Study shows how climate change threatens health

August 14 2015

Researchers at Columbia University's National Center for Disaster Preparedness (NCDP) and the University of Washington have published a new study focused on the public health implications of climate change. The article explores climate change impacts on human health in the U.S. Gulf Coast and has implications for this and other coastal regions that are particularly vulnerable to climate change. The study appears in the *International Journal of Environmental Research and Public Health* (August 11, 2015).

This new review of available data comes on the heels of President Obama's announcement of the requirement for reduced carbon emissions by the power industry as part of the Clean Power Plan. The Obama administration has fully acknowledged the human health impacts of the country's fossil fuel energy production and the immediate need to mitigate and adapt the nation's energy policies.

Climate variability and change present substantial threats to physical and mental health, and may also create social instability, potentially leading to increased conflict, violence, and widespread migration away from areas that can no longer provide sufficient food, water, and shelter for the current populations. Coastal areas, where a large proportion of U.S. residents live, are particularly vulnerable to impacts of climate change due to hazards such as changing water use patterns, shoreline erosion, sea level rise and storm surge.

According to Dr. Irwin Redlener, director of the National Center for

Disaster Preparedness at Columbia University's Earth Institute, "The science of climate change and the threat to human and population health is irrefutable - and the threat is evolving quickly." Dr. Redlener, also a professor of Health Policy and Management at Columbia's Mailman School of Public Health, added, "Unfortunately, we are now at a point where simply slowing climate change, while critical, is not enough. We need to simultaneously develop and deploy ways of mitigating the impact and adapting to the consequences of this environmental disaster."

Public health impacts in the U.S. Gulf Coast may be severe as the region is expected to experience increases in extreme temperatures, sea level rise, and possibly fewer but more intense hurricanes. Through myriad pathways, climate change is likely to make the Gulf Coast less hospitable and more dangerous for its residents, and may prompt substantial migration from and into the region. Public health impacts may be further exacerbated by the concentration of vulnerable people and infrastructure, as well as the region's coastal geography.

The new paper provides an overview of potential public health impacts of climate variability and change on the Gulf Coast, with a focus on the region's unique vulnerabilities, and outlines recommendations for improving the region's ability to minimize the impacts of climate-sensitive hazards.

"Climate change may amplify existing public health impacts, such as heat-related morbidity and mortality, malnutrition resulting from droughts, and injury and deaths following exposure to floods," said Dr. Elisa Petkova of the National Center for Disaster Preparedness. "Although future trends are difficult to project, climate change may also facilitate the re-introduction of vector-borne diseases such as malaria and dengue fever to the Gulf Coast and other vulnerable coastal regions."

Based on this research NCDP's key recommendations include:

- The Federal government should establish a multi-agency permanent task force on the human and population impacts of climate change, charged with identifying innovative adaptation strategies. This task force should include relevant government agencies, as well as relevant private sector stakeholders.
- Funds should be made available for the simultaneous implementation of adaptation strategies to improve individual, public health system, and infrastructure resilience.
- Adaptation efforts should follow a course set by the Federal taskforce and should attempt to integrate hazard-specific adaptation measures into city, state and regional level emergency management plans, particularly in high-risk regions.
- Further explore the linkage between weather events and infectious disease with an aim to enhance surveillance and intervention efforts.

More information: The Open Access article is available here: www.mdpi.com/1660-4601/12/8/9342/html

Provided by Columbia University