SPECIAL FOCUS

San Diego's Area Coordinator System: A Disaster Preparedness Model for US Nursing Homes

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ABSTRACT

Almost 2 million Americans rely on nursing homes for care, and many require daily or near daily contact with the health care system to remain alive and functional. In October 2007, Southern California experienced a series of wildfires that burned over 500 000 acres and caused 14 nursing homes to evacuate more than 1200 residents. In response to this event, nursing home administrators and officials from various health care and emergency management agencies in San Diego County collaborated to form a model for nursing home emergency preparedness. This report describes the model, known as the area coordinator system, and discusses its strengths and limitations, and whether it ought to be replicated in other areas of the country.

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Key Words: disaster preparedness, nursing homes, communication, evacuation

Almost 2 million Americans rely on nursing homes for care, and many require daily or near daily contact with the health care system to remain alive and functional.[1,2] The care requirements and fragility of these residents make them extremely vulnerable to disasters and public health emergencies. Since Hurricane Katrina, nursing home associations have devoted substantial effort to improving preparedness planning among their members. These initiatives are mostly prescriptive, listing the elements of a comprehensive facility- or community-level disaster plan.[3]

In October 2007, Southern California experienced a series of wildfires that burned over 500 000 acres and led to a mass evacuation of nearly 1 million people.[4] Fourteen nursing homes evacuated nearly 1200 residents in San Diego County alone.[5] Many of these medically fragile residents were evacuated to non-health care facilities such as Qualcomm Stadium and Del Mar fairgrounds, even though there were many unaffected nursing homes with open beds and the ability to provide care and aid.

In the aftermath of the wildfires, representatives from San Diego County Emergency Medical Services (EMS), the California Association of Health Facilities, and San Diego Health Care Association and the administrators from various nursing homes in San Diego County developed an innovative model of communication, mutual aid, and organization for emergency response preparedness and response. This model, known as the area coordinator system, provides a framework for coordinating mass evacuations among nursing home providers in San Diego County. In this report, we describe the model, its strengths and limitations, and whether it ought to be replicated in other areas of the country.

METHODS

Semistructured interviews lasting about 1 hour were conducted by phone and face to face with 5 nursing home administrators and 1 long-term care expert in the summer and fall of 2009. One of the administrators (S.T.) served as the chief of the area coordinator task force. The purpose of these interviews was to learn about the informants' knowledge and experience with disaster preparedness and their interaction and involvement with the area coordinator system in San Diego. An interview guide was developed by the study team and pilot tested to refine both the process and content of the interviews.

Interviews were digitally audiotaped and transcribed to ensure that the information was complete and accurate. The study received human subjects' approval from Emory University's institutional review board. Participation in the study was voluntary, and all data were kept confidential. Content analysis of the data involved iterative comparisons of the transcripts, summaries, and notes from the interviews.

Experiences of Nursing Homes During the 2007 Wildfires

One of the major reasons for the development of the area coordinator system was the lack of communication among nursing homes affected by the 2007 San Diego wildfires. The wildfires led to the evacuation of 14 nursing homes and 1200 nursing home residents, most of whom were sent to San Diego's Qualcomm Stadium and the Del Mar fairgrounds. Only a handful of the nursing homes that did not evacuate residents admitted those from evacuating facilities. These ad hoc transfers were facilitated by administrators' personal contacts or preexisting transfer agreements. San Diego, like many cities, lacked a systematic approach for matching available beds in nonevacuating nursing homes with evacuated residents.

Information from city and county officials was sparse. One informant stated that he was surprised to get a call from emergency management: "It was the first time I had ever heard what the Medical Operations Center was." Another informant said that when he called officials to find out the location of the fire, he was told to turn on the TV: "We tried to make calls and find out how close the fire is and where, if we need to, are we supposed to be evacuated; they would always just say, turn on the TV."

