

EPIGRAM

PRODUCED BY DISEASE CONTROL SERVICES
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ARBOVIRUS SURVEILLANCE

Nassau County Arbovirus Activity

From January 1, 2018 through August 25, 2018, there were four confirmed cases (onset dates 1/29, 4/30, 5/25, 6/2) of Eastern equine encephalitis virus (EEEV) infection in horses in Nassau County and one outbreak of EEEV in an emu flock in Nassau County (onset 7/5 for the first emu). Ten sentinel chickens have tested positive for EEEV in Nassau County (specimen collection dates 5/17, 5/25, 5/31, 6/8, 6/23, 6/28, 7/5, 7/12). One sentinel chicken tested positive for Highlands J Virus (specimen collection date 7/5) and 30 sentinel chickens tested positive for West Nile virus (specimen collection dates 7/12, 7/14, 7/27, 8/2, 8/3, 8/11). One human case of West Nile virus (WNV) infection was reported in a Nassau County resident in August. Nassau County is currently under a mosquito-borne illness advisory.

State Arbovirus Activity¹

Arbovirus surveillance in Florida includes endemic mosquito-borne viruses such as WNV, EEEV, and St. Louis encephalitis virus (SLEV), and exotic viruses such as dengue virus (DENV), chikungunya virus (CHIKV) and California encephalitis group viruses (CEV). Malaria, a parasitic mosquito-borne disease is also included. Cases of chikungunya fever, dengue fever, Zika fever, and malaria were reported in persons with history of travel to areas where these diseases are circulating (Table 1). No locally acquired cases of chikungunya fever, dengue fever, Zika fever, or malaria have been reported in Florida in 2018. In Florida in 2018 there have been three human cases of EEEV infection and seven people (six cases, one asymptomatic blood donor) have tested positive for WNV (Table 1). Thirteen counties are under mosquito-borne illness advisories and three counties are under mosquito-borne illness alerts.

Disease	Case Count
Chikungunya Fever	2
Dengue Fever	15
Zika Fever	64
Malaria	43
Eastern Equine Encephalitis	3
West Nile Virus	6

Table 1. Human cases of mosquito-borne disease reported in Florida, Jan. 1– August 25, 2018.

¹ Florida Department of Health. Florida Arbovirus Surveillance. <http://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/index.html>.

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DISEASE REPORTING

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DISEASE SPOTLIGHT: WEST NILE VIRUS DISEASE

Clinical Overview

West Nile virus (WNV) is transmitted to humans primarily through the bites of infected mosquitoes. Other modes of transmission include blood transfusion and organ transplantation. The incubation period is between two and 14 days. West Nile virus infection cases are often categorized into two primary groups: neuroinvasive disease and non-neuroinvasive disease. Neuroinvasive disease symptoms include fever, stiff neck, altered mental status, seizures, limb weakness, cerebrospinal fluid (CSF) pleocytosis, and abnormal neuroimaging. Non-neuroinvasive disease symptoms include fever, headache, myalgias, arthralgias, rash, and gastrointestinal symptoms. Approximately 80% of those infected show no clinical symptoms. Twenty percent have mild (non-neuroinvasive) symptoms, and less than 1% experience the neuroinvasive form of illness. Immunosuppressed patients and individuals over 60 years of age are at higher risk for severe disease. Testing for WNV-specific IgM antibodies should be requested for serum specimens or CSF. The Florida Department of Health in Nassau County (DOH-Nassau) can provide guidance on how and when to submit samples to the Department of Health (DOH) Bureau of Public Health Laboratories.

Epidemiology and Surveillance^{2,3}

WNV was first introduced to the United States in 1999 and reached Florida in 2001. The virus is now considered endemic in the United States. Since its initial detection, WNV has been reported in all 67 Florida counties. The peak period of transmission in Florida is July through September. The natural cycle of WNV involves *Culex* mosquitoes and wild birds, but occasionally an infected mosquito will bite a human and cause disease. West Nile virus infection became reportable in Florida in June 2003. Since the initial peak in 2003, the number of reported cases declined for several years, possibly due to dry environmental conditions and herd immunity in birds. A nationwide outbreak of WNV infections occurred in 2012, with the highest number of cases reported since 2003 (Fig. 1). All but one of the 68 WNV cases reported in Florida in 2012 reported exposure in the northern part of the state. The 2012 outbreak of WNV likely resulted from several factors, including higher temperature that influenced mosquito and bird abundance, viral replication in host mosquitoes, and interactions of birds and mosquitoes. Since 2003, Nassau County has reported three cases of WNV infection: one in 2012, one in 2013, and one in 2018.

