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General Information

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and Epidemiology
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Environmental Health
(630) 682-7400

Immunizations
(630) 682-7400

Sexually
Transmitted Diseases
(630) 221-7553

HIV/AIDS
(630) 221-7553

Tuberculosis
(630) 221-7522

School Health
(630) 221-7300

Travel Clinic
(630) 682-7400

Animal Services
(630) 407-2800

Please contact
Communicable Disease
and Epidemiology at
(630) 221-7553
with suggestions
or to be added to the
distribution list.

The purpose of this two-page surveillance update is to promote the control and prevention of **communicable disease (CD)** by providing clinically relevant information and resources to healthcare professionals in DuPage County.



Under the Microscope West Nile Virus

For questions or to report suspect and known cases of West Nile virus disease, please call the DuPage County Health Department at (630) 221-7553.

Arthropod-borne viruses (arboviruses) are transmitted to humans primarily through the bites of infected vector mosquitoes and ticks. West Nile virus (WNV) is the leading cause of domestically acquired arboviral disease in the continental U.S.¹ WNV emerged in the U.S. in the New York metropolitan area in the fall of 1999. Since then, the virus, which can be transmitted to humans by the bite of an infected mosquito, has quickly spread across the country.²

Surveillance: In 2018, a total of 2,647 WNV disease cases, including 1,658 (63%) neuroinvasive cases, have been provisionally reported in the U.S.³ Most people are infected from June through September. Serious illness can occur in people of any age. However, **people over 60 years of age are at the greatest risk** for severe disease. People with **certain medical conditions**, such as cancer, diabetes, hypertension, kidney disease, and people who have received organ transplants, are also at greater risk for serious illness, which may rarely progress to coma and death.⁴

In Illinois, 176 WNV disease cases were reported in 2018, including 17 deaths (10%). As of 8/30/19, three WNV cases have been reported in Illinois in 2019, with no deaths reported.⁵ No WNV cases have been reported in DuPage County to date this year, compared to 18 cases reported for all of 2018, including one death (5%).

The key factors in determining the degree of West Nile virus activity are temperatures and rainfall. In **hot, dry weather**, mosquitoes that carry West Nile virus (primarily *Culex* mosquitoes) breed in stagnant water, like street catch basins and ditches, and multiply rapidly.⁶

Diagnosis: WNV disease should be considered in any person with a **febrile or acute neurologic illness who has had recent exposure to mosquitoes, blood transfusion, or organ transplantation**, especially during the summer months. The diagnosis should also be considered in any **infant born to a mother infected with WNV during pregnancy or while breastfeeding**. All cases should be reported to local public health authorities in a timely manner, toward early recognition of outbreaks and to implement control measures to reduce future infections.⁷

The incubation period for WNV disease is typically 2 to 6 days but ranges from 2 to 14 days and can be several weeks in immunocompromised people. An estimated 70-80% of human WNV infections are subclinical or asymptomatic. Most symptomatic persons experience an **acute systemic febrile illness** that often includes headache, weakness, myalgia, or arthralgia; gastrointestinal symptoms and a transient maculopapular rash also are commonly reported.⁷ **Severe illness can occur in people of any age; however, people over 60 years of age are at greater risk.** People with certain medical conditions, such as cancer, diabetes, hypertension, kidney disease, and people who have received organ transplants, are also at greater risk.⁴ **Less than 1% of infected persons develop neuroinvasive disease**, which typically manifests as meningitis, encephalitis, or acute flaccid paralysis. Rarely, cardiac dysrhythmias, myocarditis, rhabdomyolysis, optic neuritis, uveitis, chorioretinitis, orchitis, pancreatitis, and hepatitis have been described in patients with WNV disease.⁷

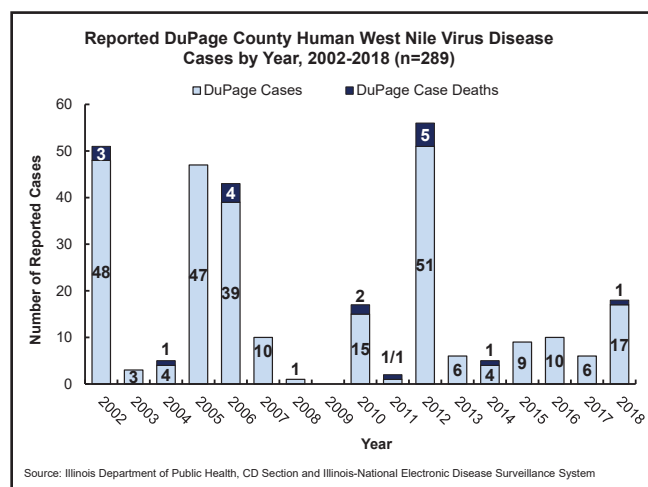
Diagnosis of WNV infection is based on a high index of clinical suspicion and obtaining **specific laboratory tests (e.g., detection of IgM antibody to WNV in serum and/or cerebral spinal fluid)**. Treatment is supportive, often involving hospitalization, intravenous fluids, respiratory support, and prevention of secondary infections for patients with severe disease.⁸

