BRIEF REPORT

Long-Term Care Planning, Preparedness, and Response Among Rural Long-Term Care Providers

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ABSTRACT

Objective: Rural Long-term Care (LTC) providers face unique challenges when planning, preparing for, and responding to disasters. We sought to better understand challenges and identify best practices for LTC in rural areas.

Methods: Case studies including key informant interviews and site visits were conducted with LTC staff and emergency planning, preparedness, and response partners in three rural communities. Themes were identified across sites using inductive coding.

Results: Communication across disaster phases continues to be a challenge for LTC providers in rural communities for all disaster types. Communication challenges limit LTC providers' ability to address patient needs during emergencies and limit the resilience of providers and patients to future disasters. Limited coordination among local leadership and LTC providers prevents dissemination of information, resources, and services, and slows response and recovery time. Including LTC providers as stakeholders in planning and exercises may improve communication and coordination.

Conclusion: More than two decades into efforts to increase preparedness of health care systems to all hazards, rural LTC facilities still face challenges related to communication and coordination. Agencies at the federal, state, and local level should include input from rural LTC stakeholders to address gaps in communication and coordination and increase their disaster resilience.

Key Words: disaster preparedness, rural, long-term care, nursing home, aging

The increasing proportion of older adults in the United States, including in rural communities, is a growing concern with implications for many aspects of health and health care.[1] Aging rural residents face barriers to accessing health care, including financial constraints, limited transportation services, a lack of trained providers, and greater travel time or distance to receive needed care.[2] Rural residents face barriers for accessing treatments for mental health and palliative care, as well as for other conditions expected to increase, with the increasing frequency and severity of natural disasters and a changing climate.[3-5] Compounding the problems related to access, rural communities are uniquely vulnerable to the impacts of disasters due to higher levels of poverty, population loss that reduces local government capacity to support public services, an older population, weaker planning and administrative capacity, and geographic isolation.[6-9] The differential impacts of disasters on rural communities, combined with the limited capacity of rural communities to meet increasing long-term health care services and support needs of local residents, are significant problems.[10] While disaster preparedness and capacity challenges to rural hospitals have been addressed to some extent through planning,

training, and regional collaboration,[11] meeting federal preparedness guidelines related to workforce, physical capacity and supplies, communication, and coordination with other entities continue to challenge rural long-term care (LTC) providers.[12]

Recent disasters and other emergencies, including the current COVID-19 pandemic, have highlighted problems in disaster response, unique to LTC, including transportation barriers related to the functional, access, and health limitations of residents[13]; communication with those who can make decisions for patients who are impaired[14]; and the need for electricity to power durable medical equipment and maintain medication at safe temperatures.[15] Decision-making and operations around evacuation versus sheltering in place for community living facilities such as nursing homes are often at the discretion of staff with limited direct experience in disaster response. LTC staff are not well paid,[16] have frequent turnover,[17] work long hours,[18] and may not be able to provide extra support to their patients during disasters, particularly when their own homes or families may be impacted simultaneously. In rural areas, staff may commute long distances and facilities may have limited options for back-up

staffing. Though some health care systems and government programs offer support for providers to plan and respond to emergencies,[19] most LTC providers in rural areas lack the expertise, time, or other resources necessary to adequately plan for or respond to disasters. When disasters occur in rural settings, local LTC providers may be disproportionately impacted, as local emergency responders may be volunteers who are needed to assist with multiple vital community needs.[20]

METHODS

Three case studies were conducted in rural counties,[21] to improve understanding of the challenges of disaster planning, preparedness, and response among LTC providers. Cases were selected from rural communities with at least one LTC service provider to represent a diversity of disaster types including severe acute events (e.g., major storm, flood, or wildfire) and slow-onset disasters (e.g., drought, environmental contamination). Key informant interviews were conducted with stakeholders with a role in disaster planning, preparedness, and response using an interview guide that was reviewed by two content experts, and pilot tested with a convenience sample of LTC providers, identified through provider databases or referral. Based on pilot feedback, the interview guide was revised prior to implementation (see Supplemental File).