Development of the Area Coordinator System

In mid-2008, administrators from several nursing homes, representatives from the county EMS, and representatives from the California Association of Health Facilities formed the skilled nursing disaster preparedness task force for San Diego County. The primary goal of the task force was to develop a nursing home bed-tracking system to identify open beds in the event of a disaster necessitating an evacuation.

The task force considered creating a web-based system that would rely on self-reporting by nursing homes or using an existing product that would provide a similar function. They eventually decided to pursue a more comprehensive approach, which they named the "area coordinator system." This system was designed to foster extensive communication and collaboration among nursing homes on emergency preparedness policies and procedures, particularly regarding mutual aid, evacuation, and sheltering of nursing home residents.

Description of Area Coordinator System and Major Responsibilities of Area Coordinators

The San Diego task force area coordinator system is a network of 7 volunteers who serve as emergency preparedness coordinators for nursing homes in their designated geographical areas. These area coordinators serve on the skilled nursing facility disaster preparedness task force indefinitely. The area coordinators, most of whom are nursing home administrators, are assigned from 10 to 17 nursing homes from a total of 91 nursing homes in the greater San Diego region. They are responsible for maintaining communication with nursing homes via cell phones and e-mails about emergency preparedness and disaster planning activities. In addition, they maintain a master list that provides specific information about each nursing home, including contact information for the nursing home's administrator, the census in each nursing home, and the number of open beds. The area coordinators share their confidential master lists with each other and the chair of the task force, who regularly updates the master list with changes.

Area coordinators work closely with the San Diego County Office of Emergency Services (OES), which runs San Diego's Emergency Operations Center (EOC). The OES supports a web-based EOC, known as WebEOC, which is a crisis information management system that provides secure real-time information sharing. All area coordinators are able to access the WebEOC and are included in any updates or alerts that are issued by OES through the system. Also, area coordinators are required to use the WebEOC when a disaster or emergency affects a nursing home in their designated area. Updates include information about the nursing home such as evacuation plans (if applicable), transportation needs, staffing needs, and resident-specific information.

If phone lines are down due to a disaster or emergency, area coordinators may be able to access WebEOC through alternative technologies, such as using a smartphone as a modem. In addition, they may use satellite phones, which were provided to them by the San Diego County EMS, to communicate with each other as well as with the EOC. When a disaster occurs and the medical operations center (MOC) is activated, an automated alert is sent to the area coordinators by the county alert service system (CASS). The CASS keeps dialing until it receives confirmation from its registered users. The area coordinators then notify their respective facilities and log onto the WebEOC.

Area coordinators also serve as volunteers at the San Diego MOC. They develop an on-call calendar and are expected to work at the MOC if the county declares a disaster or emergency, and they maintain communication with all nursing homes in the county. Before working at the MOC, area coordinators must complete a 4-session, online, 10-hour national incident management system course. In addition, they participate in county- and statewide emergency preparedness training, including a county-sponsored tabletop exercise that focuses on pandemic influenza. This training has been particularly relevant and timely for the coordinators, as San Diego had the first US reported H1N1 case in April 2009.[6]

While nursing home administrator turnover is relatively high, staffing of the task force has been stable. Of the original 7 area coordinators, 6 remain on the task force and 1 has moved out of state. The major reason for this successful retention is due primarily to the commitment that all coordinators have toward their role and responsibilities of disaster preparedness and to having long tenures with their facilities.

Memoranda of Agreements/Contracts

Nursing homes that participate in the area coordinator system are asked to sign an emergency mutual aid memorandum of agreement (MOA; see Appendix). The MOA serves as a voluntary agreement among nursing homes "for the purpose of providing mutual aid care and treatment of residents at the time of a disaster."[7] The MOA augments a nursing home's existing disaster plan and supplements the existing rules and procedures that govern the nursing home's interactions with other organizations during a disaster. A nursing home enters into this agreement with all of the "undersigned facilities." The MOAs have no expiration date, but they must be reviewed every 3 years. A facility must provide a written notification within 30 days to an undersigned facility if it wishes to terminate the agreement. If changes are made to the MOA template by the task force, these changes/revisions must be made available to all participating nursing homes for review.