Prevention: In 2013, DuPage County launched the **Personal Protection Index (PPI)** to alert residents each year of the current WNV risk level and provide measures to protect themselves. The PPI was developed in conjunction with guidance from the Centers for Disease Control and Prevention and Association of State and Territorial Health Officials. Research and operational experience show that increases in WNV infection rates in mosquito populations can provide an indicator of developing outbreak conditions several weeks in advance of increases in human infections.⁹

Based on the DuPage County Health Department's review of human and mosquito surveillance data, the PPI widget is updated by 3:00 p.m. each Wednesday throughout the WNV season (see www.dupagehealth.org/WestNileVirus/PPI). The PPI recommends prevention tips based on the "4 Ds of Defense," which include **draining** standing water, using insect repellent to **defend** yourself, being especially careful between **dusk and dawn** (when mosquitoes are most active), and **dressing** with long sleeves and pants to cover your skin.

References:

- www.cdc.gov/mmwr/volumes/67/wr/mm6701a3.htm?s_cid=mm6701a3_w
- www.dph.illinois.gov/topics-services/diseases-and-conditions/west-nile-virus
- www.cdc.gov/westnile/statsmaps/index.html
- www.cdc.gov/westnile/index.html
- www.dph.illinois.gov/topics-services/diseases-and-conditions/west-nile-virus/surveillance
- www.dupagehealth.org/news/NewsReleaseIncreaseInWNVInDuPageCounty
- www.cdc.gov/westnile/healthCareProviders/healthCareProviders-ClinLabEval.html
- www.dph.illinois.gov/topics-services/diseases-and-conditions/west-nile-virus/hcp-info/clinician-info
- www.cdc.gov/westnile/resources/pdfs/wnvGuidelines.pdf



Source: Illinois Department of Public Health, CD Section and Illinois-National Electronic Disease Surveillance System

DUPAGE COUNTY HEALTH DEPARTMENT
CASES¹ OF REPORTABLE DISEASES*

* Last updated by the Illinois Department of Public Health, effective January 1, 2019.

