



2023 West Nile Virus Season in Pennsylvania

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TO:	Health Alert Network
FROM:	Debra L. Bogen, MD, FAAP, Acting Secretary of Health
SUBJECT:	2023 West Nile Virus Season in Pennsylvania
DISTRIBUTION:	Statewide
LOCATION:	Statewide
STREET ADDRESS:	n/a
COUNTY:	n/a
MUNICIPALITY:	n/a
ZIP CODE:	n/a

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

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 mosquito pools of 2023 were identified in Delaware, Fayette, and York counties in May.
- Healthcare providers should have a heightened clinical suspicion for West Nile infection in persons with clinically compatible symptoms.
- For questions, please call your local health department or the Pennsylvania Department of Health (DOH) at 1-877-PA-HEALTH.

As of Thursday May 25, the first WNV-positive mosquito pools of 2023 were identified in Pennsylvania in Delaware, Fayette, and York counties through the routine seasonal monitoring conducted by the Pennsylvania Department of Environmental Protection (DEP) West Nile virus (WNV) surveillance program. The first mosquito positive pools 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 are available at [WNV Mosquito Surveillance](#).

DOH reminds healthcare 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 to DOH within 24 hours of diagnosis in Pennsylvania.

EPIDEMIOLOGY OF WEST NILE VIRUS INFECTIONS IN PENNSYLVANIA

In Pennsylvania, WNV is the most commonly reported locally acquired arboviral disease, and human infections are most commonly seen during the months of July through September. The 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 immune systems. During the 2022 WNV season, Pennsylvania reported 34 neuroinvasive and non-neuroinvasive cases.

WHEN TO CONSIDER WEST NILE VIRUS TESTING FOR YOUR PATIENT

Remember to ask about each patient's recent (past 3 weeks) travel history and potential exposures to mosquitoes, as this can help determine for which arbovirus to test. Depending on travel history and onset date of symptoms, providers might also need to consider testing for arboviruses such as Dengue, Chikungunya, and Zika. The following clinical syndromes presenting during summer months among patients should prompt consideration for WNV testing:

Viral encephalitis, characterized by:

- Fever $\geq 38^{\circ}\text{C}$ or $\geq 100.4^{\circ}\text{F}$ 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/mm³] and/or elevated protein level [≥ 40 mg/dl]).

Viral meningitis, characterized by:

- Fever $\geq 38^{\circ}\text{C}$ or $\geq 100.4^{\circ}\text{F}$ 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/mm³] and/or elevated protein level [≥ 40 mg/dl]).

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.

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 [Arbovirus testing form](#). Several commercial labs also test

for arboviruses including ARUP (Associated Regional and University Pathologists), LabCorp, Mayo Clinic, and Quest Diagnostics.

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

For more information on West Nile virus and other arboviruses in PA go to the [POH Vectorborne website](#) or the [CDC website on West Nile virus](#).

Individuals interested in receiving further PA-HANs are encouraged to register at [HAN Notification Registration \(mir3.com\)](#)

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 June 5, 2023 but may be modified in the future.
