



Philadelphia Department of Public Health
Division of Disease Control

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Health Advisory

West Nile Virus Activity in Philadelphia and Clinical Review

August 14, 2009

The first human case of West Nile Virus (WNV) infection of the 2009 season in Pennsylvania (Luzerne County) was confirmed on August 12, 2009. Nationwide 58 cases of WNV have been identified. At this time, no human cases have been confirmed in Philadelphia. A report summarizing WNV activity in the Philadelphia region is attached. This report will be posted weekly on the PDPH Health Information Portal (<https://hip.phila.gov/>).

Philadelphia's first positive mosquito pool was identified on July 28, 2009 in Fairmount Park. Mosquito control activities such as larviciding and ground spraying has been ongoing throughout the summer. Positive mosquito pools suggest that there is risk for human infection. The following summary is provided to assist clinicians with the diagnosis of WNV infection during this period when the risk of disease is high.

Clinical Presentation of WNV Infection

The majority of infections due to West Nile Virus are asymptomatic. Approximately 20% of individuals develop a self-limited febrile illness called West Nile Fever, characterized by fever, headache, myalgia, and gastrointestinal symptoms. A transient maculopapular rash may also be present. Fewer than 1% of infected individuals will develop neuroinvasive disease - aseptic meningitis, encephalitis, or flaccid paralysis. The risk of neuroinvasive disease increases with age, and is highest among adults > 60 years old and among organ transplant patients. Residual neurological deficits are not uncommon among cases of encephalitis and flaccid paralysis.

Diagnosis of WNV Infection

The incubation period of WNV infection ranges from 2-14 days (up to 21 days in immunocompromised persons). Serum and cerebrospinal fluid (CSF) may be tested for specific IgM antibody to WNV; however serum collected within the first 8 days of illness may not have detectable IgM and repeat testing may necessary. A four-fold rise in WNV-specific IgG in acute and convalescent serum is also diagnostic. Viral culture and nucleic acid amplification tests can also be performed on serum collected early in the illness, and on CSF. Testing performed in commercial laboratories may not be reliable. Testing should be performed by the Pennsylvania Department of Health Bureau of Laboratories. The Philadelphia Department of Public Health Division of Disease Control (DDC) can facilitate specimen submission.

Treatment and Prevention

Treatment for mosquito-borne viral diseases is supportive; there is no specific therapy for these infections. Personal prevention remains the best way to decrease the risk of acquiring mosquito-borne diseases. Mosquito repellent containing no more than 30% DEET should be applied whenever one is outdoors during mosquito season. Products that contain 10% DEET can safely be used on children > 2 months old. Eliminating standing water on personal property (e.g., unused swimming pools, tires) will decrease mosquito-breeding sites.

Mosquito complaints and dead bird sightings can be reported to the PDPH Vector Control Program at 215-685-9027. Clinicians should consider WNV and other mosquito-borne viral infections in the differential diagnosis of encephalitis and aseptic meningitis during summer and early fall months; obtain serum and CSF on all suspected cases for diagnostic testing. To report suspected human mosquito-borne diseases and/or to request testing of human specimens, please call the Division of Disease Control at 215-685-6740 during regular business hours or 215-686-4514 after-hours (ask to speak with the representative on-call for the division).



West Nile Virus Surveillance Report

August 14, 2009

Introduction

West Nile Virus (WNV) infection is transmitted to humans through the bite of WNV-infected mosquitoes. Birds are the reservoir of the virus. Clinical presentation of WNV infection may be mild with symptoms such as fever and myalgia or as severe as neuroinvasive disease with symptoms of altered mental confusion, weakness, and paralysis.

West Nile Virus Surveillance and Prevention Activities

The Philadelphia Department of Public Health (PDPH) and the Pennsylvania Department of Environmental Protection (PA DEP) are responsible for surveillance of West Nile Virus throughout the months of April-October when mosquitoes are most active. These findings are used to assess the risk for human infection and to determine locations for mosquito control and abatement activities performed by Vector Control Services (VCS). The PDPH VCS unit inspects, controls, and eliminates mosquito breeding sites through education, source reduction, and larviciding. To control adult mosquitoes capable of transmitting WNV to humans, VCS performs barrier and fogging treatments. Aerial mosquito control applications occur under direction of the PA DEP.

2009 WNV Surveillance Update

WNV Positive Test Results – Philadelphia, 2009 Transmission Season						
ZIP code	Mosquitoes		Dead Birds		Humans	
	Counts YTD	Date of First Positive	Counts YTD	Date of First Positive	Counts YTD	Date of Report
19131	0	7/28/09	0		0	

Prevention Recommendations

- If outside when mosquitoes are active, especially at dusk or dawn:
 - Use insect repellants containing DEET or Picaridin according to the manufacturer’s label directions
 - Consider natural repellants like oil of lemon eucalyptus
 - Wear light colored long-sleeved shirts, long-pants, and socks
- Make sure that doors and windows have tight-fitting screens without holes
- Discard standing water on your property, a potential mosquito breeding site

Additional Resources

Philadelphia Department of Public Health: www.phila.gov/health/units/ddc/index.html
 Centers for Disease Control and Prevention: www.cdc.gov/ncidod/dvbid/westnile/index.htm

Report WNV Human Cases to PDPH Division of Disease Control

Report all cases of suspected or confirmed infection with WNV to the Philadelphia Department of Public Health Division of Disease Control at 215-685-6748. Alternatively, providers can fax case-related information using the appropriate form to 215-545-8362.