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United States Environmental Protection Agency

Climate Change and the Health of Older Adults

Understanding the threats that climate change poses to human health can help us work together to lower risks and be prepared.

Climate change threatens human health, including mental health, and access to clean air, safe drinking water, nutritious food, and shelter. Everyone is affected by climate change at some point in their lives. Some people are more affected by climate change than others because of factors like where they live; their age, health, income, and occupation; and how they go about their day-to-day life.

Older adults are vulnerable to climate change-related health impacts for a number of reasons. One reason is that normal changes in the body associated with aging, such as muscle and bone loss, can limit mobility. Older adults are also more likely to have a chronic health condition, such as diabetes, that requires medications for treatment. Some older adults, especially those with disabilities, may also need assistance with daily activities. In 2010, nearly half of people over age 65 were reported to have a disability, compared to about 17% of people aged 21–64. This includes disabilities in one or more areas related to communication (seeing, hearing, or speaking), mental functioning (such as Alzheimer's disease, senility, or dementia), and physical functioning (limited or no ability to walk, climb stairs, or lift or grasp objects).

As the nation's population aged 65 and over is set to nearly double by the year 2050—from approximately 48 million to 88 million—the number of people living with the vulnerabilities mentioned above will grow. For example, the percentage of older adults with diabetes increased from 9% in 1980 to nearly 20% in 2009. Similarly, about 5 million Americans over 65 had Alzheimer's disease in 2013. This number is expected to almost triple by 2050.

It is important for older adults, their families, and caregivers to understand the impact of climate change on their health so they can begin planning to protect themselves from exposure.

What is climate change and why does it matter for health?

We've all heard of it, but what exactly is climate change? Greenhouse gases act like a blanket around Earth, trapping energy in the atmosphere. Human activities, especially burning fossil fuels for energy, increase the amount of greenhouse gases in our atmosphere and cause the climate to warm. **Climate** is the typical or average weather for an area. **Climate change** is any change in average weather that lasts for a long period of time, like warming temperatures. Climate change affects the food we eat, the air we breathe, and the water we drink. It also leads to extreme weather events, like flooding, droughts, and wildfires. All of these impacts affect human health.

Older adults and their families and caregivers should consider how the condition of their health and home affects their exposure to the negative impacts of climate change.

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Extreme Heat

Climate change will increase extreme heat events and lead to higher temperatures throughout the year. Extreme heat exposure can increase the risk of illness and death among older adults, especially people with congestive heart failure, diabetes, and other chronic health conditions that increase sensitivity to heat. Higher temperatures have also been linked to increased hospital admissions for older people with heart and lung conditions. Older adults with limited incomes who own air conditioning units may not use them during heat waves due to the high cost to operate them.

Extreme Events

Climate change affects the frequency and intensity of some extreme weather events, such as flooding (related to heavy rains, hurricanes, and coastal storms), droughts, and wildfires. Older adults are more likely to suffer storm and flood-related fatalities. For example, almost half of deaths from Hurricane Katrina were people over age 75, while for Superstorm Sandy almost half were over age 65. If an extreme event requires evacuation, older adults have high risk of both physical and mental health impacts. Some of the most vulnerable are people with disabilities, with chronic medical conditions, or living in nursing homes or assisted-living facilities. Health impacts could be made worse by interruptions in medical care and challenges associated with transporting patients with their necessary medication, medical records, and any equipment like oxygen. Extreme events can also cause power outages that can affect electrically-powered medical equipment and elevators, leaving some people without treatment or the ability to evacuate.

Poor Air Quality

Climate change worsens air quality because warming temperatures make it easier for ground-level ozone to form and can lengthen the season of aeroallergens like ragweed pollen. Changing weather patterns and more intense and frequent wildfires also raise the amount of pollution, dust, and smoke in the air. These changes will increase the number of emergency department visits and hospital admissions, even for healthy older adults. Poor air quality worsens respiratory conditions common in older adults such as asthma and chronic obstructive pulmonary disorder (COPD). Air pollution can also increase the risk of heart attack in older adults, especially those who are diabetic or obese.

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Illnesses Spread by Ticks or Mosquitoes

Climate change and increased temperatures will lead to ticks and mosquitoes expanding their ranges and being present for longer seasons. This means an increased risk of being bitten by disease-carrying ticks and mosquitoes. Lyme disease, which is spread by ticks, is frequently reported in older adults. The West Nile and St. Louis encephalitis viruses, which are spread by mosquitoes, pose a greater health risk among older adults with already weakened immune systems.

Illnesses Caused by Contaminated Water

Climate change increases the contamination risk for sources of drinking water and recreational water. Older adults are at high risk of contracting gastrointestinal illnesses from contaminated water. Those already in poor health are more likely to suffer severe health consequences including death. In 2013, almost 28% of adults age 75 and older were described as in fair or poor health, compared to 6% for adults age 18 to 44.

The Impact of Location

Depending on where they live, some older adults can be more vulnerable to climate change-related health effects than others. For example, about 20% of older adults live in an area in which a hurricane or tropical storm made landfall within the last 10 years. The increasing severity of tropical storms may pose risks for older adults living in coastal areas. For older adults residing in cities, factors such as the urban heat island effect, urban sprawl, and neighborhood safety may also present risks. For older adults and people with limited mobility who reside in multi-story buildings with elevators, the loss of electricity during a storm can make it difficult to get food, medicine, and other needed services.

This fact sheet is based on "The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment." To explore the full report, go to:

https://health2016.globalchange.gov

Learn More

Climate Change: Human Health
http://www3.epa.gov/climatechange/impacts/health.html

Climate Change: What You Can Do
http://www3.epa.gov/climatechange/wycd/

Healthy Aging & the Built Environment
http://www.cdc.gov/healthyplaces/healthtopics/healthyaging.htm

Heat Stress in Older Adults
http://emergency.cdc.gov/disasters/extremeheat/older-adults-heat.asp

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