The MOA addresses 7 major topics: evacuation/surge; medical supplies and pharmaceuticals; medical operations/loaning of personnel; financial and legal liability; indemnity; conformance with rules and regulations, permits, and licenses; and miscellaneous provisions. A brief description of the major topics is provided here.

Evacuation/Surge: A nursing home that is forced to evacuate agrees to transfer residents from the affected nursing home to the undersigned facility, known as the "receiving facility." The transferring facility agrees to provide the receiving facility with information about each resident, including health information and status, medications, medication schedule, and physician and family emergency contact information. This section of the MOA also addresses the transfer process and supervision responsibilities of both the transferring and receiving facilities.

Medical Supplies and Pharmaceuticals: This section addresses the responsibilities of both facilities when dealing with the medical supplies and/or pharmaceuticals of transferred nursing home residents. Both facilities must agree to share supplies for the care of a transferred resident, and they must agree to return reusable equipment to the facility of origin as soon as possible after an event/disaster has concluded. These transactions must be documented and shared with area coordinators, who must make a request for supply sharing via WebEOC. In addition, the receiving facility is granted supervisory direction over all borrowed medical supplies, pharmaceuticals, and equipment until returned to the original facility. The cost of any items that are lost or damaged in transit must be divided equally between the 2 facilities.

Medical Operations/Loaning Personnel: This part of the MOA addresses staffing procedures and reimbursement of staff who assist when residents are transferred to a receiving nursing home as a result of a disaster/emergency. Area coordinators must be notified when nursing home personnel are transferred to a receiving facility. When such transfers occur, the coordinators are required to provide written or WebEOC documentation. Transferring personnel must provide adequate identification to the receiving facility, which in turn is responsible for providing orientation to these staff. The MOA also requires that receiving facilities provide food, housing, and/or transportation to the transferred personnel if they are asked to work for extended periods of time or multiple shifts. Financial liability is also addressed, including reimbursement of transferred staff and fees imposed onto the transferring facility by the receiving facility. These "site fees" reflect charges for the use of the facility and are based on a per diem rate.

Financial and Legal Liability: This section describes the financial responsibilities of the transferring and receiving facilities. In particular, reimbursement of personnel costs, medical supplies, and pharmaceuticals, as well as the legal and financial liability for transferred residents to the recipient facility are discussed. The MOA specifies a reimbursement rate for the care of a Medicaid nursing home resident. However, it does not address Medicare rates, because it is unlikely that evacuated residents will receive physical, occupational, and/or speech therapy during an evacuation stay.

Indemnity: Both undersigned facilities agree to specific indemnity arising from neglect or intentional acts of harm during the transfer and evacuation process.

Conformance With Rules and Regulations, Permits, and Licenses: Both undersigned facilities must be in conformance with applicable federal, state, and county laws, rules, and regulations. Also, these entities must comply with all relevant professional licensure laws and/or certifications.

Participation in the Area Coordinator System

Currently, 67% (N = 61/91) of San Diego's nursing homes have signed an MOA with the task force.[8] Nonparticipating nursing homes have cited objections from their corporate offices, specifically concerns about the legality of the MOA. However, the overall participation rate has been high. The area coordinator system may suffer from some degree of adverse selection. Facilities that face a higher risk of wildfires potentially gain more from participating.

Some area coordinators are convinced that eventually all area nursing homes will sign the MOA. One administrator said that 80% of the facilities in his area have signed the MOA, and that "I've got pretty strong commitments from the other ones that they're planning on signing it; for the most part, everyone is willing to be involved and be a part of the community and help each other." He also noted that all nursing homes will be helped by an area coordinator in the event of a disaster, regardless of having signed an MOA.

