



West Nile Virus

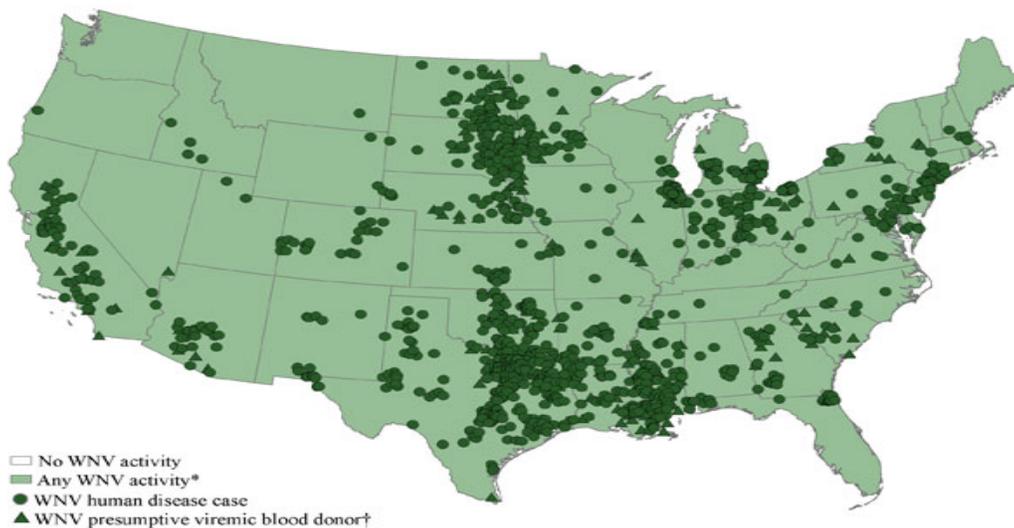
Current situation

The ongoing outbreak of West Nile Virus (WNV) within the United States has attracted considerable attention among our Navy and Marine Corps customers. The Centers for Disease Control and Prevention (CDC) notes that this 2012 outbreak (1993 cases, 87 deaths as of 4 Sep 2012) comprises the highest number of annual cases since WNV was first detected in the U.S. in 1999. The following table summarizes data for the NEPMU-2 area of responsibility:

		2012 Cases	2012 Deaths
NEPMU-2 AOR USN/USMC	AFRICOM	0	0
	CENTCOM	0	0
	EUCOM	0	0
	NAVMED East (NORTHCOM)	1	0
	SOUTHCOM	0	0

70% of U.S. cases have occurred in Texas, South Dakota, Mississippi, Oklahoma, Louisiana, and Michigan, with 45% occurring within Texas alone. 54% of total cases were classified as neuroinvasive (encephalitis or meningitis). The one known Navy/Marine Corps case occurred in early July in the Dallas/Fort Worth area in an active-duty patient with neuroinvasive disease.

West Nile virus (WNV) activity reported to ArboNET, by state, United States, 2012 (as of September 4, 2012)



* Includes WNV human disease cases, presumptive viremic blood donors, veterinary disease cases and infections in mosquitoes, birds, and sentinel animals.

† Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.



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Threat Assessment

BLUF: Minimal-to-no impact to our community.

Most individuals infected with WNV have no symptoms. Approximately 20% of those infected have mild flu-like illness, and only 1% develops severe neurologic disease. Of those with neuroinvasive disease, the case-fatality rate is 10-12 percent.

WNV is a viral disease transmitted to humans by infected mosquitoes—usually *Culex species*—with greatest exposure risk at dusk and dawn. WNV transmission can also occur in blood transfusions, organ donation, intrauterine infection, and possibly via breast milk. The U.S. screens all blood and organ donations for WNV, but extra caution must be taken when OCONUS.

Risk factors for neuroinvasive disease include age >55 years or a compromised immune system. Some studies suggest hypertension may be an additional risk factor by compromising the blood brain barrier. Studies suggest previous exposure to other flaviviruses (yellow fever virus, Japanese encephalitis virus, dengue virus) may protect people from progression to severe WNV disease.

