients' needs when they are enrolled in CLTC, and update this information every 30 days during a client contact call. The policy calls for nurse consultants to evaluate each client to identify those for priority status during disasters, such as those living alone or having special communication needs. With clients' permission, their names are shared with emergency agencies.[43]

No state-level regulations for preparedness in personal care agencies were identified. Because it was desirable to place the South Carolina regulations in the context of other states, and due to the lack of federal requirements governing preparedness for personal care agencies, an extensive search of Websites representing all coastal states of the continental US was conducted, searching particularly to identify state-level regulations for personal care agencies. Website topics searched for in each state included: the state health department, human services, Medicaid, long-term care, and the department charged with elder affairs.

Contributions of this Study

The purpose of this study is to examine how personal care agencies and home health agencies assist older and/or disabled clients to prepare for disasters. The study also examines how agencies safeguard clients' records, train staff, and how they could improve their preparedness. To the authors' knowledge, this is the first state-level study to investigate these topics. Knowledge and regulations about preparedness for agencies that provide in-home care have developed only in recent years, and continue to evolve. Particularly for personal care agencies, appropriate agency roles in preparedness are not clearly defined, and are dependent on evolving roles of other organizations involved in preparedness and disaster relief, such as local emergency management departments, health departments, and other organizations involved in planning for disasters or responding to them. Expectations by and for individual clients and their families also may differ among areas and among agencies providing in-home care. Given the complexity and evolutionary character of preparedness for in-home care, a qualitative research method was used.

Methods

Overview

A comprehensive literature review was performed. Preparedness regulations for home health agencies and personal care agencies were investigated. Interviews with state level preparedness experts in South Carolina (n = 9) were conducted in the spring of 2006. Guided by the literature review and the interviews, a telephone study was developed. Administrators of personal care agencies and home health agencies were interviewed in June and July of 2006. The interview guides for experts and administrators are provided in the Appendix. All telephone interviews were conducted by the same author. At least one other author and another professional staff member took detailed notes for all interviews. Notes were transcribed promptly after each interview, and reviewed by two of the authors. Corrections were made promptly to ensure accuracy. This study was approved by the Institutional Review Board at the University of South Carolina.

Most relevant legislation and research on preparedness uses the terms "emergency" and "disaster" interchangeably to refer to life-threatening, unexpected events. This can encompass a relatively localized emergency such as a tornado or an ice storm, or a more massive event, such as Hurricane Katrina. This study also uses these terms interchangeably, again to connote an unexpected, life-threatening event that has large effects on a substantial population. Agencies serving frail, elderly persons also may have a role in preparing clients for much more local events affecting a small number of individuals, such as a house fire. In the discussions with experts and in the survey, the focus of the research was on more widespread events.

Interviews with Preparedness Experts

Nine public officials in South Carolina were interviewed to help develop a survey for home care and home health agencies. Experts included five directors in the following departments at the SC-DHEC: (1) Health Facilities; (2) Health Licensing; (3) the Bureau of Certification; (4) the Division of Health Providers; and (5) the Division of Home Health Services. Experts included directors in two departments of the SC-DHHS: (1) Public Health Preparedness; and (2) the Division of Field Management in CLTC. One expert was the program manager for the South Carolina Health Promotion and Nutrition Service at the South Carolina Disaster Preparedness Center. Another expert was the director for Emergency Preparedness in Health Regulations; this agency coordinates with the SC-DHEC. The average expert interview length was 41 minutes (range 30 to 55 minutes). The experts were assured that their responses would be reported anonymously; thus, specific citations attributing particular responses to a given individual are not cited.

Interviews with Administrators of Agencies Providing In-Home Care

Interviews with preparedness experts and the review of state-level regulations found that South Carolina home health agencies are required to have disaster preparedness plans. This was confirmed in the first three home health interviews, two with agencies operated by the SC-DHEC and one with an agency not operated by the DHEC. Given the existence of relatively clear, relevant regulations for home health agencies, and limited resources available for this research, priority was given to interviewing a larger sample of administrators of agencies providing personal care. In all, five home health agency administrators were interviewed, two operated by the SC-DHEC, and three not operated by the SC-DHEC. All home health agencies were identified using the SC-DHEC Website. The average home health administrator interview length was 28 minutes (range 20–40 minutes). Administrators of 16 personal care agencies were interviewed. Personal care agencies were identified using a list of Medicaid-approved agencies provided by the SC-DHHS. Agencies were selected by geographic region while over-sampling agencies located in coastal areas (where clients are particularly vulnerable to hurricanes), those in rural areas of the upstate (where clients are particularly vulnerable to ice storms), and those near a nuclear facility. The average interview length for home care administrators was 22.5 minutes (range 10–40 minutes).

