



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
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Commissioner

2026 Health Advisory #19: Updates on West Nile Virus and Other Mosquito-borne Viruses Detected in New York City

Please distribute to all emergency medicine, infectious disease, internal medicine, family medicine, and neurology staff in your facility.

- Healthcare providers should remain vigilant for West Nile virus (WNV) disease among New Yorkers during summer months; peak WNV activity is usually during August and September.
- WNV has been detected in 48 mosquito pools this year, six in Queens and 42 in Staten Island. No human cases have been reported in NYC so far this year.
- Consider and [test for WNV](#) in individuals with viral meningitis or encephalitis, acute flaccid myelitis, or symptoms compatible with West Nile fever, now through October.
- Advise people, especially adults age 60 years and older and people with weakened immune systems due to disease or immune modulating therapies (particularly those impacting B cell function, such as rituximab and ocrelizumab), to protect themselves from mosquito bites.

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As we head into peak West Nile virus (WNV) season, providers should remain vigilant for disease and advise people on mosquito bite prevention. The first WNV infected mosquitoes for the 2026 season in NYC were collected on June 16, 2026; to date, there have been 48 positive mosquito pools (a pool is a group of up to 50 mosquitoes combined for WNV testing), six from Queens and 42 from Staten Island. No human cases have been reported in NYC to date this year. Links to current WNV surveillance data and a map of positive mosquitoes are available [here](#).

Clinical Presentation

An estimated 80% of human WNV infections are subclinical or asymptomatic. Most symptomatic people experience West Nile fever, an acute systemic febrile illness that often includes headache, weakness, myalgia, or arthralgia; gastrointestinal symptoms and a transient maculopapular rash are also common. Less than 1% of infected people develop West Nile Neuroinvasive Disease (WNND), which typically manifests as meningitis, encephalitis, or acute flaccid myelitis.

The following groups are at greater risk of severe WNND:

- Adults age 60 and older: the risk of severe illness increases with age. People aged 60–69 years are twice as likely, and those aged ≥70 years are more than 6 times as likely to be hospitalized with WNV disease compared with younger adults.
- People with certain medical conditions, such as diabetes, hypertension, chronic kidney disease, cancer, and organ transplantation
- Those on treatments or medications that cause immunosuppression (particularly those impacting B cell function, such as rituximab and ocrelizumab).^{1,2}

A recent case series¹ found 4 out of 5 people using rituximab and diagnosed with arboviral neuroinvasive disease died; survivors often had long-term disabilities, such as cognitive and motor dysfunction.¹ In NYC, from 2021 to 2025 seven people reported with WNV infection received B-cell inhibiting therapies; six developed WNND and one had evidence of persistent West Nile viremia of at least one year duration.

Consider WNV disease in people with compatible symptoms, especially unexplained encephalitis, viral meningitis, acute flaccid myelitis, or other neurologic manifestations (e.g., Guillain-Barré syndrome).

Epidemiology

Since WNV surveillance in NYC began in 1999, the annual number of WNV-competent mosquitoes trapped and WNV-positive mosquito pools has consistently increased, likely driven by climate change. Shifting precipitation and temperature patterns contribute to increased mosquito reproduction rates and amplification of WNV in mosquitoes.

The incidence of human WNV infections has also been increasing, with consistently elevated case numbers in the last 5 years. From 2021 to 2025, an average of 25 NYC residents per year were diagnosed with WNND (range 16-36), with a 6% case fatality rate. Compared with the previous 10 years, 2011-2020, the annual average was 15 residents per year (range 6-30), with a 9% case fatality rate. For all years, 2011-2025, the median age of people with WNND was 64 years (range 1-95 years); NYC residents with WNND lived in Queens (n=100, 35%), Brooklyn (n=76, 27%), Manhattan (n=47, 17%), Staten Island (n=36, 13%), and the Bronx (n=23, 8%).

Diagnostic Testing

Guidance on testing for WNV and other arboviral infections at commercial laboratories and New York State Wadsworth Center, including the PCR panel for people hospitalized with encephalitis, is available [here](#). If arboviral infection is suspected, preferentially order molecular testing for people on medications impacting B cells such as B-cell depleting monoclonal antibody medications (i.e., RT-PCR or metagenomic next-generation

¹ Kapadia RK, Staples JE, Gill CA, et al. Severe arboviral neuroinvasive disease in patients on rituximab therapy: a review. *Clin Infect Disease*. 2022; 76(6), 1142-1148. doi.org/10.1093/cid/ciac766

² Thebault S, Gandelman S, Lane C, et al. Severe neuroinvasive West Nile virus in association with anti-CD20 monotherapy for multiple sclerosis. *Neurol Neuroimmunol Neuroinflamm*. 2023;10(5): e200154. doi:10.1212/NXI.0000000000200154

sequencing (mNGS).

