

MAINE PUBLIC HEALTH ALERT NETWORK SYSTEM



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****ADVISORY – Important Information****

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TO: Wildlife Biologists - Department of IF & W, All Epidemiologists, HETL – Director, Microbiologist, Forensic Chemist, City of Portland Health Department, City of Bangor Health Department, Tribal Health Centers – Tribal Health Directors, Border Health Officers – NH, Canadian provinces, Infection Control Practitioners, Local Public Health Liaisons, FQHCs, Physician Practices, Hospital Contacts, County EMA Directors, Maine Medical Association, Public Health Required, Public Health Nursing, Emergency Medical Services, RRCs

FROM: Stephen Sears, MD, MPH, Acting Director, Maine CDC

SUBJECT: **First Hantavirus Diagnosis in a Maine Resident**

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Maine CDC/DHHS, formerly Bureau of Health

First Hantavirus Diagnosis in a Maine Resident

Background:

Maine CDC has been notified of a diagnosis of hantavirus pulmonary syndrome (HPS) in a resident of Somerset County. This is the first documented case of HPS in a Maine resident. This resident had not recently traveled outside of Maine and was reported to have exposures known to be associated with hantavirus.

HPS was first identified in 1993 following an outbreak of unexplained severe pulmonary illness among residents of the southwestern United States. The illnesses were linked to a previously unknown type of hantavirus, the Sin Nombre virus. HPS is a serious and life-threatening viral disease (fatality rate approximately 30-40%) that is transmitted to humans by exposure to infected rodents. Illness onset begins one to six weeks after exposure. Early symptoms of HPS include fatigue, fever, chills, and myalgia, especially in the large muscle groups – thighs, hips, back and shoulders. There may also be headaches, dizziness and abdominal complaints including nausea, vomiting, and diarrhea. Four to ten days after the initial symptoms, patients experience coughing and shortness of breath as the lungs fill with fluid. The illness can progress rapidly to severe respiratory failure and shock. Given the rapid progression and severity of the disease, early recognition of the illness is critical to reducing the risk of mortality.

Hantavirus is spread by certain species of infected rodents through urine, droppings, or saliva. Humans become infected after breathing fresh aerosolized urine, droppings, saliva, or nesting materials, or when these materials are directly introduced into broken skin, the nose or the mouth. If a rodent with the virus bites someone, the virus may be spread to that person, but this is rare. HPS in the United States has not been demonstrated to be transmitted from person to person.

Clinical and testing Information:

Laboratory findings include an elevated white blood count with a marked left shift. The percentage of white blood cells precursors may be as high as 50% and atypical lymphocytes are frequently present, usually at the time of onset of pulmonary edema. Thrombocytopenia, with platelet counts below 150,000, occurs in approximately 80% of HPS patients. Acute- and convalescent-phase sera should demonstrate a four-fold rise in IgG antibody titre or the presence of IgM in acute-phase sera to be diagnostic for hantavirus. DNA-based assays (e.g., PCR) of autopsy or biopsy tissues and immunohistochemistry are also established diagnostic techniques performed by specialized laboratories. Reference laboratories can perform serologic testing for hantavirus. PCR for hantavirus is available at Federal CDC. All lab isolates or specimens should be submitted to federal CDC via Maine Health and Environmental Testing Laboratory (HETL) for confirmatory testing.

There is no specific treatment or cure for hantavirus infection. Treatment of patients with HPS remains supportive in nature. If there is a high degree of suspicion of HPS, patients should be immediately transferred to an emergency department or intensive care unit (ICU) for close monitoring and care.

Recommendations:

- Be aware of the early signs of HPS. Because of the rapid onset of shock and respiratory failure in patients with HPS, early recognition of the illness is critical in reducing mortality.
- Consider hantavirus in the differential diagnosis of patients presenting with rapidly progressive respiratory failure and shock of undetermined etiology, particularly in those who have household, recreational or occupational exposures to rodent saliva, excreta or nesting materials.

- Encourage patients to avoid activities that might put them in contact with fresh rodent urine, droppings, saliva or nesting materials.
- Promote environmental hygiene practices that discourage rodents from colonizing the work and home environment and that minimize aerosolization of rodent saliva and excreta.
- Report all suspected or confirmed cases of hantavirus to the Maine CDC within 48 hours of recognition or strong suspicion of the disease by telephone (1-800-821-5821) or fax (1-800-293-7534).

For More Information:

- For more information on hantavirus, visit the Maine CDC website (<http://www.maine.gov/dhhs/boh/ddc/epi/zoonotic/hantavirus.shtml>) or the federal CDC website (<http://www.cdc.gov/ncidod/diseases/hanta/hps/>).
- For more information on prevention of hantavirus infection and precautions for limiting household, recreational, and occupational exposures, see <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5109a1.htm>.