CD REVIEW
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	Report Within	2019		2018		2017		2016		2015		Median	
		Jul	Jan-Jul	Jan-Jul	Total	Jan-Jul	Total	Jan-Jul	Total	Jan-Jul	Total	Jan-Jul	Total (*15-18)
Vaccine Preventable Diseases													
Chickenpox (varicella)	24 hrs	1	27	28	42	18	35	31	56	21	36	21	39
Diphtheria	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
<i>Haemophilus influenzae</i> , invasive	24 hrs	0	6	10	16	6	9	4	13	9	15	6	14
Hepatitis A	24 hrs	2	8	5	6	2	3	1	2	3	5	2	4
Hepatitis B (acute, chronic, perinatal)	7 days	11	72	56	93	59	100	67	124	79	139	59	112
Influenza, deaths in < 18 yrs old	7 days	0	1	0	0	0	0	0	0	0	0	0	0
Influenza, ICU admissions	24 hrs	0	80	113	125	68	121	63	69	33	43	63	95
Measles (rubeola)	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Mumps	24 hrs	2	5	9	12	7	8	7	11	4	8	7	9.5
<i>Neisseria meningitidis</i> , invasive	24 hrs	0	0	0	0	0	0	1	1	1	1	0	0.5
Pertussis (whooping cough)	24 hrs	4	22	11	34	10	36	62	105	16	49	11	42.5
Poliomyelitis	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rubella	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
<i>Streptococcus pneumoniae</i> , invasive disease, in those < 5 yrs old	7 days	1	3	2	6	1	1	2	2	0	0	1	1.5
Tetanus	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Other Communicable Diseases													
Anaplasmosis	7 days	0	0	0	0	1	1	1	1	2	3	1	1
Anthrax	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Arboviral Disease (other and unspecified) ²	7 days	0	0	0	0	1	2	1	1	0	0	0	0.5
Babesiosis	7 days	0	0	0	1	0	0	1	1	0	0	0	0.5
Botulism, foodborne	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Botulism, other	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Brucellosis	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Campylobacteriosis	7 days	15	102	92	160	95	161	100	173	NR	NR	93.5	161
Chikungunya virus disease	7 days	0	0	1	2	0	0	0	4	2	2	0	2
Cholera	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	7 days	5	17	20	31	6	18	7	18	2	5	6	18
Cyclosporiasis	7 days	8	14	137	141	7	7	3	5	1	1	7	6
Dengue virus infection	7 days	0	1	1	2	0	1	0	3	3	3	0	2.5
Ehrlichiosis	7 days	0	0	0	0	0	0	1	2	1	1	0	0.5
Enteric <i>E. coli</i> infections ³	24 hrs	5	19	24	39	16	23	19	24	9	14	16	23.5
Hantavirus pulmonary syndrome	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hemolytic uremic syndrome	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hepatitis C (acute, chronic, perinatal)	7 days	12	134	116	190	171	294	160	255	156	237	156	246
Hepatitis D	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Histoplasmosis	7 days	0	5	4	6	7	9	6	8	3	3	4	7
Influenza A, novel virus	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Legionellosis	7 days	11	19	20	37	18	28	13	34	7	18	13	31
Leptospirosis	7 days	0	0	0	0	1	1	0	0	0	0	0	0
Listeriosis	7 days	0	2	0	0	3	4	0	0	1	2	0	1
Lyme disease	7 days	7	20	19	27	25	36	21	34	23	30	21	32
Malaria	7 days	1	2	4	4	0	3	8	10	2	4	2	4
Ophthalmia neonatorum	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Plague	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Psittacosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Q fever	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, animal case	24 hrs	0	3	2	8	2	12	6	10	1	16	2	11
Rabies, human case	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, potential exposure	24 hrs	10	34	72	167	28	84	24	59	29	73	28	78.5
Spotted fever rickettsiosis	7 days	0	0	1	2	0	1	3	3	0	0	0	1.5
Salmonellosis	7 days	9	59	65	118	67	104	58	118	76	131	65	118
<i>Salmonella</i> Paratyphi infection ⁴	24 hrs	0	1	2	2	1	1	0	1	1	2	1	1.5
<i>Salmonella</i> Typhi infection	24 hrs	0	2	3	4	3	4	0	0	2	3	2	3.5
Severe Acute Respiratory Syndrome	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	7 days	3	16	5	10	6	14	13	21	10	27	6	17.5
Smallpox	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Smallpox vaccination, complications	24 hrs	0	0	1	1	0	0	0	0	0	0	0	0
<i>Staphylococcus aureus</i> (vancomycin-resistant)	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Streptococcal infections, group A invasive disease ⁵	24 hrs	1	20	24	33	18	24	12	18	15	22	15	23
Toxic shock syndrome ⁶	7 days	0	0	1	1	0	0	0	0	0	0	0	0
Trichinosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis	7 days	0	18	27	50	18	42	20	42	12	39	18	42
Tularemia	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Typhus	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Vibriosis (non-cholera)	7 days	1	6	8	14	5	6	4	6	1	4	4	6
West Nile virus disease	7 days	0	0	3	18	1	6	0	10	0	9	0	9.5
Zika virus disease	7 days	0	0	1	1	1	1	6	11	NR	NR	1	1
STDs, HIV and AIDS													
AIDS ⁷ (July - September)	7 days	--	4	12	15	10	12	9	12	12	13	11	12.5
Chancroid	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia	7 days	106	1118	1457	2545	1452	2495	1452	2417	1365	2382	1452	2456
Gonorrhea	7 days	18	220	244	443	231	451	225	390	175	307	225	416.5
HIV infection ^{7,8} (July - September)	7 days	--	19	21	24	32	39	31	43	45	56	31.5	41
Syphilis ⁹	7 days	3	36	39	73	35	55	39	59	20	42	35	57
Outbreaks¹⁰													
Foodborne	24 hrs	0	2	3	6	1	2	2	3	3	3	2	3
Foodborne Outbreak Cases	0	172	78	123	111	114	10	22	43	43	43	78.5	
Waterborne	24 hrs	0	0	0	0	0	0	1	1	0	0	0	0
Waterborne Outbreak Cases	0	0	0	0	0	0	2	2	0	0	0	0	
Person to Person	24 hrs	0	43	63	80	48	66	34	47	44	53	44	59.5
Person to Person Outbreak Cases	0	704	776	1162	529	1240	694	989	476	686	529	1075.5	
Other and Unspecified	24 hrs	0	0	0	1	0	0	0	0	0	0	0	0
Other and Unspecified Outbreak Cases	0	0	0	3	0	0	0	0	0	0	0	0	

DuPage County healthcare providers and hospitals **must report any suspected or confirmed case of these diseases** to the local health authorities within the number of hours or days indicated.

REPORTING NUMBERS:

Communicable Diseases

(630) 221-7553
 24 hours: (630) 682-7400

Tuberculosis

(630) 221-7522

STDs

(630) 221-7553

HIV/AIDS

(630) 221-7553

¹ Provisional cases, based on date of onset

² Including, but not limited to, California serogroup virus diseases, Eastern equine encephalitis virus disease, Powassan virus disease, St. Louis encephalitis virus disease, Western equine encephalitis virus disease, and yellow fever. Chikungunya virus disease, dengue virus infection, West Nile virus disease, and Zika virus disease are listed individually.

³ O157:H7, STEC

⁴ *Salmonella enterica* serotypes Paratyphi A, B [tartrate negative], and C

⁵ Includes streptococcal toxic shock syndrome and necrotizing fasciitis

⁶ Due to *Staphylococcus aureus*

⁷ HIV/AIDS data are provided quarterly by IDPH and are provisional, based on date of diagnosis.

⁸ HIV counts reflect all newly diagnosed HIV cases regardless of stage of disease at diagnosis.

⁹ Cases are provisional, based on test date per local health department investigation. Includes syphilis cases staged as primary, secondary, or early non-primary non-secondary.

¹⁰ Listed based on report submission date

NR = Not reported

Websites

CDC:
www.cdc.gov

IDPH:
www.dph.illinois.gov

DuPage:
www.dupagehealth.org

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www.dupagehealth.org/publications