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Study Shows Granite Staters' Vulnerability in Hot Weather, Prompts New Actions to Protect Public Health

Concord, NH — A new study of heat and its impact on health in three New England states including New Hampshire, provides local information about how much people's health suffers in hot weather. The study, published this week in the journal *Environmental Research*, shows that hospital emergency department visits and deaths from all causes in Maine, New Hampshire, and Rhode Island increased significantly, by 7.5 and 5.1 percent, respectively, on days when the heat index reached 95 degrees as compared with days with a maximum heat index of 75 degrees. Heat index is a combined measure of heat and humidity that reflects what the weather feels like as higher humidity makes conditions feel even warmer during hot weather.

The new study is the first that documents the relationship between heat and health in New England. Nationally, more people die during bouts of extreme heat than from any other type of weather event. "We know that heat is a serious public health concern, especially for people with health conditions. We now have data showing that in New Hampshire and New England we need to be concerned about public health on days when the heat index approaches 95 degrees," said Dr. Benjamin Chan, New Hampshire State Epidemiologist. "This study will greatly help us target our outreach efforts on such days, including public outreach to inform the most vulnerable populations, such as seniors, young children, and people with chronic health conditions."

In New Hampshire, there are between two and ten days where the heat index reaches 95 degrees each summer. Climate Solutions New England at the University of New Hampshire predicts that by 2070 the number of days when the temperature exceeds 95 degrees will increase by approximately 12 days in Northern New Hampshire and 22 days in Southern New Hampshire.

Findings from the study are already having an effect on how regional officials respond when the forecast calls for hot weather. In December 2016, the National Weather Service (NWS) Northeast Region changed its policy on when to issue an official heat advisory. NWS forecast offices in the region will issue heat advisories when the heat index is forecast to reach 95 degrees on two or more consecutive days or 100 on any single day. The previous NWS regional threshold was a maximum daily heat index of 100. "It is expected that this change will alert people sooner to impending heat threats and, if acted upon, reduce the number of emergency department visits," said John Guiney, Chief of the Eastern Regional Headquarters, NWS.

In New Hampshire, the results of the study and the NWS policy change are driving public health officials to revise local heat response plans. At the State level, partners in public health and emergency management are working together to integrate this new NWS policy into the existing NH State Excessive Heat Plan. Public health partners at the local level are also integrating this new data and policy into their heat response efforts.

“Along with getting the word out for people to keep cool, drink fluids, and reduce physical activity, a major focus of New Hampshire’s public health response is to make sure people take heat seriously,” said Lisa Morris, Public Health Director at the New Hampshire Department of Health and Human Services. “New Hampshire residents are not as used to heat as individuals are in other states. We need to make sure people take heat events seriously and take precautions to prevent illness.” The new study shows that in addition to an increase in emergency department visits and deaths for all causes, people with pre-existing health conditions, such as asthma, heart disease, and kidney disease, fare much worse on days when the heat index reaches 95 degrees as compared with cooler days.

Data on the number of people with air conditioning in their homes in New Hampshire is limited, so a question was recently added to the statewide Behavioral Risk Factor Surveillance Survey to address this data gap. Neighboring states such as Maine report a rate of air conditioning in peoples’ homes of only 50% as of 2013. During hot weather, it is important to check on older members of the community who live alone and anyone who may have a hard time taking care of themselves to make sure they are keeping cool and drinking enough fluids.

The study, *Heat-Related Morbidity and Mortality in New England: Evidence for Local Policy*, was led by Gregory Wellenius of the Brown University School of Public Health, and co-authored by Kathleen Bush and Dennis Holt of the New Hampshire Environmental Tracking Program, along with colleagues from the state public health agencies in Maine and Rhode Island.

For more Information:

- One page description – <https://tinymce.nhwis.net/plugins/moxiemanager/data/files/docs/Meetings/heat-article-summary.pdf>
- Press Release from the National Oceanic and Atmospheric Administration – http://www.nws.noaa.gov/os/notification/pns17-18heat_new_england.htm
- To read the article – <http://dx.doi.org/10.1016/j.envres.2017.02.005>
- Data about heat illness in New Hampshire – <https://wisdom.dhhs.nh.gov/epht>
- Information about preventing heat illness – <https://www.nh.gov/epht/highlights/index.htm>

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