



Philadelphia Department of Public Health  
**Division of Disease Control**

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**Health Advisory**  
**West Nile Virus Activity in Philadelphia and Clinical Review**  
**July 15, 2010**

The Philadelphia Department of Public Health has identified the city's first mosquito pool to test positive for West Nile Virus (WNV) in 2010. The mosquito pool was collected from the southwestern area of Philadelphia in late June. In addition, the Pennsylvania Departments of Health and Environmental Protection are reporting that the number of WNV-positive pools identified to date is unusual in that they are earlier and the number is higher than in recent years. To date, no human cases have been confirmed in Philadelphia. Nationwide ten human cases of WNV infection and two viremic donors have been identified in AZ, CA, CO, GA, MS, ND, SD, and TX. A report summarizing WNV activity in the Philadelphia region is attached and will be posted throughout the summer, with updates on the PDPH Health Information Portal (<https://hip.phila.gov>).

Mosquito control activities such as larviciding and ground spraying have been ongoing throughout the summer. WNV-positive mosquito pools suggest that there is risk for human infection. Clinicians are urged to report all suspect cases of WNV to DDC 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). Additionally, 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, and should obtain serum and CSF on suspected cases for diagnostic testing. 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, gastrointestinal symptoms and sometimes a transient maculopapular rash. Less 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 severe cases.

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 be 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 should be performed by the Pennsylvania Department of Health Bureau of Laboratories (BOL) as testing performed in commercial laboratories may not be reliable. DDC can facilitate specimen submission to PA BOL.

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 Vector Control Program at 215-685-9027.

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Philadelphia Department of Public Health

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215-685-6740 (phone) • 215-686-4514 (after hours) • 215-545-8362 (fax) • [www.phila.gov/health/units/ddc](http://www.phila.gov/health/units/ddc) • [hip.phila.gov](http://hip.phila.gov)

# **West Nile Virus Surveillance Report**

## **July 15, 2010**

### **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.

### **2010 WNV Surveillance**

<b>WNV Positive Test Results – Philadelphia, 2010 Transmission Season</b>						
ZIP code	Mosquitoes		Dead Birds		Humans	
	Site Counts YTD	Date of First Positive	Counts YTD	Date of First Positive	Counts YTD	Date of Report
Southwest	1	06/24/10	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 or consider natural repellants like oil of lemon eucalyptus or its synthesized version, PMD)
  - Wear light colored long-sleeved shirts, long-pants, and socks
- Make sure that doors and windows have tight-fitting screens without holes
- Standing water is a potential mosquito breeding site so discarding standing water on your property that may have collected in pet dishes, children's pools, bird fountains, or tire swings will reduce mosquito breeding around your property.

### **Additional Resources**

Philadelphia Department of Public Health: <http://www.phila.gov/health/DiseaseControl/>

Pennsylvania Department of Health: [www.westnile.state.pa.us](http://www.westnile.state.pa.us)

Centers for Disease Control and Prevention: [www.cdc.gov/ncidod/dvbid/westnile/index.htm](http://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 215-685-6740.