Questions for the interview guide were developed based on a review of the existing literature. Information regarding the type of provider the informant worked for, population served, volume of services, routine activities related to emergency planning and response, persons and agencies that assist with emergency planning and response, systems of reporting, resources available, and un-met needs was collected from all key informants. Pre-disaster planning, immediate post-disaster response, impacts of the disaster on the provision of care, and lessons learned from the disaster response were included.

Public information (e.g., county websites) was used to identify LTC providers and stakeholders. Potential respondents were contacted by email and invited to participate in a phone interview. During the phone interview, respondents were asked to meet in-person with the study team during a later site visit, and for referrals to other key informants. Site visits included in-person interviews with individuals or groups and observation of the recovery status and ongoing challenges. Site visits and telephone interviews were recorded, transcribed, and analyzed for key themes using inductive coding. All documentation was determined to be exempt by the Texas A&M Institutional Review Board (IRB 2018-1396).

RESULTS

Forty-four key informant interviews were completed (16 via telephone, and 28 in-person). Three major cross-cutting themes were identified.

Challenge to Effective Communication

The presence of multiple single points of failure in rural communities has a major impact on communications. As one respondent put it, "we were kind of shut off from the rest of the world for 48 hours" after the disaster. Communication challenges identified included difficulty contacting family members of LTC facility residents, particularly when communication services (e.g., cellular networks) are intermittent. If services are functioning, contact lists must be kept up-to-date and emergency contacts, who are also likely dealing with the impacts of the disaster, must be available to answer their phones. Several LTCs mentioned potential solutions to this, including buying satellite phones and training staff to become licensed ham radio operators; however, both have significant limitations. The high cost of purchasing equipment and subscriptions for satellite phone service is a barrier, and poor reception and difficulty operating the devices were also mentioned as limitations. Some LTCs indicated that if they had satellite phones they would reserve them for contacting emergency responders and not patients' families. Similarly, ham radio requires training and licensure, and qualified operators may not be available during a disaster. Informal (e.g., word of mouth) communication, effective in non-disaster times is seen as less effective during or after a disaster; however, many respondents pointed to the strengths of "small town community where people know each other and rely on community camaraderie as a form of security and trust."

Gaps in Disaster and Emergency Preparedness Planning

All skilled nursing and LTC facilities [e.g., hospitals, hospices, Programs of All-Inclusive Care for the Elderly (PACE), home health agencies, and Comprehensive Outpatient Rehabilitation Facility (CORFs)] are required to have an emergency preparedness plan.[22,23] The plans are utilized by facilities during disasters and were typically found useful by respondents, particularly if they practiced using drills or tabletop exercises, which are preferred as they are less disruptive for patients. If emergency preparedness plans are in place, they are more valuable if locally adapted, and local and backup personnel, are assigned specific responsibilities. One concern is based on the fact that when facilities are "part of a corporate structure, the preparedness plans are similar across all sites; only some items are tailored to each location." For plans to be effectively operationalized during a disaster response, local memoranda of understanding (MOUs) or other agreements, such as transportation contracts for facility evacuation should be negotiated in advance. One respondent pointed out "challenges with patient tracking because the facility had scattered the patients to many locations," as "preparedness plans did not address necessary requirements when sending evacuees to other facilities" or "emergency admissions (to LTC facilities) that would be necessary during an emergency." LTC facilities operating under a national-level corporate governance structure may have to work with headquarters

on MOUs, or be required to evacuate patients to a facility operated by the same parent company, limiting their ability to enter into agreements with local suppliers or evacuate patients to the nearest receiving facility. During times when threats are higher (e.g., hurricane season or fire season), additional meetings focused on preparedness should be held. Just-in-time training and at the minimum, annual refresher trainings and tabletop drills are needed. Ensuring that plans address response to acute disasters like tornados, means that most LTC facilities do not plan for slow-onset disasters, given limitations in workforce, and other disaster preparedness planning responsibilities.

