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PUBLIC HEALTH ADVISORY

To: Health Care Providers
From: Dr. Puthiery Va, Maine CDC Director
Subject: **Hantavirus Pulmonary Syndrome in a Maine Resident**
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Hantavirus Pulmonary Syndrome in a Maine Resident

The Maine CDC recently reported a case of hantavirus pulmonary syndrome (HPS) in a resident from Maine. This is the first case of HPS reported in Maine since 2011 and the second documented case of HPS in a Maine resident since U.S. CDC surveillance began in 1993.

The adult was hospitalized with a multiweek syndrome of fevers, headache, myalgias, malaise, rash, abdominal pain, shortness of breath, anemia, thrombocytopenia, pericardial effusion, pulmonary edema, and pulmonary emboli. The individual required supplemental oxygen but recovered and was discharged home. The individual had exposure to a rodent infestation on their property and no recent travel out of state. Hantavirus serological IgG and IgM were positive at a national reference laboratory.

The purpose of this health advisory is to remind clinicians that hantavirus is present in Maine and, although rare, human infections are possible. Clinicians should be aware of the signs and symptoms of hantavirus infection and consider testing for hantavirus in people with fever, fatigue, muscle aches, and exposure to rodents or rodent excrement. Cardiopulmonary or renal symptoms may or may not accompany infection, depending on what hantavirus strain causes infection.

Background

Hantaviruses are a family of viruses found worldwide that can cause serious illness or death in people. HPS was first identified in the United States in 1993 following an outbreak of severe pulmonary illness among residents of the southwestern USA (Four Corners region). The

illnesses were linked to a previously unknown hantavirus strain–Sin Nombre virus. The risk of hantavirus infection is low in Maine.

Transmission
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 contaminated with hantavirus, or when these materials are directly introduced into broken skin, the nose or the mouth after touching contaminated objects or eating contaminated foods. If an infected rodent bites someone, the virus may spread to that person, but this is rare. HPS in the United States is not transmitted from person to person. Rodent infestations in and around the home are the primary risk for hantavirus exposure.

Clinical Presentation

Hantavirus Pulmonary Syndrome (HPS): Symptoms begin 1–8 weeks after exposure. Early symptoms include fatigue, fever, chills, headache, dizziness, nausea, vomiting, diarrhea, abdominal pain and myalgia, especially in large muscle groups – thighs, hips, back and shoulders. Late symptoms appear 4–10 days after the initial phase and may include coughing, shortness of breath, and tightness in the chest as the lungs fill with fluid. The illness can progress rapidly to severe respiratory failure and shock. About 40% of people who develop respiratory symptoms may die.

Non-HPS hantavirus infection can also occur where patients experience non-specific viral symptoms but no cardiopulmonary symptoms. Many hantavirus strains in the United States can cause HPS and non-HPS.

Hemorrhagic Fever with Renal Syndrome (HFRS): Symptoms usually begin 1–2 weeks after exposure but may occur up to 8 weeks after exposure. Early symptoms include intense headaches, back and abdominal pain, fever, chills, nausea, blurred vision, flushed face, eye inflammation or redness, and rash. Later symptoms may include low blood pressure, acute shock, internal bleeding, and acute kidney failure. Up to 15% of people with severe symptoms may die, depending on the hantavirus strain. HFRS is mostly found in Europe and Asia, but Seoul virus—a hantavirus strain that causes HFRS—is present in the United States.

Risk Factors
- People who handle or clean up after rodents
- People who work with live rodents or have rodents as pets
- People with rodent infestations in and around the home
- People with weakened immune systems

Prevention
The best way to prevent hantavirus infection is to avoid contact with rodents and their urine, droppings, saliva, or nesting material. To prevent rodent infestations, remove food and water sources, and items that provide shelter to rodents. People with evidence of rodent activity or infestations in and around the home should follow U.S. CDC guidance to seal up, trap up, and clean up after rodents. When cleaning up after rodents, wear the appropriate PPE (at minimum, rubber or plastic gloves), and do not vacuum or sweep rodent droppings. Severe infestations may require more layers of PPE. For severe infestations, people may consider working with a licensed pest control expert to exclude rodents from the property. Pet rodents,

including pet rats, are not recommended for families with children 5-years-old or younger, pregnant women, or people with weakened immune systems.

Testing
Diagnosis of hantavirus infection relies on a high index of suspicion and on results of laboratory tests. Hantavirus should be considered in any individual with fever, fatigue, muscle aches, and exposure to rodents or rodent excrement. Cardiopulmonary symptoms including respiratory failure and shock should further raise the index of suspicion.

Hantavirus testing is not available at Maine's Health and Environmental Testing Laboratory (HETL), but many reference laboratories can test for hantavirus. Preferred testing is by PCR, IgM, or paired IgG with rising titers. All positive hantavirus results must be forwarded to HETL. A HETL Requisition Form should be submitted with the sample.

A negative PCR result does not rule out hantavirus infection. Samples from persons with a positive IgM and negative PCR should be forwarded to HETL to be confirmed.

Treatment
Treatment of hantavirus infections is supportive.

Reporting
Hantavirus is reportable in Maine. All suspected cases and positive laboratory reports should be reported by electronic laboratory reporting. **As of June 4, 2025, laboratories are required to forward all hantavirus positive samples to HETL for confirmation testing.**

Additional Information
- Maine CDC hantavirus website: www.maine.gov/dhhs/mecdc/diseases-conditions/animal-borne-diseases/hantavirus
- U.S. CDC hantavirus website: www.cdc.gov/hantavirus
- U.S. CDC hantavirus for clinicians: www.cdc.gov/hantavirus/site.html#hcp
- U.S. CDC hantavirus trainings for clinicians: www.cdc.gov/hantavirus/hcp/training
- U.S. CDC controlling rodent infestations: www.cdc.gov/healthy-pets/rodent-control