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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 Care & Control
(630) 407-2800

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Communicable Disease
and Epidemiology at
(630) 221-7553 or
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to send 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 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 2013, a total of 2,469 WNV disease cases, including 1,267 (51%) neuroinvasive cases, were reported in the U.S. from 725 counties in 47 states and the District of Columbia. WNV disease cases peaked in early September; 90% of cases had illness onset during July–September. The median age of patients was 55 years; 1,425 (58%) were male. Overall, 1,494 (61%) patients were hospitalized, and 119 (5%) died. The median age of patients who died was 78 years.¹

Six states reported approximately half (51%) of the WNV neuroinvasive disease cases: California (237 cases), Texas (113), Colorado (90), Illinois (86), North Dakota (64), and Oklahoma (60). Neuroinvasive WNV disease incidence increased with age, with the highest incidence among persons aged ≥70 years. Among patients with neuroinvasive disease, 111 (9%) died.¹

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.²

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.³

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. **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.³

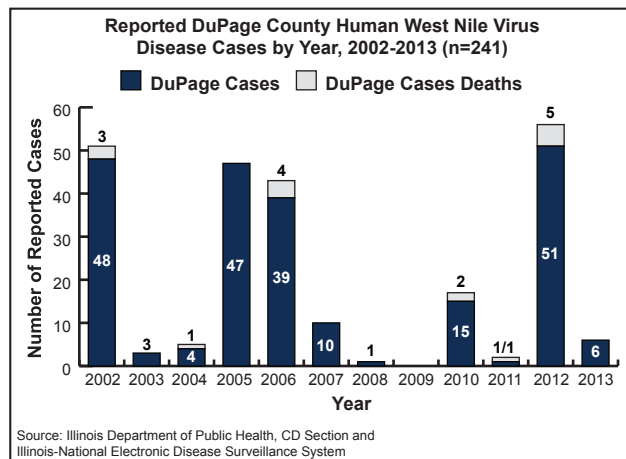
Diagnosis of WNV infection is based on a high index of clinical suspicion and obtaining **specific laboratory tests (e.g., detection of IgM antibody to WNV in serum and/or cerebral spinal fluid)**. Treatment is supportive, often involving hospitalization, intravenous fluids, respiratory support, and prevention of secondary infections for patients with severe disease.⁴

Prevention: In 2013, DuPage County launched the **Personal Protection Index (PPI)** to alert residents 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.⁵

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/ftb). 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:

1. www.cdc.gov/mmwr/pdf/wk/mm6324.pdf
2. www.idph.state.il.us/envhealth/wnv.htm
3. www.cdc.gov/westnile/healthCareProviders/healthCareProviders-ClinLabEval.html
4. www.idph.state.il.us/envhealth/wnvclinicians.htm
5. www.cdc.gov/westnile/resources/pdfs/wnvGuidelines.pdf



