



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
Thomas Farley, MD, MPH
Commissioner

2012 ALERT # 35

Health Risks Among Those Living in Dwellings Without Heat Following Hurricane Sandy

Please Share this Alert with All Physicians and Clinical Staff in Your Facility

November 28, 2012

As the recovery from Hurricane Sandy continues, some homes in the hardest hit areas remain without heat. Precise data is not available, but based on information from neighborhood door-to-door canvassing and reports from utilities and property owners, several thousand New Yorkers continue to live in apartments and homes without heat. While the city is working to speed the restoration of heat to residences through the NYC Rapid Repairs program and enforcement of the regulations requiring heat in multi-family residential properties, those remaining in unheated homes face a significant risk of serious illness and death from multiple causes, including:

- *Hypothermia.* Exposure to cold, even slightly below comfortable room temperature if prolonged, can lead to hypothermia. Certain individuals are at greater risk including: infants; the elderly; people with chronic diseases; and people with mental illness or substance use disorders. DOHMH syndromic surveillance data in the weeks following Hurricane Sandy (from November 3 – November 21) have shown a 200% increase in cold injury syndrome emergency department visits (including hypothermia) compared to data from the same time period during 2008-2011.
- *Exacerbation of pre-existing respiratory and cardiovascular conditions.* Cold and damp conditions in unheated and under-heated dwellings can exacerbate respiratory conditions, including COPD and asthma, and increase the risk of heart attacks and stroke [Note1,2,3].
- *Impacts on mental health.* The psychological stress of living without adequate heat is associated with increased symptoms of anxiety and depression [Note3].
- *Exposure to carbon monoxide, respiratory irritants, and fire risks* among those seeking alternative sources of heat, such as stoves. Carbon monoxide-related emergency department visits following Hurricane Sandy through November 9, were elevated several fold compared to expected counts for the time of year. Poison Center calls for carbon monoxide exposure were also elevated, with storm-related sources of exposure identified including charcoal grills and household cooking appliances used for heating, as well as portable generators.

These risks will increase with the duration of exposure and colder temperatures. Clinicians can help prevent serious illness from living in unheated housing by:

- 1) Asking your patients about the conditions in their homes following the storm.

Note1: Eurowinter Group. Cold Exposure and Winter Mortality from Ischaemic Heart Disease, Cerebrovascular Disease, Respiratory Disease, and All Causes in Warm and Cold Regions of Europe. *Lancet* 1997; 349: 1341-1346.

Note2: McMichael AJ, Wilkinson P, Kovats RS et al. International study of temperature, heat and urban mortality: the 'ISOTHURM' project. *Int J Epidemiol.* 2008;37:1121-31.

Note3: Marmot Review Team. *The Health Impacts of Cold Homes and Fuel Poverty.* 2011.
http://www.foe.co.uk/resource/reports/cold_homes_health.pdf

- 2) Reinforcing the city's messages that living without heat poses significant health and safety risks.
- 3) Urging patients with continuing lack of heat in their residence, especially those who are vulnerable, to relocate to temporary housing with heat while their home is being fixed. Temporary housing assistance information is available by visiting a NYC Restoration Center (Current locations can be found by calling 311 or online at <http://www.nyc.gov/html/misc/html/2012/dasc.html>).
- 4) Warning patients not to use an oven or a portable gas heater to heat their home or apartment.
- 5) Warning patients that boiling water in pots for warming increases indoor humidity and can lead to mold growth, which can exacerbate respiratory illness.
- 6) Advising patients to wear layers of dry, loose-fitting clothing, hats and gloves indoors and spend time in a heated environment during the day as an interim measure while awaiting restoration of heating or relocation.
- 7) Warning that electric blankets should not be used for infants, young children, and patients with: peripheral neuropathy (such as diabetics); dementia; or cognitive impairment to reduce the risk for burns.
- 8) Vaccinating everyone 6 months and older against influenza. For more information on influenza prevention see http://www.nyc.gov/html/doh/html/chi/chi31-4_index.html.
- 9) Being alert to signs of hypothermia and carbon monoxide exposure and evaluating patients appropriately. More detailed guidance on evaluation and management of these conditions is available:
 - a. Information for Health Care Providers on Carbon Monoxide: <http://www.nyc.gov/html/doh/downloads/pdf/ei/carbon-monoxide.pdf>
 - b. Information on Hypothermia: <http://www.nyc.gov/html/doh/html/ehs/hypothermia.shtml>

Sincerely,

Nathan Graber

Nathan Graber, MD, MPH
Medical Director
Environmental and Occupational Disease
Epidemiology

Thomas Matte

Thomas Matte, MD, MPH
Assistant Commissioner, Bureau of
Environmental Surveillance and Policy