National Institute of Environmental Health Sciences

PEPH Webinar

Assessing Population Vulnerability to Health Impacts of Climate Change

Date: April 25, 2014
Time: 1:00-2:00 p.m. ET

Please register at: http://bit.ly/PEPH_Climate
(registration required)

Description: Global climate change is one of the most pressing environmental and public health concerns of the 21st century. Key to adapting to the effects of climate change is an understanding of the different risks experienced by various exposed or affected populations so that interventions can be targeted and implemented more efficiently. Certain populations are particularly at risk to the health effects of climate change, including children, pregnant women, the elderly, individuals from disadvantaged socioeconomic backgrounds, and those living in urban or coastal areas. This webinar will describe ongoing research focused on assessing factors that may mediate increased risks among select vulnerable populations.

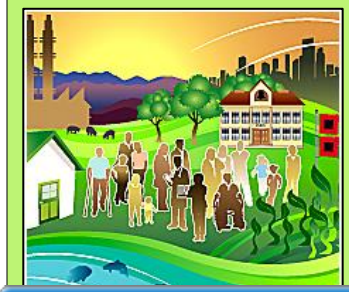
Extreme Heat Events and Health Risk Patterns in Urban and Rural Communities
Julia Gohlke, Ph.D., University of Alabama – Birmingham

Identification of populations vulnerable to heat-related health impacts is of critical importance for climate change adaptation planning and implementation. We hypothesize that significant differences in heat-related health risks exist between urban and rural communities. We have examined preterm birth and non-accidental mortality during heat waves, using 20 years of Alabama birth and death records, satellite-derived climate data, and geospatial data analysis techniques. We characterized geographic patterns and time trends of heat waves and have shown that the South is experiencing more significant increases in heat waves than other parts of the United States. When applied to estimate associations between preterm birth and non-accidental mortality, we have shown a heat wave metric based on relative average temperatures is more predictive of adverse health outcomes than the current definition used by the National Weather Service to issue heat wave warnings. We also have shown that racial and socioeconomic disparities in preterm birth are modified by rurality in Alabama, suggesting heightened risk in urban areas. In collaboration with community organizations working with particularly underserved urban and rural communities, we established environmental health priorities and are estimating personal heat exposure across outdoor and indoor environments. This work contributes to climate change adaptation by identifying the specific public health needs and priorities of an urban versus rural community in the Deep South.

Climate Change and Vulnerability in the Elderly
Antonella Zanobetti, Ph.D., Harvard School of Public Health

In this talk, I will give an overview of climate change, focusing on the greenhouse effect, global warming, and potential health impacts. I then will present recent work showing which characteristics could increase vulnerability to the health effects of temperature, temperature extremes, and other weather variables.

Changes in climate will lead to warmer temperatures and more extreme weather events; climate change perturbs a suite of other meteorological variables important to human health, including temperature variability, humidity, surface pressure, and precipitation, with potential impacts on mortality and morbidity from a range of diseases. Greater susceptibility to morbidity and mortality from extreme heat has been reported for the elderly, children, and by gender; populations from a lower socioeconomic status; people with certain home characteristics; those without access to air conditioning; and subjects with chronic health conditions (e.g., diabetes) and neurological disorders, such as Alzheimer's disease, Parkinson's disease, and dementia. Green space and population density may physically alter the weather within microclimates and lower the temperature, particularly in the summer.



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PEPH Webinar Series
The Partnerships for Environmental Public Health (PEPH) program established the PEPH Webinar Series to promote interactions among PEPH grantees and to increase awareness of common issues and approaches. The webinars facilitate consideration of emerging issues. While the primary audience is grantees within the PEPH network, anyone interested in environmental public health is welcome to register.

If you have any questions about this webinar, please contact Liam O'Fallon (ofallon@niehs.nih.gov, 919-541-7733).

Individuals with disabilities who need accommodation to participate in this event should contact Liam O'Fallon (ofallon@niehs.nih.gov, 919-541-7733). TTY users should contact the Federal TTY Relay Service at 800-877-8339. Requests should be made at least 5 business days in advance of the event.

Upcoming Webinars

- The Costs and Benefits of Preventing Lead Exposure: Putting Economics into the Picture (May 7)