

**Climate Change and the Impact on Older Adults Mental Health: A Primer**  
**National Coalition on Mental Health and Aging**  
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Learning objective:

- Understand age-specific factors that contribute to mental health impacts of climate change in older adults

Devastating wildfires in California have caused loss of human life, property destruction, and irreversible ecosystem changes. Residents of Northern California communities affected by wildfires year after year can be repeatedly traumatized. Planned power outages and evacuations compound the stress and trauma.

Cascading natural disasters are series of event whereby one disaster precipitates another natural disaster, for example mudslides following wildfires.

One year after Hurricane Katrina (New Orleans, 2005), the prevalence of PTSD in a sample of 815 residents of areas affected by the hurricane was 20.9%, that of suicidal ideation was 6.4%, and suicide plans increased to 2.5%. Symptom burden increased over time.

Six months after Hurricane Maria (Puerto Rico, 2016), 2/3 of the residents of Punta Santiago had clinically significant increases in symptoms of generalized anxiety disorder, major depressive disorder, or PTSD.

Older adults are at higher risk during natural disasters. Risk factors include:

- Limited mobility (medical, neurological disease)
- Sensory impairments
- Cognitive impairments
- Psychiatric comorbidities (psychosis, hoarding)
- Language barrier
- Limited support/living alone

Female sex, older age, and imminent fear of death were independently associated with insomnia among victims of wildfires in Greece, 1 month after the fires.

There were 1,200-1,300 excess deaths in adults > 65 years old in California from Aug 1 to Sep 10, 2020 due to poor air quality caused by smoke from wildfires.

There is a bidirectional correlation of cognitive impairment and natural disasters re: older adults.

- Abrupt relocation to unfamiliar environments may lead to confusion & exacerbation of cognitive deficits

- Older adults temporarily relocated after the 9.0 earthquake & tsunami in Japan (2011), followed for up to 42 months had a significant increase in percentage of cognitively impaired, compared to pre-earthquake.

#### Re-traumatization:

- Older adults were found to be twice more likely to have PTSD symptoms and 1.7 times more likely to develop adjustment disorder after natural disasters, compared to younger adults
- PTSD symptoms may be further amplified in those with history of trauma, previous displacement (veterans, immigrants, refugees) & repeated evacuations (e.g., Santa Rosa, California 2017, 2019, 2020, 2021)
- Additional traumatization during COVID-19 pandemic, also limited coping strategies (e.g., exercise) due to poor air quality (California, 2020).

#### Older adults during heat waves:

- Higher risk of exposure
- More susceptible to dehydration → renal injury, hypovolemic shock, seizures
- Age-related changes (lower hemoglobin, reduced glomerular filtration rate) contributing
- Low albumin may increase morbidity and mortality
- Page et al. (2012) found an increased risk of death for patients with major neurocognitive disorder/dementia, psychosis, and substance misuse: 4.9% higher risk for each additional 1°C above 93<sup>rd</sup> percentile of the annual temperature distribution

#### Older adults during floods and hurricanes:

- Hurricane Sandy (2012, East Coast):
  - 14% increase in depression in adults > 60 years old in affected areas
  - Significantly higher utilization of Emergency Departments (especially > 85 years old) in the 3 weeks after Sandy: dialysis, electrolyte imbalances, prescription refills, inadequate housing
- Older adults with PTSD symptoms and HTN → higher risk of developing cardiovascular disease 1-2 years after Katrina (Blacks, but not Whites)

Climate change exacerbates existing health inequities. Low-income, minority, and otherwise marginalized communities have higher exposure risk and lower access to care.

#### Resilience:

Older adults are often leaders in rebuilding communities that were destroyed & help maintain a coherent sense of identity for their families and communities.

A study conducted in Australia, after the floods in Brisbane identified the following resilience-enhancing factors:

- Social capital/social support
- Life experience (previous disaster experience)
- Optimism
- Spirituality

## Take action!

- Learn and educate colleagues on climate change and disaster preparedness: <https://www.nejm.org/doi/full/10.1056/NEJMp1906035>
- Educate patients living in high-risk areas on potential consequences of natural disasters and develop individualized emergency preparedness plans: [Strategies for Clinical Discussions About Climate Change | Annals of Internal Medicine \(acpjournals.org\)](#)
- Toolkits for patients, clinicians & caregivers on coping with extreme heat: <https://www.climatepsychiatry.org/heattoolkits>
- *Academic Psychiatry* call for papers on climate change and mental health education: deadline **Jan 15, 2022**
- Collaborate with colleagues from other disciplines and institutions
- Initiate and support institutional and professional association sustainability initiatives
- Encourage remote work, use video conferences and telehealth services whenever possible and appropriate
- Reduce conference travel.

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Thank you!