National Journal Leadership Council

Impacts of Climate Change on Human Health in the United States

The Obama Administration Produces a Scientific Assessment as a Part of the President's Climate Action Plan

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Health Outcomes are Influenced by Climate Drivers and Various Social and Environmental Contexts

Framework Illustrates the Relationship Between Pathways and Contexts

Environmental & Institutional Context

- City planning can be crucial in determining the strength of the urban heat island support.
- Access to support services can help develop resilience against exposure and minimize impacts of health outcomes.

Climate Drivers

- More frequent elevated temperatures
- Prolonged heat waves
- Seasonal timing of event



Exposure Pathways

- Exposure to elevated temperatures (daily maximum, minimum, and mean)
- •Combined impact of temperature, humidity, wind, &sunlight



Health Outcomes

• Deaths, illness, hospital and emergency department visits

Social & Behavioral Context

- Climate drivers will disproportionately influence certain populations like those facing social isolation, poverty, and homelessness.
- These factors can lead to chronic illnesses, and personal, physical, and cognitive constraints that can contribute further to the health outcomes.

Source: Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska, Eds. "The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment." U.S. Global Change Research Program, 2016.

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Report Highlights 8 Human Health Impacts Spurred by Climate Change

Human Health Impacts and Effects According to the Administrations Scientific Report

Change	Effect
Temperature Related Illness and Death	An increase of thousands to tens of thousands of deaths or premature heat-related deaths.
Air Quality Impacts	Exacerbated Ozone Health Impacts, Increased Health Impacts from Wildfires, Worsened Allergy and Asthma Conditions.
Extreme Weather Events	Increased Exposure to Extreme Events, Disruption of Essential Infrastructure, Vulnerability to Coastal Flooding.
Vector Borne Diseases	Changing distribution of vector borne diseases, earlier tick activity, changing dynamics mosquito borne-diseases, and the emergence of new vector-borne pathogens.
Water Related Illness	Seasonal and geographic change in waterborne illness, increased runoff from extreme precipitation, and failures in the water infrastructure.
Food Safety, Nutrition, and Distribution	Increased risk of foodborne illness, chemical contaminants in the food chain, rising CO2 lowers nutritional value of food , and extreme weather limits access to food.
Mental Health and Well Being	Exposure to disaster has mental health implications and extreme heat increases risks for those with mental health issues.
Populations of Concern	The very old and very young are particularly vulnerable to climate related health impacts.

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Education and Best Practices are Central to Climate Planning Initiatives

The Obama Administration Outlines Next Possible Steps for Climate Action



President's Task Force on Environmental Health Risks and Safety Risks to Children

The scope of the president's task force has been expanded to include climate change, starting with releasing the Department of Health and Human Services' new climate and health website.



Climate-Ready Tribes and Territories Initiative

The CDC announced a Climate-Ready Tribes and Territories initiative which will award five grants to support preparedness and resilience efforts run through tribal and territorial health departments.



Sustainable and Climate Resilient Health Care Facilities Toolkit

The toolkit is a document that contains best practices and a framework describing ways to ensure that health care facilities are more resilient to the effects of climate change.



Educational Materials on Climate Change and Health

The National Institute of Environmental Health Sciences will use the Climate and Human Health data to develop educational materials for students K-12.



Health Impacts of Extreme Heat

The administration announced an Extreme Heat Week for the end of May in which agencies will run activities to help educate communities about how to prepare for extreme heat events.

Sources: Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska, Eds. "The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment." U.S. Global Change Research Program. 2016. Noun Project, Jakub Caja, Ralf Schmitzer, Andrey Vasiliev, Lastspark, Arthur Shlain.