Prevention

The best way to avoid WNV illness is to “Drain and Cover” to prevent mosquito bites. Drain standing water to prevent mosquito breeding around your home or business, cover doors and windows to keep mosquitoes outside of homes and cover skin with clothing or mosquito repellent to prevent mosquito bites. In protecting children, read label instructions to be sure the repellent is age-appropriate. According to the Centers for Disease Control and Prevention (CDC), mosquito repellents containing oil of lemon eucalyptus should not be used on children under the age of three years. DEET is not recommended on children younger than two months old. For infants less than two months old, use mosquito netting.

² Florida Department of Health. West Nile Virus (WNV). <http://www.floridahealth.gov/diseases-and-conditions/west-nile-virus/index.html>

³ Florida Department of Health. Surveillance and Control of Selected Mosquito-borne Diseases in Florida: 2014 Guidebook. http://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/_documents/2014/arboguide-2014.pdf

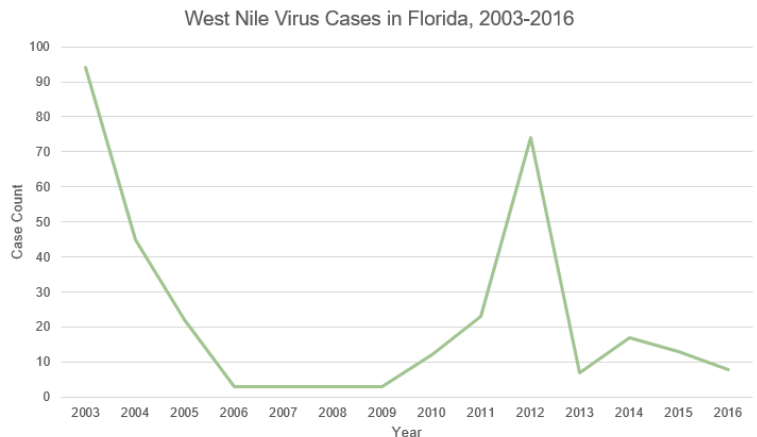


Figure 1. Confirmed and probable cases of West Nile Virus Neuroinvasive Disease and West Nile Virus Non-Neuroinvasive Disease reported in Florida. Data courtesy of Florida Health CHARTS, flhealthcharts.com.

NATIONAL IMMUNIZATION AWARENESS MONTH

National Immunization Awareness Month (NIAM) is held every August to highlight the importance of vaccination for people of all ages. NIAM is sponsored by the National Public Health Information Coalition (NPHIC). NPHIC and CDC developed communication toolkits to help public health agencies and healthcare providers educate people of all ages about the importance of vaccinations and the vaccines recommended for them. For more information and to access the toolkit, visit <https://www.nphic.org/niam>.

Healthcare professionals are a trusted source of information about vaccines, and a recommendation from a healthcare provider is the strongest predictor of whether patients get vaccinated. Unfortunately, there are many missed opportunities for vaccination because healthcare providers are not routinely assessing vaccination status. The National Vaccine Advisory Committee (NVAC) revised the Standards for Adult Immunization Practice in 2013⁴. These updated Standards call on ALL healthcare professionals— whether they provide vaccinations or not— to take steps to ensure that their patients are fully immunized.

1. **Assess immunization status of all your patients at every clinical encounter.** Stay informed on the latest CDC recommendations and implement protocols and policies to ensure that patients' vaccine needs are routinely reviewed and patients get reminders about vaccines they need.
2. **Strongly recommend vaccines that patients need.** Share tailored reasons why vaccination is right for the patient. Highlight positive experiences with vaccination and address patient questions and concerns. Remind patients that vaccines protect them and their loved ones against a number of common and serious diseases and explain the potential costs of getting sick.
3. **Administer or refer your patients to a vaccination provider.** Offer the vaccines you stock, and refer patients to other providers that offer vaccines you don't stock.
4. **Document vaccines received by your patients.** Participate in Florida's immunization registry, Florida Shots (<http://flshotsusers.com/>) to help your office, your patients, and your patients' other providers know which vaccines your patients have had. Follow up to confirm that patients received recommended vaccines that you referred them to get from other immunization providers.

