

PENNSYLVANIA DEPARTMENT OF HEALTH
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First Human West Nile Infection of 2016 in Pennsylvania

DATE:	July 1, 2016
TO:	Health Alert Network
FROM:	Karen M. Murphy, PhD, RN Secretary of Health
SUBJECT:	First Human West Nile Infection of 2016 in Pennsylvania
DISTRIBUTION:	Statewide
LOCATION:	n/a
STREET ADDRESS:	n/a
COUNTY:	n/a
MUNICIPALITY:	n/a
ZIP CODE:	n/a

This transmission is a “Health Advisory” that provides important information for a specific incident or situation; may not require immediate action.

HOSPITALS: PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, INFECTION CONTROL, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL.

EMS COUNCILS: PLEASE DISTRIBUTE AS APPROPRIATE.

FQHCs: PLEASE DISTRIBUTE AS APPROPRIATE.

LOCAL HEALTH JURISDICTIONS: PLEASE DISTRIBUTE AS APPROPRIATE.

PROFESSIONAL ORGANIZATIONS: PLEASE DISTRIBUTE TO YOUR MEMBERSHIP.

This week, the Pennsylvania Department of Health (PADOH) investigated the first human West Nile virus (WNV) infection for 2016. The patient, a resident of Indiana County with no recent travel outside of Pennsylvania, experienced a non-neuroinvasive illness with onset in early June. The patient recalled receiving mosquito bites a few days prior to illness onset. The patient has since recovered.

Additionally, routine seasonal monitoring conducted by the Pennsylvania Department of Environmental Protection (DEP) West Nile virus surveillance program has detected eight WNV-infected mosquito samples and two WNV-infected birds from nine counties throughout the commonwealth. Risk of human WNV infection is likely to remain elevated over the next several months. Additional surveillance data is available at <http://www.westnile.state.pa.us/surv.htm>.

The PADOH would like to remind health care providers to consider the diagnosis of arboviral infection in persons presenting with undifferentiated febrile illness or signs of meningoencephalitis, to ask about recent travel history, to collect appropriate diagnostic specimens. All arbovirus infections (e.g., infections due to West Nile, dengue, chikungunya, Zika, etc.) are reportable within 24 hours in Pennsylvania.

EPIDEMIOLOGY OF ARBOVIRAL INFECTIONS IN PENNSYLVANIA

In Pennsylvania, WNV is the most commonly reported locally-acquired arbovirus and is most commonly seen during the months of July through September. Risk continues until the first hard frost. Most human

WNV infections (80%) are asymptomatic. Approximately 20% of infections result in a non-specific febrile illness (West Nile fever), and <1% infections develop into severe neuroinvasive disease (e.g., meningitis, encephalitis, acute flaccid paralysis, etc.) Neuroinvasive disease is more likely to occur in patients ≥ 50 years of age or those with compromised immunity.

WHEN TO CONSIDER ARBOVIRAL TESTING FOR YOUR PATIENT

1. Remember to ask about each patient's recent (past 3 weeks) travel history, as this can help determine which arbovirus to test for. The following clinical syndromes presenting during summer months among patients with no recent travel history should prompt consideration for WNV testing:
Viral encephalitis, characterized by:
 - Fever $>38^{\circ}\text{C}$ or 100°F and,
 - CNS involvement, including altered mental status (altered level of consciousness, confusion, agitation, or lethargy) or other cortical signs (cranial nerve palsies, paresis or paralysis, or convulsions) and,
 - Abnormal CSF profile suggesting a viral etiology (negative bacterial Gram stain and culture with a pleocytosis [WBC between 5 and 1500 cells/ mm^3] and/or elevated protein level [≥ 40 mg/dl]).
2. **Viral meningitis, characterized by:**
 - Fever $>38^{\circ}\text{C}$ or 100°F and,
 - Headache, stiff neck and/or other meningeal signs and,
 - Abnormal CSF profile suggesting viral etiology (negative bacterial Gram stain and culture with a pleocytosis [WBC of 5-1500 cells/ mm^3] and/or elevated protein level [≥ 40 mg/dl]).
3. **Poliomyelitis-like syndromes:**
 - Acute flaccid paralysis or paresis, which may resemble Guillain-Barré syndrome, or other unexplained movement disorders such as tremor, myoclonus or Parkinson's-like symptoms, especially if associated with atypical features, such as fever, altered mental status and/or a CSF pleocytosis. Afebrile illness with asymmetric weakness, with or without areflexia, has also been reported in association with WNV.
4. **Unexplained febrile illness:**
 - Especially if accompanied by headache, fatigue, myalgias, stiff neck, or rash.

DIAGNOSIS OF ARBOVIRAL INFECTIONS

For most arboviral infections, serology and/or nucleic acid testing (e.g., PCR) can facilitate diagnosis. WNV diagnosis is usually serological, by detection of WNV-specific IgM antibody in serum or CSF. **WNV IgM may not be detectable until day 8 of illness.** Specimens collected less than 8 days after onset may be negative for IgM, and testing should be repeated 2-3 weeks later.

Suspected WNV cases can have specimens (serum and/or CSF) submitted to the PADOH Bureau of Laboratories. WNV IgM testing is performed free-of-charge. Instructions for submitting specimens can be found at <http://www.westnile.state.pa.us/action/WNVSubmissionForm.pdf>.

For questions, please call your local health department or PADOH at 1-877-PA HEALTH.

Categories of Health Alert messages:

Health Alert: conveys the highest level of importance; warrants immediate action or attention.

Health Advisory: provides important information for a specific incident or situation; may not require immediate action.

Health Update: provides updated information regarding an incident or situation; unlikely to require immediate action.

This information is current as of July 1, 2016, but may be modified in the future.