- **IgM enzyme immunoassay (EIA)** on cerebrospinal fluid (CSF) and serum is the most sensitive test for WNV infection. A positive IgG EIA result with a negative IgM likely indicates past infection or possibly cross reactivity with another flavivirus (e.g., dengue). Ideally, submit both CSF and serum specimens (acute and convalescent, collected two to three weeks apart) for testing if neuroinvasive disease is suspected.
- **RT-PCR** and **mNGS** on CSF can aid in the diagnosis of people who are severely immunocompromised and unable to mount a detectable humoral immune response. If sending specimens to Wadsworth Center for RT-PCR, urine and whole blood are also requested to improve the chance of molecular detection; always request IgM EIA testing concurrently. A positive PCR result confirms infection, but a negative result does not rule it out.

Treatment and Prevention

Treatment: There is no specific treatment for WNV disease; clinical management is supportive. Most people with WNV fever or WNV meningitis recover completely, but fatigue, malaise, and weakness can linger for weeks or months. People with WNV encephalitis or myelitis often have residual neurologic deficits.

Bite precaution: Mosquitoes that carry WNV usually bite around dusk and dawn. Advise people, especially those with immunocompromising conditions or on immunosuppressive therapies, especially those impacting B cell function, to take [precautions to avoid being bitten](#), including using an [EPA-registered insect repellent](#) and taking steps to reduce mosquitoes in and around their residence.

Blood and organ donation: Although blood and some organ donations are screened for WNV, transmission through blood transfusion or organ transplantation is possible. People with confirmed WNV disease should not donate blood for 4 months after illness.

Other Mosquito-borne Diseases

Mosquitoes collected in NYC are also tested for [eastern equine encephalitis](#) (EEE), [St. Louis encephalitis](#) (SLE), [La Crosse encephalitis](#) (LAC), and [Jamestown Canyon](#) (JCV) viruses. JCV was detected for the first time in 2025 in a single pool of mosquitoes collected in Queens. No human infections with these viruses have been reported in NYC; however, New York counties outside NYC and other northeast states have reported rare cases of EEE and JCV. Testing for EEE, SLE, LAC, JCV and other travel-associated arboviral infections is available at Wadsworth Center using molecular and serologic assays. Find details on tests and submission requirements [here](#).

Travel-associated: [Dengue](#), [chikungunya](#), [malaria](#), and [Zika](#) are associated with travel to endemic areas. Chikungunya cases have been increasing in the Americas since 2025. Due to the potential for local transmission of mosquito-borne diseases, people returning from an area with risk for chikungunya, dengue, or malaria should be counseled to take steps to

avoid mosquito bites for 3 weeks following their return to prevent spreading the virus to local mosquitoes, which could then potentially infect other people.

Remind travelers to visit the [CDC Travel Health Notice](#) page before travel for current health travel warnings. Currently, the CDC has issued a Level 2 Travel Notice for chikungunya in French Guiana, Mauritius, Mayotte, Suriname, Bolivia, and Seychelles and for yellow fever in Colombia and Venezuela.

Reporting Cases

WNV and other arboviral infections with laboratory evidence of recent or current infection are required to be [reported](#) to the NYC Health Department. For consultation or to [report a case](#) of WNV or other arboviral infection, call the NYC Health Department Provider Access Line at 866-692-3641.

References

- NYC Health Department
 - [Testing Guidance for West Nile Virus](#)
 - [Mosquitoes](#) (information and resources for general public)
 - [West Nile Virus](#) (mosquito and human data and mosquito control events)
 - [Testing Guidance for Dengue, Chikungunya, Zika, and Oropouche Viruses](#)
 - [Reporting Diseases to the Health Department](#)
- [NYS Wadsworth Center Viral Encephalitis Testing](#)
- [EPA Repellent Search Tool](#)
- Centers for Disease Control and Prevention (CDC)
 - [Clinical Guidance for Viral Vector-Borne Diseases in People Who Are Immunocompromised | Vector-Borne Diseases | CDC](#)
 - [Patient Awareness Brochure](#)
 - [Patient Awareness Poster](#)
 - [CDC West Nile Virus. Clinical Testing and Diagnosis for West Nile Virus Disease](#)