

Assisted Living Communities During Hurricane Irma: The Decision to Evacuate or Shelter in Place and Resident Acuity

BACKGROUND

Assisted living communities (ALCs) represent the fastest growing segment of long-term care, providing services to over 800,000 residents throughout the United States. The older adults who live in these settings have a range of care needs, from dementia to mobility impairment, necessitating a varying level of care need. There are 85,000 residents living in over 3,000 ALCs in Florida. Of these ALCs, 1,462 possess an additional license to provide care to those with higher physical, cognitive, or mental health needs. Currently, disaster preparedness among ALCs remains a major challenge. This is largely because they are state regulated and not subject to the more well-developed federal mandates that apply to nursing homes (NHs). Additionally, prior research suggests that evacuating in a disaster (versus sheltering in place) is more harmful to older adults who are more physically and cognitively impaired. The goal of this research was to understand more about disaster preparedness among ALCs in Florida by examining the association between ALC structural factors (e.g. size, license type) and the decision to evacuate or shelter in place in response to Hurricane Irma in 2017.

STUDY METHOD

Measures. Data on all Florida's ALCs in operation during Irma were collected (n=3,112) from two sources. FLHealthStat was a mandatory reporting

system that asked ALCs to provide data on a daily basis before and after the hurricane so the state could monitor their operations (e.g. whether they evacuated or sheltered in place, number of residents involved). The Hurricane Irma Facility Impact (HIFI) survey was a voluntary survey conducted after the hurricane by the Agency for Health Care Administration (AHCA) to collect additional data about problems NHs and ALCs may have encountered (e.g. difficulty following their disaster preparedness plan, loss of electrical power). Data on Florida's ALCs were retrieved from AHCA, including license types (i.e. standard, extended congregate care, limited nursing services, limited mental health), number of beds (i.e. small= 25, medium= 25-100, large <100), profit status (i.e. profit, non-profit), location (i.e. rural or urban), region (i.e. southeast, southwest, central west, central east, northeast, northwest), and acceptance of Medicaid and/or Optional State Supplement (OSS) payments for lower income residents. ArcGIS mapping software was additionally used to map the location of the ALCs and determine whether they were in zones under mandatory evacuation orders.

Analytic method. Chi-square tests were used to examine the mean differences in the characteristics of ALCs and evacuation status. A post-hoc analysis with Bonferroni adjustments was then used to determine significant group differences among ALC size, license group, and geographic location. Multivariable logistic regressions were then used to assess the

likelihood that an ALC would evacuate or shelter in place.

FINDINGS

During Hurricane Irma, although only 13% of the ALCs in Florida were under evacuation orders, 18% of ALCs evacuated and relocated their residents. ALCs in this study were less likely to evacuate if they were medium or large in size or if they had OSS beds. They were more likely to evacuate if they were under a mandatory evacuation order or in the central west, central east, or northeast regions. It is worth noting that several ALCs evacuated though they were not under orders or did not evacuate through they were under evacuation orders. There was no significant association between license type and evacuation status.

POLICY IMPLICATIONS

This study investigated the factors associated with an ALCs decision to either evacuate or shelter in place during Hurricane Irma in 2017. Small ALCs were shown to be more likely to evacuate, which may be due to training and resource deficiencies (e.g. reinforced windows, power generators). This is a concern because of evidence that small ALCs are more likely to house residents with higher levels of severe impairment and that evacuation can be especially detrimental to more impaired older adults. Additionally, the results indicated OSS-funded ALCs were less likely to evacuate. This could be related to the large proportion of OSS-funded ALCs that also had mental health licenses and may have sheltered in place because of concerns about the effect of an evacuation on the residents.

Findings that ALCs licensed to provide nursing care were not less likely to evacuate were concerning, given the research that more impaired residents are more likely to suffer harm in an evacuation. Further research is needed concerning how ALCs in Florida choose to shelter in place or evacuate, particularly in light of the findings that many ALCs evacuated though not ordered to do so, and that many sheltering ALCs were under evacuation orders. Further investigation of how these decisions are made could help reduce the hospitalization and mortality that can result from improper execution of emergency preparedness plans. Increasing the engagement between ALCs and emergency management practitioners could assist in the creation of ALC disaster plans that balance the risks posed by a disaster and residents' needs.

Original Article

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