Currently there is no WNV vaccine available for humans. The best protection is to reduce exposure to mosquitoes by wearing long pants/sleeves, using insect repellent containing up to 30% DEET, and pre-treating uniforms with permethrin. DEET concentrations greater than 30% do not offer any additional benefits. Lower doses of DEET are effective but for a shorter amount of time. On average 30% DEET will be protective up to 6 hours and 10% DEET up to 2 hours. There are no chemoprophylactic medications to prevent WNV infection.

Facts/FAQs (Adapted from CDC Fact Sheet)

What Is West Nile Virus?

West Nile virus (WNV) is a potentially serious illness. In North America, experts believe WNV is established as a seasonal epidemic that flares up in the summer and continues into the fall.

What Can I Do to Prevent WNV?

The easiest and best way to avoid WNV is to prevent mosquito bites.

- When you are outdoors, use insect repellents containing an EPA-registered insect repellent. Follow the directions on the package.
- Many mosquitoes are most active at dusk and dawn. Be sure to use insect repellent and wear long sleeves and pants at these times or consider staying indoors during these hours.
- Make sure you have good screens on your windows and doors to keep mosquitoes out.
- Get rid of mosquito breeding sites by emptying standing water from flower pots, buckets and barrels. Change the water in pet dishes and replace the water in bird baths weekly. Drill holes in tire swings so water drains out. Keep children's wading pools empty and on their sides when they aren't being used.



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What Are the Symptoms of WNV?

- About one in 150 people infected with WNV will develop severe illness. The severe symptoms can include high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis. These symptoms may last several weeks, and neurological effects may be permanent.
- Up to 20 percent of the people who become infected will display symptoms which can include fever, headache, and body aches, nausea, vomiting, and sometimes swollen lymph glands or a skin rash on the chest, stomach and back. Symptoms can last for as short as a few days, though even healthy people have been sick for several weeks.
- Approximately 80 percent of people (about 4 out of 5) who are infected with WNV will not show any symptoms at all, but there is no way to know in advance if you will develop an illness or not.

How Does West Nile Virus Spread?

- Most often, WNV is spread by the bite of an infected mosquito. Mosquitoes become infected when they feed on infected birds. Infected mosquitoes can then spread WNV to humans and other animals when they bite.
- In a very small number of cases, WNV also has been spread through blood transfusions, organ transplants, breastfeeding and even during pregnancy from mother to baby.
- WNV is not spread through casual contact such as touching or kissing a person with the virus.

How Soon Do Infected People Get Sick?

People typically develop symptoms between 3 and 14 days after they are bitten by the infected mosquito.

How Is WNV Infection Treated?

There is no specific treatment for WNV infection. In cases with milder symptoms, people experience symptoms such as fever and aches that pass on their own, although illness may last weeks to months even in healthy persons. In more severe cases, people usually need to go to the hospital where they can receive supportive treatment including intravenous fluids, help with breathing, and nursing care.

What Should I Do if I Think I Have WNV?

Milder WNV illness improves on its own, and people do not necessarily need to seek medical attention for this infection though they may choose to do so. If you develop symptoms of severe WNV illness, such as unusually severe headaches or confusion, seek medical attention immediately. Severe WNV illness usually requires hospitalization. Pregnant women and nursing mothers are encouraged to talk to their doctor if they develop symptoms that could be WNV.

What Is the Risk of Getting Sick from WNV?

- People over the age of 50 are more likely to develop serious symptoms of WNV if they do get sick and should take special care to avoid mosquito bites.
- The more time you're outdoors, the more time you could be bitten by an infected mosquito. Pay attention to avoiding mosquito bites if you spend a lot of time outside, either working or playing.



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- All donated blood is checked for WNV before being used. The risk of getting WNV through blood transfusions and organ transplants is very small, and should not prevent people who need surgery from having it. If you have concerns, talk to your doctor.
- Pregnancy and nursing do not increase risk of becoming infected with WNV. The risk that WNV may present to a fetus or an infant infected through breastmilk is still being evaluated. Talk with your care provider if you have concerns.

What Else Should I Know?

If you find a dead bird: Don't handle the body with your bare hands. Contact your local health department for instructions on reporting and disposing of the body. They may tell you to dispose of the bird after they log your report.