Data Processing

This study primarily was phenomenological, based on open-ended questions and using grounded theory to identify major themes.[44] Detailed notes of the telephone interviews, transcribed promptly by the research team, provided the qualitative data. Thematic analysis[45] was used to organize the content and to identify patterns and themes in the data.[46] One of the authors summarized the several major areas mentioned by the preparedness experts; two authors reviewed this summary. There was substantial variability in the degree of preparedness of agencies providing personal care. Thus, to determine their degree of preparedness of personal care agencies, the authors evaluated the responses to the first 10 questions provided in the lower portion of the Appendix using a 5-point Likert scale, with 1 indicating "least prepared" and 5 indicating "more prepared". The authors developed criteria to evaluate each question. Given their importance in the preparedness process, the responses to the first three questions were double weighted. Using these criteria, two of the authors independently evaluated each of the responses. Next, the mean value for the score of each agency was calculated.

The following decision rules were used to categorize personal care agencies: those with an average score up to 2 were categorized as "less prepared"; those with a score from 2.1 to 3 were categorized as "moderately prepared"; and those with an average score >3 were categorized as "more prepared". In general, the standard for a categorization of "more prepared" was that the agency approached or attained the level of preparedness expected of home health agencies. The standard for "less prepared" was that the agency had little or no preparedness plan. The standard for "moderately prepared" was mid-way between the "less" and "more" prepared levels. The level of inter-rater agreement was high (94%); in all but one instance, the assessment rankings by the two researchers were in close agreement, with an average difference in the scores assigned by the two researchers of 6.8%. A third author reviewed the evaluations. For the one instance where assessments differed, consensus was reached through discussion. For home health agencies, responses to Questions 1–10 were summarized by three of the authors. For responses about suggestions to improve preparedness (Question 11) for both personal care agencies and home health agencies, the major themes were identified. The frequency of response types for each theme is presented. All authors agreed on representative examples and quotations for presentation. Quantitative responses were analyzed using descriptive statistics.

Results

Responses from Preparedness Experts

Several of the experts described the regulatory process for home health agencies, providing consistent explanations. The experts also confirmed that the SC-DHHS is responsible for preparedness for clients of the CLTC program. This information was reviewed in the section titled, "Preparedness Regulations for Home Health Agencies and Personal Care Agencies", presented above. Survey questions 3, 4, 5, and 6 (provided in the lower portion of the Appendix) were suggested by the experts for both agency types. Experts made the following suggestions to improve preparedness for agencies providing in-home care: (1) improve communications and coordination with local emergency management systems; (2) maintain up to date lists of high-risk clients; and (3) educate clients about the need to prepare for a disaster.

Characteristics of Personal Care and Home Health Agencies

Eight of the personal care agencies were located in rural areas, primarily either in upstate South Carolina, which is

more distant from the hurricane-prone coastal areas, or near one of the state's nuclear power plants. Five personal care agencies were located in coastal areas. Home health agencies were located either in coastal areas (n = 3) or in rural areas (n = 2). All respondents were administrators; for administrators of personal care agencies, the average length of time in the position was 4.9 years (range 0.92–13.0 years); the analogous information for home health administrators was 27.2 years (range 17–40 years). The average number of years in operation for personal care agencies was 9 ±8.2, range 0.9–30.0 years), whereas the average number of years for home health agencies was 27.2 ±9.3, range 17.0–40.0 years). Personal care agencies served a total of 2,147 clients, while home health agencies served a total of 2,180 clients. Using a scale of 1 to 5, with 1 indicating "not well prepared", and 5 indicating "extremely well prepared", administrators indicated how well-prepared their agencies were for emergencies or disasters. Results of Wilcoxon *t*-tests indicate that, compared with administrators of personal care agencies, the in-home health agencies reported better preparation, with personal care agencies averaging a score of 2.9 ±12.0, while home health agencies averaged 3.9 ±0.2 ($p = 0.06$). The in-home health agencies also reported that their clients were more prepared; personal care agencies averaged 2.3 ±1.1, whereas home health agencies averaged 3.4 ±0.9 ($p < 0.05$).

