Dallas Mega Shelter Onsite Medical Operations
Supporting Evacuee Functional Independence and Family
Unit Integrity During Response to Hurricane Harvey
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Introduction: In the United States, over 50% of people have at
least one chronic medical condition, access, or functional limi-
tation. In 2017 during Hurricane Harvey, the establishment of a
comprehensive multidisciplinary onsite medical clinic provided
health and medical services to over 3,800 evacuees at the Dallas
Mega Shelter, providing large-scale general population sheltering
support to all evacuees and prioritizing family unit integrity by
meeting physical, sensory, and cognitive limitations, and chronic
medical conditions. The effectiveness of the Dallas Mega Shelter
onsite medical operations supporting this aim is reviewed.

Aim: To utilize onsite health and medical resources to meet
access and functional needs of evacuees seeking general
population mass sheltering in Dallas, Texas during Hurricane
Harvey.

Methods: Observational.

Results: Over 3,800 evacuees were evaluated for functional
needs support services (FNSS) resulting in over 2,500 evacuee
patient encounters during 21 continuous days of onsite health
and medical clinic operations.1 A comprehensive array of ser-
dices were available at no cost to the evacuees and were in accord-
cance with the Federal Emergency Management Association
(FEMA) published Guidance on Planning for Integration of
Functional Needs Support Service in General Population
Shelters.2 The goal to maintain nearly all evacuees choosing to
stay in the Mega Shelter was achieved. The challenges, limita-
tions, and risks identified are reviewed.

Discussion: FNSS guidelines require all persons, regardless of
limitations, when evacuated from home be provided all serv-
dices necessary to allow them to remain in general population
sheltering.2 This prioritization of personal choice, functional
independence, and family integrity for those with comprehensive
FNSS requirements presented notable challenges, including public health and safety risks impacting the wellbeing
of others. Meeting these expectations must be balanced with
maintaining shelter integrity.

References
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Development of an Evacuation Exercise for Residential
Aged Care Facilities Using the Emergo Train System (ETS)
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Introduction: Events such as the Sydney Quakers Hill Nursing
Home fire highlighted the great need for robust evacuation plans for Residential Aged Care Facilities (RACFs). However, plans
alone are not sufficient and routine exercises are necessary
to test the capability of a facility’s emergency plan. Current
methods of exercising facility evacuations, such as live drills, are
limited and only test isolated elements of the evacuation pro-
cess, which fall drastically short of being able to simulate the real-
time resources and procedures required to perform a large scale evacuation of a RACF.

Aim: To develop an exercise tool that assists Residential Aged
Care Facilities (RACF) to evaluate their evacuation procedures
using quantifiable data, based on real-time and providing min-
imal disruption to existing residents.

Methods: Utilizing the existing ETS framework, an aged care
resident patient bank was developed by NSW Health Emergency Management Unit, including:
• A bank of 200 residents from data sourced from the Australian
  Institute of Health and Welfare.
• Layout for the resident gubers and Summary Care Plans.
• Resources and equipment routinely used in RACF’s.
• Real-world testing of the prototype in exercises across NSW, Australia
• Mortality and morbidity data to measure outcomes.
• Validation of the exercise tool nationally and internationally.

Results: A bank of residents was developed to test evacuation
systems and processes, in a scalable, realistic simulation based
on patient outcomes. This will result in improved planning and
process, empowerment of RACFs, better patient outcomes,
and increased resilience and preparedness.

Discussion: A significant investment of data, time, and effort has
gone into producing this resident bank for use in RACF
evacuation exercises across NSW Australia. A presentation
delivered at the ETS World Congress in the Netherlands
(2018), by NSW Health Emergency Management Unit,
showcased the relevance and suitability of this tool across the world.

Prehosp. Disaster Med. 2019;34(Suppl. 1):s1–s2
doi:10.1017/S1049023X19000232

Mortality in Nursing Home Evacuations in the United States from 1995-2017

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Introduction: There are an estimated 15,600 nursing homes with a total of 1.4 million residents in the United States. The number of residents will continue to increase due to the aging population, and the associated morbidities will make it difficult to evacuate them safely.

Aim: This study is the first of its kind to provide an analysis of the number of nursing home deaths caused by external and internal events following evacuations.

Methods: Information from the databases Lexis Nexis and PubMed were compiled and limited to news articles from 1995-2017. The gathered information included the reason for evacuation, injuries, deaths, and locations within the United States.

Results: From 1995 to 2017, there was a total of 51 evacuations and 141 deaths in nursing homes. 27 (53%) evacuations were due to external events which resulted in a combined 121 (86%) deaths, and 24 (47%) evacuations were due to internal events which resulted in a combined 20 (14%) deaths. Hurricanes were responsible for the majority of deaths during evacuations, followed by fires and floods. The number of evacuations and deaths increased the greatest between 2005 to 2008.

Discussion: External events have the greatest impact on loss of life. Internal disasters are about equal in the number of incidents, however, external events have a much greater mortality rate. Exact numbers on injuries, morbidity, and mortality are difficult to ascertain, but it appears to be related to natural disasters. In view of the increasing likelihood of natural disasters related to global warming, a drastic improvement of standard evacuation procedures of long-term nursing homes is critical to decreasing mortality of nursing home residents. There also needs to be a nationally standardized method of reporting evacuations in order to better analyze data on nursing homes.

Prehosp. Disaster Med. 2019;34(Suppl. 1):s2
doi:10.1017/S1049023X19000244