COMMENT

The Southern California wildfires marked a turning point for San Diego-area nursing homes and their emergency preparedness activities. While community collaboration was strong in general,[9] nursing homes in San Diego received little outside assistance and had to send their residents to facilities ill equipped to handle medically fragile patients.[10] In response, nursing home administrators formed the San Diego skilled nursing facility task force and asked volunteers to serve as area coordinators for future emergency preparedness and response work. This area coordinator system reflects an unprecedented communication and coordination model for emergency/disaster preparedness among nursing homes.

To our knowledge, the current literature on disaster preparedness has focused almost exclusively on hospitals and improvements needed in their surge capacity.[11,12] However, since Hurricane Katrina, more attention has been placed on the lessons nursing homes have learned about the need to better prepare for a disaster, to communicate with other nursing homes as well as the community, and to have an adequate staffing plan.[13] The San Diego-area coordinator model provides a promising communication framework for disaster preparedness, yet it has not been tested with any large-scale disaster or emergency. As a strictly voluntary effort, the area coordinator system cannot mandate participation and compliance with MOA agreements. The system may have difficulty placing evacuated residents if a large-scale disaster forces many or most of the participating nursing homes to evacuate. Also, the system could be weakened

by an inability to contact facilities that rely solely on cell phones or landlines if these become unavailable during a disaster or emergency. While area coordinators can use satellite phones, nursing facilities are not equipped with them. In spite of these potential weaknesses, the area coordinator system appears well equipped to handle small- to medium-sized disasters that affect only a minority of nursing homes.

By participating in the area coordinator system, nursing homes trade the extra effort by staff and the possibility that the facility may have to accept evacuated residents for the ability to quickly locate and have access to open beds in other participating facilities. In effect, the system provides a form of insurance to nursing homes, albeit without enforceable contracts. In the long term, the area coordinator model will prove sustainable only if facilities believe that the benefits of participation exceed the costs. If some facilities rarely or never evacuate residents but are frequently required to accept evacuees, they may decide to withdraw from the system. Accordingly, the MOA includes a provision to facilitate reimbursement from the evacuated nursing home to the receiving nursing home, making it less likely that facilities will perceive participation as a burden. The system is especially well suited for nursing homes that are not part of a large, multi-unit chain and cannot draw on the resources of a corporate parent in the event of a disaster.

The main benefit of the area coordinator system is that it facilitates communication and builds personal relationships and contacts among nursing home administrators. In the midst of a disaster, social bonds may prove more powerful than legal contracts, especially if courts are reluctant to enforce contracts due to exigent circumstances. While MOAs lack the legal standing of contracts, they serve the valuable purpose of setting forth the obligations and responsibilities of both the evacuating and receiving nursing homes. It is unreasonable to expect nursing homes to engage in this level of detailed negotiation during or immediately preceding a disaster. In the absence of a mutual agreement about staffing, reimbursement, and other matters, nursing homes will be reluctant to cooperate with one another.

Establishing and maintaining the area coordinator system does not require substantial resources either from nursing homes or local preparedness officials. For this reason alone, it would be a preferred model for the rest of the country. Collaboration of nursing home professionals who are passionate about disaster preparedness is important to the success of similar models. Individuals who wish to serve as area coordinators should connect with local emergency management officials and be prepared to demonstrate what their facility can provide, specifically in terms of bed availability and mutual aid. Furthermore, nursing home facilities must show that they can mobilize quickly and be of assistance to acute hospitals that will need to discharge patients in the event of a disaster.

A further recommendation for the replication of the area coordinator model is that it can be tailored to local circumstances and geography. For example, the risk of hurricane damage in coastal areas depends critically on distance to the coast. MOAs should be constructed so that both facilities closest to the coast that face the highest risk of evacuating and facilities farther from the coast with the highest likelihood of having to accept evacuees perceive benefits to participation.

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