Responses from Personal Care Agencies

Six personal care agencies were categorized as less prepared, seven as moderately prepared, and three as more prepared. Responses of personal care agencies are described below, by topic area, organizing the results by the questions provided in the lower portion of the Appendix.

Personal Care Agencies' Disaster Plans (Questions 1 and 2)—Administrators of the less prepared agencies indicated that they had no disaster plans, or minimal plans for clients. Several of these administrators said that it was not the responsibility of their agency to help clients prepare, because their employees were only in clients' homes briefly. Administrators said they expected that families would provide care following an emergency or disaster. One said, "This is up to family members; we only provide meal preparation and bathing." Plans for moderately prepared agencies were basic. An administrator explained, "Our role is to assist families; we are not on-call. We get them to the nearest hospital or shelter, contact family members, and work with 9-1-1 [emergency telephone system] and EMS [emergency management system] to move clients." Administrators of moderately prepared agencies also described care plans that relied on family members. One said, "We usually have family members' telephone numbers. I can't think of one client without family members." Administrators of more prepared agencies described more formal preparedness plans. One said, "Prioritize who is at risk. We contact everybody, find out if the family member is available; if not, get somebody to go there. We have a written emergency plan." This was echoed in the plans to care for clients. One administrator said, "We prepare patients at time of admission. During emergency situations, we call the client to find out what they need. We contact patients by priority; patients with ventilators are admitted into hospitals."

Personal Care Agencies' Processes for High Risk Clients (Questions 3 and 4)—Administrators of less prepared agencies did not articulate procedures to identify clients at high risk. One said, "Most of our clients depend on family members." Provisions to care for high-risk clients were nonexistent, or relied on the assistance of others outside of the agency. One administrator said, "No more than contact the responsible party. If they do not have a responsible party, we contact the CLTC case manager." Administrators of moderately prepared agencies described processes that relied on others, primarily CLTC case managers, to determine whether clients were at high risk. One of these administrators said, "Most are CLTC [clients]; this is noted on care plan by CLTC. This lets us know they are at risk and need special attention." These administrators described basic processes to care for high-risk clients. One explained, "Have our better caregivers with the more frail customers. We call them every 2–3 hours to make sure they're okay." In the more prepared agencies, administrators described clear processes for identifying high-risk clients. One explained, "The policy [for determination] is really clear: low (can participate in activities of daily living); moderate (immobile, able to be moved around); or high risk (ventilator, oxygen-dependent, or bed bound), contact their physician to go to a hospital." These administrators also described specific provisions to care for high-risk clients. One said, "To be eligible for the special needs shelters... clients must have seven days supply of medications, and must be able to operate without electricity, and be low risk; for high-risk clients, we call physicians to get them admitted into the hospital."

Personal Care Agencies' Disaster Plans for Clients (Questions 5, 6, and 7)—In less prepared agencies, administrators did not have processes in place to develop disaster plans for clients, or did not articulate clear processes. Agencies in this category either did not provide clients with materials or recommendations, or did not provide them on a regular basis. Agencies in the moderately prepared category indicated that they assist clients to develop plans. One administrator said, "At admission, and at 30–60 days, we review the plan, go through their house, and look at safety items, smoke alarms, stairs, and windows. We ask, 'what would you do if this occurred?' We help them with the plan." These administrators provided clients with some written information, usually telephone numbers, and some recommendations. One of these administrators said, "Mainly people who have relocated to the area, who don't have a clue of what to do. We encourage them to leave early and go inland as much as possible to family members."Those in the more prepared category articulated a process to develop plans for clients. One said, "We have an emergency plan list; it's a list of local phone numbers, including EMS, physicians. It's called the client emergency plan. A copy is provided to the client and there is one with the agency."

These agencies described providing written instructions for clients and other preparedness recommendations.

Personal Care Agencies' Plans to Safeguard Client Records (Question 8)—Less prepared agencies either did not have a plan for safeguarding client records or described basic ones. One administrator said, "Move them away from windows; cover with plastic or canvas before we evacuate." In the moderately prepared agencies, administrators described more adequate systems to safeguard client records. One said, "We have a security file that is water and fire-proof, and keep files under lock and key at all times." Administrators of more prepared agencies described more sophisticated ways to protect client records. One said, "We are a paperless office; information is backed up two times a day to servers in Utah and California. Supervisors and field managers have laptops."