⁴ Centers for Disease Control and Prevention. Standards for Adult Immunization Practice. <https://www.cdc.gov/vaccines/hcp/adults/for-practice/standards/index.html>

UPCOMING EVENTS

- ✦ **DOH-Nassau and the Partnership for a Healthier Nassau will be holding the 2018 Nassau Health Summit on September 26th from 1-5pm at the FSCJ Nassau Red Bean Center.** There will be an opportunity for organizations to share their service information, network then hear about the results of the MAPP Community Health Assessments conducted this Spring & Summer. More importantly, there will be a facilitated session to choose the top health issues to be addressed in the upcoming 2019-2021 Nassau Community Health Improvement Plan. For more information on reserving a free table to display at the Health Summit, please contact Mary von Mohr at 904-557-9133 or Mary.vonMohr@flhealth.gov.
- ✦ The Florida Health Grand Rounds is a monthly webinar presentation given by a researcher from one of Florida's colleges or universities and hosted by the Florida Department of Health. **On September 11th at 10:00am, Dr. Glenn Smith of the University of Florida will be presenting on Physical Exercise and Cognitive Engagement Outcomes for Mild Neurocognitive Disorder (PEACEOFMND).** As rates of Alzheimer's disease continue to climb, the necessity of developing a cure becomes more urgent. In his presentation Dr. Smith will discuss PEACEOFMND, which aims to examine the MRI, cognitive, mood, and functional ability outcomes in participating in physical vs. cognitive activity compared to an education group. For more information on Florida Health Grand Rounds and to register, visit: <https://register.gotowebinar.com/register/4737732224607612673>.

JULY 2018: REPORTED CASES IN NASSAU COUNTY

Confirmed, Probable, Suspect Cases of Multiple Diseases with Report Date 07/01/18 to 07/31/18 with Three-Year Period Comparison for Nassau County

Disease Name	Selection Date		Comparison Date 1		Comparison Date 2		Comparison Date 3	
	07/01/18-07/31/18		07/01/17-07/31/17		07/01/16-07/31/16		07/01/15-07/31/15	
	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent
NASSAU COUNTY								
Campylobacteriosis	5	22.7%	0	0.0%	1	4.8%	1	3.7%
Giardiasis, Acute	0	0.0%	1	3.7%	1	4.8%	2	7.4%
Haemophilus influenzae Invasive Disease	0	0.0%	2	7.4%	1	4.8%	0	0.0%
Hepatitis B, Chronic	0	0.0%	4	14.8%	1	4.8%	0	0.0%
Hepatitis B, Pregnant Women	0	0.0%	0	0.0%	0	0.0%	1	3.7%
Hepatitis C, Chronic	7	31.8%	10	37.0%	10	47.6%	14	51.9%
Lead Poisoning	0	0.0%	1	3.7%	0	0.0%	1	3.7%
Legionellosis	0	0.0%	0	0.0%	0	0.0%	1	3.7%
Lyme Disease	0	0.0%	0	0.0%	0	0.0%	1	3.7%
Pertussis	0	0.0%	1	3.7%	4	19.3%	0	0.0%
Rabies, Possible Exposure	1	4.5%	0	0.0%	0	0.0%	1	3.7%
Salmonellosis	9	40.9%	8	29.6%	3	14.3%	5	18.5%
TOTAL	22	100.0%	27	100.0%	21	100.0%	27	100.0%
STATEWIDE								
Campylobacteriosis	482	9.6%	433	8.3%	335	6.1%	356	7.2%
Giardiasis, Acute	98	2.0%	78	1.5%	86	1.6%	89	1.8%
Haemophilus influenzae Invasive Disease	23	0.5%	22	0.4%	15	0.3%	13	0.3%
Hepatitis B, Chronic	511	10.2%	399	7.7%	415	7.6%	415	8.4%
Hepatitis B, Pregnant Women	46	0.9%	46	0.9%	43	0.8%	55	1.1%
Hepatitis C, Chronic	1640	32.7%	2137	41.2%	2923	53.6%	2202	44.5%
Lead Poisoning	171	3.4%	359	6.9%	81	1.5%	81	1.6%
Legionellosis	42	0.8%	42	0.8%	31	0.6%	21	0.4%
Lyme Disease	31	0.6%	46	0.5%	44	0.8%	28	0.6%
Pertussis	39	0.8%	44	0.8%	28	0.5%	38	0.8%
Rabies, Possible Exposure	374	7.5%	302	5.8%	268	4.9%	284	5.7%
Salmonellosis	748	14.9%	660	12.7%	578	10.6%	730	14.8%
Other remaining conditions in FL (not shared with Nassau County)	808	16.1%	643	12.4%	609	11.2%	631	12.8%
TOTAL	5013	100.0%	5191	100.0%	5456	100.0%	4943	

