



# Poster Winners from Learning in Disaster Health 2014 Elderly in Disasters: An Integrated Review

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# Disaster Health Core Competencies

- Demonstrate situational awareness of actual/potential health hazards before, during, and after a disaster or public health emergency
- Demonstrate knowledge of principles and practices for the clinical management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice
- Demonstrate knowledge of public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies, in accordance with professional scope of practice
- Demonstrate knowledge of ethical practices to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency
- Demonstrate knowledge of legal practices to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency

# Disclosures

- No financial relationships to disclose

# Disclaimer

- The opinions contained herein are those of the authors and do not necessarily represent the opinions of the Department of Defense, US Navy, US Army, US Air Force or the Uniformed Services University.

# Introduction

- Older adults are disproportionately affected by disasters.
- Frail elders, individuals with chronic diseases, conditions or disabilities, and those who live in long-term care facilities are especially vulnerable.
- Older adults were ~15% of the population of New Orleans prior to Hurricane Katrina and accounted for 71% of deaths from hurricane.<sup>1</sup>
- 70% of deaths from 1995 Chicago heat wave were  $\geq 65$ .<sup>2</sup>

# Purpose

- To describe the system-wide knowledge and skills that multi-disciplinary healthcare providers need to provide appropriate care for the elderly during domestic humanitarian and disaster relief efforts.

# Methods

- Design: Integrative Review
- Approved exempt by IRB
- A systematic search protocol
  - PubMed, CINAHL& PsycINFO
  - Examples of search terms Disasters, Geological Processes, Aged, Disaster Planning, Vulnerable Populations.

# Methods

- Inclusion Criteria:
  - all primary/secondary articles, summaries, and case reports related to care of the elderly in domestic disasters and humanitarian relief and recovery
- Exclusion Criteria:
  - articles published prior to 2006, those lacking specifics or empirical evidence, editorial/theoretical articles, or those pertaining exclusively to foreign countries

# Final sample

- 525 articles found
- 46 met inclusion criteria
  - analyzed by 2 authors

# Results

- Five major themes:
  - Biophysical aspects of care
  - Psychosocial aspects of care
  - Logistics
  - Resources
  - Legal/ethical issues
- Each theme had one to thirteen sub-themes built upon general constructs

## Biophysical Aspects of Care

Subtheme	General Constructs
<b>Access to Care</b>	Predictors of Care Disruption Factors Associated with Suboptimal Care
<b>Acute Injury/Illness</b>	Incident Related Trauma (trauma/mechanism of injury) Chronic Disease Exacerbations Effects of Resource Scarcity (nutrition or housing related)
<b>Acute Management of Hospital or Institutionally Housed Patients</b>	Dependence on Equipment for Survival Dependence on Intervention for Survival/Comfort Medical Transport
<b>Altered Physiological Reserve and Physiological Impairment</b>	Failure to Thrive Increased Risk of Illness and Injury
<b>Chronic Illness</b>	End Stage Conditions High morbidity/mortality
<b>Cognitive Impairment</b>	Cognition Communication
<b>Geriatric Physical Exam &amp; Triage</b>	Components of Geriatric Specific Triage Geriatric Specific Assessment Diagnostics (Such as EKG Monitoring, Laboratory Monitoring, Radiology)

## Biophysical Aspects of Care

Subtheme	General Constructs
<b>Infections &amp; Bioterrorism</b>	Biologic Agents Acute Infectious Disease Influenza
<b>Medication</b>	Nutrition Medication Access and Distribution Drug Monitoring Principles of Geriatric Medications
<b>Mental Health Treatment</b>	Disaster Mental Health Psychological 1 <sup>st</sup> Aid
<b>Nursing &amp; Caregiver Management</b>	Life Sustaining Care Life Maintaining Care & Activities of Daily Living Rehabilitation
<b>Physical Impairment</b>	Impaired Mobility Sensory Impairment (Such as vision and hearing impairment) Self Care
<b>Public Health &amp; Infection Control</b>	Waterborne / Foodborne Illness Shelter Conditions and Concerns Illness Prevention Strategies & Hygiene