Personal Care Agencies' Staff Preparedness (Question 9)—Less prepared agencies described no plans for staff preparedness, or very basic plans. Describing the agency's plan, one said, "No school, no work," meaning that if schools were closed, staff should not report to work. Administrators of agencies in the moderately prepared category indicated that they discussed preparedness with staff, and had at least a basic level of orientation. One administrator said, "We go over policies and procedures at orientation for staff. We ask staff to listen to TV and radio announcements, and follow whatever local school district says. We have a list of employees who volunteer to drive in snow and ice." Those in more prepared agencies described plans for staff education and to assist clients. One administrator said, "We do education when people are hired...When we know something is coming, we have staff to assist with the preparation of patients; allow staff to make preparations for their home. The chain of command is set up; 24 hour on-call service in office. We have contact with one another on a regular basis."

Personal Care Agencies' Plans to Coordinate with Other Agencies (Question 10)—Less prepared agencies had no plan to coordinate with other agencies, or only a basic plan. One administrator said, "We don't have a plan except that at time of emergency. In an emergency, we contact local police and fire departments." Agencies in the moderately prepared category described more specific plans to coordinate. Administrators in more prepared agencies articulated specific coordination plans. One put it this way, "Emergency management held a meeting in (location) with nursing homes, hospitals, and home care agencies invited to attend. We provided a copy of our emergency plan. They gave us recommendations."

Personal Care Agencies' Suggestions for Improvement (Question 11)—Four administrators commented that more client education is needed. One said, "Education in some homes is non-existent. Everybody needs to be more informed and have a proactive voice. We need more set standards in community...and then can pass along to clients." Four administrators recommended additional planning, and emphasized the need to have a plan in place. One said, "We need formal policies and procedures with a command center...Staff need to know their roles." Administrators of 10 agencies stressed the need for more coordination. One put it this way, "We need to work real close with the county-wide emergency preparedness system." Another said, "We have no clue of what the other agencies are doing....If we could pool our resources, we could have a common shelter together." Another said, "Have a planning meeting so everyone can be on the same page...It will take a team effort. A lot of people don't understand what we do...We need training."

Home Health Agency Results

Responses provided by administrators of home health agencies are described below, with the results organized by topic. The questions asked of these agencies are in the lower portion of the Appendix.

Home Health Agencies' Disaster Plans (Questions 1 and 2)—All home health agencies had disaster plans and plans to care for clients. One administrator said, "South Carolina has one, and we are part of that plan. DHEC has an emergency plan...We get notified by emergency operations center in each county. We are responsible for staffing American Red Cross Shelters for 72 hours." Regarding their plan to care for clients, one administrator said, "We talk with patients...preplanning for disaster: What would they do? Where are they going in case of emergencies? Are they going with family?...Or to a shelter?"

Home Health Agencies' Processes for High-Risk Clients (Questions 3 and 4)—All administrators described processes to identify high-risk clients. One said, "We use a list (A, B, C) to prioritize patient care. A—Awful, patients are usually on ventilators, high risk; B—Bad, patients might have a caregiver, but may still need help; C—Cool, patients have a caregiver, are more independent, and usually do not need care. We see "A" patients first, then "B" patients, and then "C" patients." Similarly, all described a process to care for high-risk clients. Another said, "For ventilator patients...every year DHEC meets with home health agencies, dialysis clinics, hospice, and other agencies to try to get them to make a plan for their patients; if they don't have the means to stay at home, they will need to go to the hospital."

Home Health Agencies' Development of Disaster Plans (Questions 5, 6, and 7)—All administrators said they developed disaster plans with clients. One explained, "Disaster planning policy classifies the patient, who's responsible for the patient's care and what to do, describes what a disaster is...We keep a list of emergency shelters that will accept patients, and a list of vendors for supplies." All provided clients with written materials. One said, "In the admission packet, there is information on what would qualify them for a special needs shelter and has the locations of special needs shelters along with Red Cross locations." A second said, "Give clients a booklet at admission that includes emergency preparedness and their responsibility as a patient." All administrators provided recommendations about what to do in the event of a disaster.

Home Health Agencies' Plans to Safeguard Client Records (Question 8)—All administrators described a process to safeguard client records. One said, "We have electronic records. All hard-copies are triple-locked in fire proof cabinets."