Challenges to Effective Coordination

There are many challenges to effective coordination, including keeping lists of people who are homebound but require LTC services during a disaster, up-to-date and available to local responders to ensure needs are met, and evacuation status is known. Systems such as emPOWER, which tracks Medicare beneficiaries that rely on electricity-dependent medical equipment, may be helpful in this regard.[24] In addition to "checklists of items to ensure that everything necessary during a disaster event is on-hand prior to the event," a system to effectively receive, manage, and distribute available resources, including financial, and non-financial aid, is also needed. "The overwhelming support of volunteers coming to provide services also requires coordination." Depending on the type, location, and scale of the disaster, a regional approach to coordination may be more effective if there are agencies in place with the capacity to serve in this role. Coordination can also be difficult because some rural LTC facilities are stand-alone and not part of larger organizations that could assist with financial and other resources necessary to respond to a disaster. While health care coalitions may provide support to members, LTC facilities in more remote communities may face challenges to active participation in these groups. Facilities that are part of a health care system may benefit from system-level investments such as Electronic Health Records, and other information technology like online risk assessments. Although costly to implement, these technologies may also improve disaster preparedness and response under some circumstances, with several respondents indicating "the use of technology" helped their facility "to better prepare for disasters."

DISCUSSION

For more than two decades, communication and coordination have remained challenges to health care system and facility preparedness. Based on this study, improvements in communication, planning, and coordination among stakeholders in rural LTC emergency planning, preparedness, and response are still needed to ensure interruptions in communication or other services, lack of access to transportation or evacuation failure, or inadequate access to needed information do not result in unmet care needs, severe health complications, or even death for vulnerable patients. While responses to COVID-19 unfold,

concerns about adequate planning, resource availability, protecting providers from exposure, and patient safety are already evident in reports of policies being implemented in LTC facilities. To increase preparedness capabilities for rural LTC providers, longstanding challenges must be addressed. First, a greater emphasis on coordination and communication efforts across local, state, and federal levels is needed. For example, a platform for regular communications and resource sharing among LTC providers may help support local community needs. Second, streamlined evacuation planning for vulnerable populations based on community living or residential settings that focus on emergency admissions, patient/client tracking, and medical records portability is needed. Finally, LTC stakeholders should be included in community emergency preparedness meetings and exercises beyond exercising their own facility's plan, with a goal of ensuring proper measures are in place when emergencies occur.

Regardless of the type of disaster, rural LTC providers encounter similar challenges related to staffing and financial margins that are the heart of many of these needed improvements. High turnover makes it difficult to maintain consistent levels of training on communications equipment, emergency plans, or technologies needed during disasters. These challenges are amplified during disasters, when staff may also be impacted. These issues appear to be consistent, regardless of the governance structure (local independent or national corporate) of the provider, because during a disaster that impacts a rural area, everyone has to work together and human and financial resources are limited for every organization and agency, particularly during the first 24 to 72 hours of the disaster response when a rural community's infrastructure must be sufficient for all aspects of response because state and federal resources are not yet available.

CONCLUSIONS AND IMPLICATIONS

The hierarchy of needs in a small, under-resourced, rural county can push disaster planning, preparedness, and response for LTC providers to the bottom of the list. However, LTC is integral in the delivery of health care in rural communities, providing care for some of the most vulnerable. Under normal circumstances, rural health care delivery has staffing challenges and operates on narrow financial margins despite the typical dearth of competitors. Disasters exacerbate these operational challenges. As the population ages and disasters that impact rural areas become increasingly frequent and severe, these challenges must be addressed by planners and policy makers.

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Conflict of Interest Statement

The authors have no financial or personal conflicts of interest.

Supplementary Material

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