



Department of Health and Human Services
Maine Center for Disease Control and Prevention
286 Water Street
11 State House Station
Augusta, Maine 04333-0011
Tel: (207) 287-8016; Fax (207) 287-9058
TTY Users: Dial 711 (Maine Relay)

Maine Health Alert Network (HAN) System

PUBLIC HEALTH ADVISORY

To: Healthcare Providers
From: Siiri Bennett, State Epidemiologist
Subject: **Flavivirus Case in a Maine Resident**
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Flavivirus Case in a Maine Resident

Maine CDC identified a human case of neuroinvasive Flavivirus infection in an adult who resides in Cumberland County. The individual became ill in early September and is currently hospitalized. Serum samples collected September 5th and September 13th tested positive for West Nile virus (WNV) antibodies at a commercial laboratory. Per established protocols, Maine's Health and Environmental Testing Laboratory (HETL) sent the samples to the U.S. CDC for further confirmation. Plaque reduction neutralization test (PRNT) testing results from the U.S. CDC indicated evidence of cross-reactive Saint Louis Encephalitis virus (SLEV) and WNV flavivirus neutralization antibodies, although the specific virus could not be identified. This is the first identification of a flavivirus in a Maine resident since 2018.

This individual likely acquired this flavivirus infection in the state of Maine. Flaviviruses are a genus of arboviral illnesses that include pathogens like Dengue virus, SLEV, WNV, Yellow Fever virus, and Zika virus. In Maine, WNV is the only endemic flavivirus. So, while the likelihood of a WNV infection in this individual is high, SLEV could not be ruled out.

Providers should consider WNV in the differential diagnosis of individuals with neuroinvasive disease.

Maine has not detected WNV to date in mosquito collections, however New Hampshire and Massachusetts have reported positive WNV activity in mosquitoes this summer and fall.

These positive results do not change any recommendations but should serve as a reminder to avoid mosquito bites and remain vigilant throughout the rest of the season. Mosquitoes may still be active when the temperature is above 50 degrees.

Prevention:

Maine CDC recommends the following preventive measures to protect against Eastern Equine Encephalitis (EEE), WNV, Jamestown Canyon virus (JCV) and other mosquito-borne illnesses:

- Take extra precautions at dusk and dawn when mosquitoes are most active.
- Wear protective clothing when outdoors, including long-sleeved shirts, pants, and socks.
- Use an EPA-approved repellent on skin and clothes. Always follow the instruction on the label.
- Use screens on windows and doors. Check screens for holes a mosquito could fly through.
- Drain artificial (non-natural) sources of standing water around the home.
- Vaccinate livestock against EEE and WNV.

Testing:

Maine CDC encourages providers to test for arboviral illness in patients presenting with unexplained encephalitis, meningitis, or high fever (greater than 100.4°F or 38°C) during the late summer and early fall.

If arboviral illness is suspected based on clinical findings, serum samples and CSF (if available) should be submitted for testing. Arboviral testing for WNV and EEE can be performed at HETL. HETL requires the submitter to complete the Human Arbovirus Specimen Submission Form. All samples of CSF should be accompanied by a serum sample. Ideally an acute and a convalescent serum sample should be submitted for each patient.

- Acute serum samples should be collected within 14 days of onset of symptoms
- Convalescent serum samples should be collected 10 days to 4 weeks following the acute specimen

Reporting:

Arboviral illness is reportable in Maine. All suspect cases, and positive laboratory reports should be reported by phone to the 24/7 disease reporting and consultation line at 1-800-821-5821 or by fax to 1-800-293-7534.

More Information:

- How to submit human arboviral specimens to HETL: www.maine.gov/dhhs/mecdc/public-health-systems/health-and-environmental-testing/micro/submitting-samples.shtml
- Maine CDC vectorborne disease website: www.maine.gov/dhhs/vectorborne
- Weekly arboviral reports (July to October): www.maine.gov/dhhs/arboviral-surveillance
- Federal CDC mosquito website: www.cdc.gov/mosquitoes
- DACF's pesticides and repellents website: www.maine.gov/dacf/php/gotpests/bugs/mosquito.htm