Home Health Agencies' Staff Preparedness (Question 9)—All administrators described processes to prepare their staffs for a disaster. Several spoke about plans to coordinate care and communication. One said, "We have phone trees for staff; we start at leaders and on down to staff. We have computers and cell phones to let staff know they need to plan patient care accordingly." Several administrators spoke about the requirement that their staff work in special needs shelters. One said, "We are mandated by our job to work in shelters during an emergency. We work in shifts at the shelter; we make certain people are out at home visits."

Home Health Agencies' Plans to Coordinate with Other Agencies (Question 10)—All administrators described plans to coordinate with other agencies. One identified partners as including, "Emergency preparedness director, Red Cross, DSS [Department of Social Services], county government, school districts, law enforcement, EMS, and the transportation industry." Another said, "At least four times a year we have statewide chemical drills, earthquake drills, and hurricane drills. Everyone will be involved in the drills." Another said, "All agencies get together and meet, DSS, EOC, hospitals, DHEC, nursing homes, to identify their roles."

Home Health Agencies' Suggestions for Improvement (Question 11)—Two administrators spoke of the need for better coordination. One put it this way, "We just need better coordination, need to meet to try to identify roles; staff changes in between the time of a meeting and a disaster; some information is not familiar and does not get passed on." One administrator stressed the need for more training, saying, "No matter how much you plan, the plan is never good enough. We are about the business of providing home care to the patient not about the business of providing emergency planning."

Discussion

This study examined disaster preparedness in agencies providing in-home, personal care and health services to older and/or disabled clients in a coastal southeastern US state. To the authors' knowledge, this is the first state-level study after Hurricane Katrina to examine preparedness of agencies serving older and/or disabled individuals living in the community, and the first to distinguish preparedness responses between personal care and home health agencies. From a regulatory perspective, no detailed federal regulations were identified for home healthcare agencies, and no federal regulations were identified for agencies providing personal care. In South Carolina, home health agencies are required to be certified and have a disaster plan. In personal care agencies, case managers employed by the state's home and community-based Medicaid waiver program are required to ensure that their clients have disaster plans. Medicaid home and community-based waiver programs in other states may have disaster preparedness policies similar to those in South Carolina. However, an extensive search of relevant Websites of all US coastal states did not identify disaster preparedness policies in other states. Although beyond the scope of this study, a useful next step would be to conduct in-depth interviews with public officials managing Medicaid home and community-based waiver programs in other states, both to understand variations in state policies and to identify a core set of best practices that might be useful to many states.

In the South Carolina personal care agencies examined in the present study, the degree of preparedness varied substantially. Most agencies may be best categorized as "less prepared" or "moderately prepared," compared with existing standards for home health agencies. The findings for agencies in these two preparedness categories generally suggest a lack of preparedness in: (1) identifying clients at high risk and assisting them in planning; (2) providing written materials and/or recommendations; (3) protecting records; (4) educating staff and clients; and (5) coordinating disaster planning and response across agencies. A number of administrators of agencies providing personal care commented that they had not even considered the preparedness needs of their clients; several said that they believe it is not their responsibility to assist clients with preparedness. Collectively, the findings for personal care agencies indicate that many vulnerable clients not served by the Medicaid home and community-based waiver program may be poorly prepared for disasters. This may be the case for some clients of the waiver program as well. Administrators of agencies providing personal care described ways to enhance preparedness, stressing the need for more coordination across agencies. A number spoke about the need for more client education and additional planning.

Administrators of home health agencies reported a higher level of preparedness. However, some administrators commented that they were unsure of how well their plans would work in an actual disaster, given their lack of preparedness training. The majority of home health agency administrators spoke of a need for better coordination and/or more training.

A number of notable gaps in preparedness planning in personal care and home health agencies were identified, particularly among personal care agencies. The lack of preparedness and the apparent lack of recognition of the need to prepare clients for a disaster are of particular concern, especially given that this study was conducted only about a year after the widely publicized Hurricane Katrina disaster.

Limitations

This research relied on self-reports of administrators' views about preparedness, rather than objective preparedness measures. To the authors' knowledge, there are no validated objective preparedness measures for personal care or home health agencies. Although the National Association for Home Care and Hospice has initiated discussions in this area,[47] future research might draw on an expanded group of experts to consider how agencies that provide long-term care in the home should address disaster preparedness. Budget constraints limited the sample to a relatively small number of agencies. Further, the sample was drawn from agencies in one relatively small US state with extensive rural areas. Thus, these findings may not be gen-

eralizable. However, agencies were drawn from a relatively wide geographic area in South Carolina, which provided care to >4,000 clients. Thus, the results may be suggestive of preparedness among personal care and home health agencies in South Carolina. Although the generalizability of the results to other US states is uncertain, previous research has suggested common preparedness needs for long-term care across states.[3–5,10,34] Future research to examine a larger and representative sample of states and agencies would be useful.