Table 2. Confirmed, probable, and suspect case counts for reportable diseases and conditions in Nassau County and Florida, July 2015 through July 2018.

For more information on disease reporting and a list of reportable diseases and conditions, visit <http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/index.html>

EpiCom is the Florida Department of Health's disease outbreak communication system. This system is used to communicate essential information regarding public health issues to partners throughout the state. EpiCom is used by DOH staff and public health partners such as hospital infection control practitioners, physicians' offices, and school nurses. To request access please contact EpiCom.Administrator@flhealth.gov.

HEALTH BULLETINS, ADVISORIES & ALERTS**Press Releases & Public Information**

For additional information regarding press releases visit the DOH-Nassau website or Department of Health Online Newsroom at: <http://nassau.floridahealth.gov/> and <http://www.floridahealth.gov/newsroom/>

- ✦ Press Release 08/16/18: Health Officials Continue to Emphasize Precautionary Measures to Prevent Mosquito-borne Illness
- ✦ Press Release 08/23/18: Health Officials Reinforce Mosquito-borne Illness Advisory After First Human Case of West Nile Virus Infection

Protect yourself from mosquito-borne disease— Drain and Cover!

Nassau County is currently under a mosquito-borne illness advisory. Sentinel chickens throughout the county have tested positive for mosquito-borne diseases, and one human case of West Nile virus (WNV) infection has been reported in a Nassau County resident. Most human infections with WNV are asymptomatic or may result in a flu-like illness with fever and headache. Infection may, however, lead to encephalitis, with a fatal outcome or permanent neurologic sequelae. Fortunately, only a small proportion of infected people progress to having encephalitis.



Anyone living in an area where WNV is present can be infected and experience serious illness. The more time you're outdoors, the more time you could be bitten by an infected mosquito. Pay attention to preventing mosquito bites if you spend time outside, either working or playing. Serious illness can occur in people of any age. However, those over 60 years of age are at increased risk for severe disease. People with certain medical conditions, such as cancer, diabetes, hypertension, kidney disease, and people who have received organ transplants or who have a weakened immune system, are also at greater risk for serious illness.

Whether you're staying at home or traveling abroad, preventing mosquito bites is the best way to reduce the risk of mosquito-borne disease. Mosquitoes can be found in many different environments and you may not always notice when you have been bitten. Mosquito activity in Florida can be year round. The following are some steps that can be taken to help prevent mosquito bites.

DRAIN: water from garbage cans, house gutters, pool covers, coolers, toys, flower pots or any other containers where sprinkler or rain water has collected.

DISCARD: Old tires, drums, bottles, cans, pots and pans, broken appliances and other items that aren't being used.

EMPTY and CLEAN: Birdbaths and pet's water bowls at least once or twice a week.

PROTECT: Boats and vehicles from rain with tarps that don't accumulate water.

MAINTAIN: The water balance (pool chemistry) of swimming pools. Empty plastic swimming pools when not in use. Repair broken screens on windows, doors, porches, and patios.

CLOTHING: If you must be outside when mosquitoes are active, cover up. Wear shoes, socks, long pants, and long sleeves.

REPELLENT: Apply mosquito repellent to bare skin and clothing. Always use repellents according to the label. Repellents with DEET, picaridin, oil of lemon eucalyptus, para-menthane-diol, and IR3535 are effective. Use netting to protect children younger than 2 months.

For more information on mosquito bite prevention and repellent use, please visit <http://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/prevention.html>