DUPAGE COUNTY HEALTH DEPARTMENT

CASES¹ OF REPORTABLE DISEASES*

* Last updated by the Illinois Department of Public Health in March 2008

CD REVIEW

Volume 10, No. 8 August 2014

Vaccine Preventable Diseases	Report Within	2014		2013		2012		2011		2010		Median	
		Jul	Jan-Jul	Jan-Jul	Total	Jan-Jul	Total	Jan-Jul	Total	Jan-Jul	Total	Jan-Aug	Total ('10-'13)
Chickenpox (varicella)	24 hrs	2	43	32	78	59	93	41	82	71	95	43	87.5
Diphtheria	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Haemophilus influenzae, invasive	24 hrs	0	3	5	10	9	11	8	15	4	7	5	10.5
Hepatitis A	24 hrs	0	6	2	4	4	8	4	8	2	3	4	6
Hepatitis B	7 days	0	1	2	3	3	5	0	0	1	4	1	3.5
Hepatitis B (carriers)	7 days	11	48	79	110	59	97	60	113	63	108	60	109
Influenza, deaths in < 18 yrs old	7 days	0	0	1	1	0	0	0	0	0	0	0	0
Influenza ICU admissions	24 hrs	0	43	52	78	8	64	24	24	0	3	24	44
Measles (rubeola)	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Mumps	24 hrs	0	1	0	0	1	1	2	3	0	2	1	1.5
Neisseria meningitidis, invasive	24 hrs	0	0	0	0	0	0	1	2	1	1	0	0.5
Pertussis (whooping cough)	24 hrs	1	11	20	43	148	195	111	268	23	92	23	143.5
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
Streptococcus pneumoniae, invasive disease, in those < 5 yrs old	7 days	0	2	3	4	3	5	9	13	4	8	3	6.5
Tetanus	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Other Communicable Diseases													
Anaplasmosis ²	7 days	1	1	0	0	1	2	2	3	0	0	1	1
Anthrax	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
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
California encephalitis ³	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Chikungunya fever ³	7 days	0	0	0	NR	0	NR	0	NR	0	NR	NR	NR
Cholera	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Creutzfeldt-Jakob disease	7 days	0	1	0	0	1	1	1	3	1	1	1	1
Cryptosporidiosis	7 days	0	0	1	7	2	2	3	5	2	5	2	5
Cyclosporiasis	7 days	0	0	3	4	0	0	0	0	0	0	0	0
Dengue fever ³	7 days	0	1	1	3	1	1	1	1	2	4	1	2
Ehrlichiosis ²	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Enteric E. coli infections ⁴	24 hrs	5	7	47	54	9	19	16	22	13	19	13	20.5
Glomerulonephritis ⁵	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hantavirus pulmonary syndrome	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hemolytic uremic syndrome	24 hrs	1	1	0	0	1	1	1	1	0	0	1	0.5
Hepatitis C (cases & carriers)	7 days	10	130	95	182	107	171	105	189	116	187	107	184.5
Hepatitis D	7 days	0	0	0	0	0	0	0	1	0	0	0	0
Histoplasmosis	7 days	0	3	0	1	2	2	0	1	2	2	2	1.5
Influenza A, novel virus	3 hrs	0	0	0	0	0	0	0	0	11	11	0	0
Legionellosis	7 days	2	13	20	39	8	25	4	14	7	11	8	19.5
Leprosy	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Leptospirosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Listeriosis	7 days	1	1	0	2	1	2	2	2	2	6	1	2
Lyme disease ²	7 days	2	9	32	39	23	27	21	32	12	19	21	29.5
Malaria	7 days	0	0	6	7	2	2	1	7	1	4	1	5.5
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	1	2	0	NR	0	NR	0	NR	0	NR	NR	NR
Rabies, human case	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, potential exposure	24 hrs	3	18	33	44	31	43	16	30	24	54	24	43.5
Reye syndrome	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Rheumatic fever ⁵	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rocky Mountain spotted fever ²	7 days	0	0	0	0	1	1	0	0	0	0	0	0
Salmonellosis	7 days	14	48	75	128	59	123	60	95	83	136	60	125.5
Severe Acute Respiratory Syndrome	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	7 days	1	8	9	18	9	20	9	22	261	277	9	21
Smallpox	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Smallpox vaccination, complications	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
St. Louis encephalitis ³	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Staphylococcus aureus, methicillin resistant (MRSA), in those < 61 days old	24 hrs	2	5	1	3	3	7	2	3	5	6	3	4.5
Staphylococcus aureus, methicillin resistant (MRSA), community cluster ⁶	24 hrs	0	0	0	0	1	1	0	0	1	1	0	0.5
Staphylococcus aureus (vancomycin-resistant)	24 hrs	0	0	0	0	0	0	0	1	1	1	0	0.5
Streptococcal infections, group A invasive disease ⁷	24 hrs	2	23	15	21	15	20	20	30	12	20	15	20.5
Toxic shock syndrome ⁸	7 days	0	0	1	1	0	0	1	1	0	0	0	0.5
Trichinosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis	7 days	5	14	18	35	13	26	14	18	18	26	14	26
Tularemia	3 hrs	0	0	0	0	0	1	0	0	0	0	0	0
Typhoid fever	24 hrs	0	1	0	2	1	2	3	3	2	3	1	2.5
Typhus	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Vibriosis (non-cholera)	7 days	0	0	1	2	2	4	0	3	0	1	0	2.5
West Nile disease ³	7 days	0	0	0	6	4	56	0	2	0	17	0	11.5
Yersiniosis	7 days	0	1	1	2	3	3	2	3	0	0	1	2.5
STDs, HIV and AIDS													
AIDS ⁹ (July - September)	7 days	--	7	21	25	12	17	13	16	24	26	4.5	21
Chancroid	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia	7 days	135	1048	1067	1883	1065	1861	884	1599	908	1542	1048	1730
Gonorrhea	7 days	11	102	152	258	147	239	130	241	136	223	136	240
HIV infection ⁹ (July - September)	7 days	--	10	21	28	15	20	19	24	24	27	8.5	25.5
Syphilis ¹⁰	7 days	3	19	20	34	10	19	18	24	14	25	18	24.5

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 Listed in CD Rules and Regulations under "Tickborne Disease"

³ Listed in CD Rules and Regulations under "Arboviral Infections"

⁴ O157:H7, STEC, EIEC, ETEC, EPEC

⁵ Listed in CD Rules and Regulations under "Streptococcal infections, group A invasive disease sequelae"

⁶ Two or more laboratory-confirmed cases of community onset MRSA infection during a 14 day period

⁷ Includes streptococcal toxic shock syndrome and necrotizing fasciitis

⁸ Due to *Staphylococcus aureus*

⁹ HIV/AIDS data are provided quarterly by IDPH and are provisional, based on date of diagnosis

¹⁰ Cases are provisional based on test date per local health department investigation.

NR = Not reported

** = Count of 5 cases or less

Websites

CDC:

www.cdc.gov

IDPH:

www.idph.state.il.us

DuPage:

www.dupagehealth.org

Archived issues of CD Review are available at:

www.dupagehealth.org/publications