# Psychosocial Aspects of Care

<b>Subtheme</b>	<b>General Constructs</b>
<b>Aftercare - Return to Normalcy</b>	Mitigation Barriers Redefining Normalcy
<b>Coping</b>	Coping Methodologies Factors Affecting Coping
<b>Cultural Competence</b>	
<b>Psychological Reactions</b>	Short & long-term reactions Symptoms Comorbid Psychiatric Illness
<b>Social Support</b>	Elements of Social Support
<b>Vulnerabilities</b>	Self Advocacy Self Care Relationships Abuse & neglect Physical Vulnerabilities

# Resources

<b>Subtheme</b>	<b>General Constructs</b>
<b>Availability of Resources</b>	Physical Environment Essential Resources Communication Hygiene
<b>Financial Support</b>	Pre-Disaster Planning Intra-Disaster Support Recovery
<b>Food &amp; Water</b>	Nutrition Edible food Clean, Potable Water
<b>Institutional Staffing</b>	Evacuation Implications & Logistics Staffing Shortages Financial Constraints
<b>Medical Supplies &amp; Equipment</b>	Oxygen Mobility & Accessibility Aids Power & Fuel Sources Chronic Care Intensive Care Acute Care Supplies for Activities of Daily Living Sensory Aids

## Logistics

Subtheme	General Constructs
<b>Communications</b>	Access to information Infrastructure Planning
<b>Disaster Planning &amp; Recovery</b>	Elderly Participation in Disaster Planning Resources Sheltering Evacuation Restoration & Reunification Disaster Plans Specifically for the Elderly/Disabled Long Term Care
<b>Evacuating vs Sheltering in Place</b>	Barriers Decision-Making Impact of Decision on Morbidity & Mortality Agency/Institutional Staffing Issues Logistics of Evacuation vs. Sheltering in Place
<b>Medical Records</b>	Lack of Documentation / Medical Information Access

## Logistics

Subtheme	General Constructs
Risk Management	
Shelter Issues	Environment Public Health & Infection Control Shelter Specific Geriatric Assessment & Triage Resources & Access to Care Shelter Safety Special Needs Shelters
Institution/Agency Staffing Concerns	
Transition Planning	Coordination of Care Choosing Site of Care

# Legal & Ethical Issues

<b>Subtheme</b>	<b>General Constructs</b>
<b>Legal &amp; Ethical Issues</b>	End of Life Do Not Resuscitate Orders Advanced Directives Autonomy Care/Disruption of care Resource Distribution Liability

# Implications & Recommendations

- Need tenets of elderly-focused disaster planning for disaster preparation
- Functional capacity, capabilities or impairments, rather than age, should be considered in disaster preparation
- Emphasize adequate vs over-preparation/training.
- Sharing/combining resources in an effort to ensure widest possible dissemination and utilization of information
- Incorporation of elderly in disaster planning as population-specific experts
- Evacuation & shelter planning/forecasting should be performed by personnel with appropriate experience and training in care of elderly
- Staffing solutions
- Clarification of legal & ethical standards of care and liability issues

# Conclusions

- A multifaceted approach to planning and conveyance should include consideration of the biophysical and psychosocial aspects of care, ethical and legal issues, logistics and resources.
- Scarcity of quality research regarding the system-wide knowledge and skills that multi-disciplinary healthcare providers need to provide appropriate care for the elderly during disaster relief efforts.
- Research is needed regarding what systems may or may not work in promoting adequate disaster planning, response and recovery for this population.

# Resources

- Core Competencies Project- NCDMPH,AMA  
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  - <https://ncdmph.usuhs.edu/Documents/Core-Competencies.pdf>
- Curriculum Recommendations for Disaster Health Professionals: The Geriatric Population
  - <https://ncdmph.usuhs.edu/Documents/GeriatricCurrRec-201407.pdf>
- Johnson, H.L., Ling, C.G. & McBee, E.C. (2015). Multi-disciplinary care for the elderly in disasters: An integrative review. *Prehospital & Disaster Medicine*, 30(1), 72-79.
  - <http://dx.doi.org/10.1017/S1049023X14001241>