



DATE:	7/10/2020
TO:	Health Alert Network
FROM:	Rachel Levine, MD, Secretary of Health
SUBJECT:	West Nile Virus Season in 2020 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 Alert”: conveys the highest level of importance; warrants immediate action or attention.

HOSPITALS: PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, 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; **LONG-TERM CARE FACILITIES:** PLEASE SHARE WITH ALL MEDICAL, INFECTION CONTROL, AND NURSING STAFF IN YOUR FACILITY

Summary

- Pennsylvania’s first WNV-positive human case identified in Potter county; first WNV-positive mosquito pool identified in Bucks county
- Health care providers should have a heightened clinical suspicion for West Nile infection in persons with clinically compatible symptoms

The first WNV-positive human case was identified in Pennsylvania in a Potter county resident for the 2020 arbovirus season. On July 9, 2020, routine seasonal monitoring conducted by the Pennsylvania Department of Environmental Protection (DEP) West Nile virus (WNV) surveillance program reported their first WNV-positive mosquito pool in Bucks county. The first human case and mosquito positive pool indicate WNV may have begun to circulate in Pennsylvania. Risk of human WNV infection is likely to remain elevated over the next several months. Additional surveillance data is available at <http://www.depgis.state.pa.us/WNV/index.html>.

DOH 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, and to collect appropriate diagnostic specimens. All arbovirus infections (e.g., infections due to West Nile, dengue, chikungunya, Zika, Powassan, etc.) are reportable within 24 hours in Pennsylvania.

EPIDEMIOLOGY OF WEST NILE VIRUS 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% of 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. During the 2019 WNV season, Pennsylvania reported 5 neuroinvasive and 2 non-neuroinvasive cases; a substantial decrease from the 2018 WNV season where 130 cases were reported.

WHEN TO CONSIDER WEST NILE VIRUS TESTING FOR YOUR PATIENT

1. Remember to ask about each patient's recent (past 3 weeks) travel history, as this can help determine for which arbovirus to test. 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 WEST NILE VIRUS 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.

Specimens (serum and/or CSF) collected from patients with suspected WNV can be submitted to the DOH Bureau of Laboratories. WNV IgM testing is performed free-of-charge. Instructions for submitting specimens can be found at <http://files.dep.state.pa.us/Water/WNV/WNVSubmissionForm.pdf>.

For questions, please call your local health department or DOH 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 10, 2020 but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.