Conclusions

The findings suggest several implications for practice and policy. Agencies providing personal care and home health services would benefit from developing stronger linkages to their local preparedness systems. A close working relationship with key personnel in the county-level emergency management system would help to identify clients with special needs. This information would help first responders to evacuate these individuals in the event of a disaster, or to ensure that they were safe in their homes. As with most preparedness issues, these relationships would best be developed during tranquil periods. Regarding education and training needs, the results of this study support incorporating disaster preparedness into training programs and licensing examinations for long-term care administrators, as well as university-based educational programs such as those for students of public health.[48] This is consistent with recent studies of nursing home preparedness.[4,5] It also may be useful to work with professional organizations such as the National Association for Home Care and Hospice to develop educational resources for administrators and staff of agencies providing in-home care, as well as for their clients and caregivers, in consultation with professional risk managers who have expertise in preparedness. The interviews suggested that many administrators would welcome this guidance.

The views of administrators who responded that preparedness was not their responsibility cannot be readily dismissed. Increasing preparedness will increase costs at a time when annual inflation in home health and personal care in the US already exceeds 12%.[49] A cost-neutral alternative might enhance preparedness while reducing the number of clients served. However, in recent years many states already have reduced Medicaid services in the home.[50] Federal budgets also seek service cuts.

Nonetheless, individuals prefer to receive long-term care in their homes. In the US, both states and the nation may control costs by encouraging those who are nursing-home eligible to remain in their homes. Agencies providing personal care and home health care play a vital role in the continuum of health care in the community. It may be desirable that personal care and home health agencies become more fully integrated into emergency planning. However, requiring that integration also requires greater support for long-term care in the home.

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Appendix—Telephone guides for state-level preparedness experts, and administrators of home health and home care agencies in South Carolina, 2006

Guide for Interviews with State-Level Preparedness Experts (n = 9)

1. Describe the emergency management process for home care and health agencies.
2. Describe any federal or state regulations in this area.
3. Describe who oversees emergency management South Carolina for these agencies.
4. Describe questions we might ask to understand preparedness for these agencies.
5. Provide suggestions to improve preparedness for these agencies.

Guide for Interviews with Home Care (n =16) and Home Health (n = 5) Administrators

1. Describe your general disaster plan.
2. Describe your plan to care for clients during and after a disaster.
3. Describe your process to determine high risk clients.
4. Describe special provisions to care for high risk clients.
5. Describe processes to develop disaster plans for clients.
6. Describe written materials for clients.
7. Describe recommendations you provide for clients.
8. Describe your plan to safeguard client records.
9. Describe your plan for your staff.
10. Describe your plans to coordinate with other agencies.
11. Provide suggestions to improve preparedness for these agencies.

Editorial Comments—Disaster Preparedness for Vulnerable Persons Receiving In-Home Long-Term Care in South Carolina

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Hurricane Katrina opened the eyes of many Americans. In the aftermath of this hurricane, the authors began questioning how well-prepared some of the vulnerable populations were in South Carolina. The specific target population was persons requiring in-home health care and personal care services. To answer this question, the authors developed two surveys. The first survey was directed toward preparedness experts in South Carolina. Nine experts were identified representing various agencies throughout the State. The information obtained from the first survey provided great insight into disaster preparedness particularly the regulations requiring home health agencies to have a disaster plan. The second survey was directed at 11 administrators of either private or state home health agencies. Interestingly, the majority of the agencies were moderately prepared or less than moderately prepared in establishing, implementing, and practicing a disaster plan. Many home health agencies are relying on the family members of their clients to provide help in the event of a disaster. There must be better communication between clients, their families, and the in-home agency providing care. Assumptions like these should not be made. The agencies that are best prepared have rated their clients based on needs and ability to perform the activities of daily living. Plans have been established for each level of patient with the most emphasis going to the client with greatest needs.

Disaster preparedness is beneficial to everyone. It is easy to overlook the special needs population. The authors addressed an important issue in caring for vulnerable persons in South Carolina. The information provided through the surveys conducted can easily and efficiently be replicated in any community. It would be beneficial to see other states and communities addressing the needs of vulnerable populations.