



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.



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### General Information

Communicable Disease and Epidemiology  
(630) 221-7553

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

Please contact Communicable Disease and Epidemiology at (630) 221-7553 or palak.panchal@dupagehealth.org to send suggestions or to be added to the distribution list.

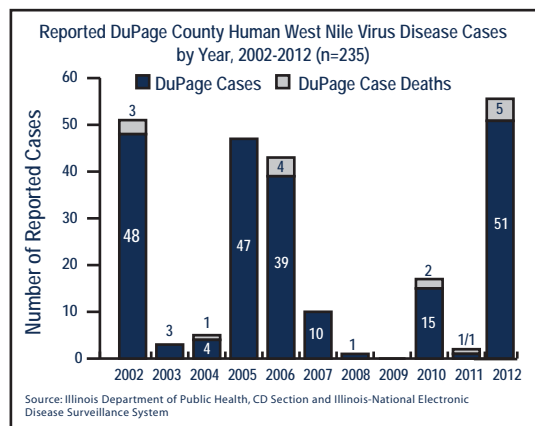


## Under the Microscope West Nile Virus

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.<sup>1</sup> 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.<sup>2</sup>

**Surveillance:** In 2012, a total of 5,674 WNV disease cases, including 2,873 (51%) neuroinvasive cases, were reported in the U.S. from 976 counties in 48 states, the District of Columbia, and Puerto Rico (Alaska and Hawaii have never reported a case of WNV disease). WNV disease cases peaked in late August, with 5,199 (92%) cases having illness onset during July–September. The median age of patients was 56 years; 3,193 (56%) were male. Overall, 3,491 (62%) patients were hospitalized, and 286 (5%) died. The median age of patients who died was 77 years.<sup>1</sup>



Four states reported over half of the WNV neuroinvasive disease cases: Texas (844 cases), California (297), Illinois (187), and Louisiana (155). Neuroinvasive WNV disease incidence increased with age, with the highest incidence among persons aged ≥70 years. Among patients with neuroinvasive disease, 270 (9%) died.<sup>1</sup>

Reported numbers of arboviral disease cases vary from year to year, and it is not clear why more WNV activity occurred in 2012 than in recent years. The weather, numbers of birds that maintain the virus, numbers of mosquitoes that spread the virus (primarily *Culex* mosquitoes), and human behavior are all factors that can influence when and where outbreaks occur. Because of this complex ecology, it is difficult to predict how many cases of disease might occur in the future and in what areas.<sup>1</sup>

**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.<sup>3</sup>

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.<sup>3</sup>

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.<sup>4</sup>

**Prevention:** This summer, 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.<sup>5</sup>

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 WNV season (see [www.dupagehealth.org/PPI](http://www.dupagehealth.org/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:

1. [www.cdc.gov/mmwr/pdf/wk/mm6225.pdf](http://www.cdc.gov/mmwr/pdf/wk/mm6225.pdf)
2. [www.idph.state.il.us/envhealth/wnv.htm](http://www.idph.state.il.us/envhealth/wnv.htm)
3. [www.cdc.gov/westnile/healthCareProviders/healthCareProviders-ClinLabEval.html](http://www.cdc.gov/westnile/healthCareProviders/healthCareProviders-ClinLabEval.html)
4. [www.idph.state.il.us/envhealth/wnvclinicians.htm](http://www.idph.state.il.us/envhealth/wnvclinicians.htm)
5. [www.cdc.gov/westnile/resources/pdfs/wnvGuidelines.pdf](http://www.cdc.gov/westnile/resources/pdfs/wnvGuidelines.pdf)

**DUPAGE COUNTY HEALTH DEPARTMENT**  
**CASES<sup>1</sup> OF REPORTABLE DISEASES\***

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

**CD REVIEW**  
**Volume 9, No. 7 July 2013**

	Report Within	2013		2012		2011		2010		2009		Median Total ('09-'12)	
		Jun	Jan-Jun	Jan-Jun	Total	Jan-Jun	Total	Jan-Jun	Total	Jan-Jun	Total	Jan-Jun	Total
<b>Vaccine Preventable Diseases</b>													
Chickenpox (varicella)	24 hrs	4	26	51	93	40	82	69	95	85	146	51	94
Diphtheria	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
<i>Haemophilus influenzae</i> , invasive	24 hrs	1	4	6	11	8	15	4	7	5	11	5	11
Hepatitis A	24 hrs	1	2	1	8	3	8	2	3	2	6	2	7
Hepatitis B	7 days	0	1	3	5	0	0	1	4	4	8	1	4.5
Hepatitis B (carriers)	7 days	13	60	51	97	49	113	53	108	58	127	53	110.5
Influenza, deaths in < 18 yrs old	7 days	0	1	0	0	0	0	0	0	0	1	0	0
Influenza, ICU admissions	24 hrs	0	52	8	59	24	24	0	3	NR	NR	16	24
Measles (rubeola)	24 hrs	0	0	0	0	0	0	0	0	1	1	0	0
Mumps	24 hrs	0	0	1	1	2	3	0	2	2	2	1	2
<i>Neisseria meningitidis</i> , invasive	24 hrs	0	0	0	0	1	2	1	1	3	6	1	1.5
Pertussis (whooping cough)	24 hrs	3	17	128	195	83	268	17	92	10	26	17	143.5
Poliomyelitis	24 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	0	2	2	5	9	13	4	8	6	8	4	8
Tetanus	7 days	0	0	0	0	0	0	0	0	0	0	0	0
<b>Other Communicable Diseases</b>													
Anaplasmosis <sup>2</sup>	7 days	0	0	1	2	1	3	0	0	0	0	0	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 <sup>3</sup>	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Cholera	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Creutzfeldt-Jakob disease	7 days	0	0	0	1	1	3	1	1	0	0	0	1
Cryptosporidiosis	7 days	0	0	1	2	0	5	2	5	3	5	1	5
Cyclosporiasis	7 days	0	2	0	0	0	0	0	0	1	1	0	0
Dengue fever <sup>3</sup>	7 days	0	1	0	1	1	1	2	4	0	4	1	2.5
Ehrlichiosis <sup>2</sup>	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Enteric <i>E. coli</i> infections <sup>4</sup>	24 hrs	31	37	7	18	7	22	9	18	6	12	7	18
Giardiasis	7 days	2	11	22	34	7	44	24	49	17	40	17	42
Glomerulonephritis <sup>5</sup>	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	0	0	0	1	0	1	0	0	0	0	0	0.5
Hepatitis C (cases & carriers)	7 days	8	81	97	171	76	189	101	187	119	213	97	188
Hepatitis D	7 days	0	0	0	0	0	1	0	0	0	0	0	0
Histoplasmosis	7 days	0	0	2	2	0	1	2	2	1	2	1	2
Influenza A, novel virus	3 hrs	0	0	0	0	0	0	11	11	44	181	0	5.5
Legionellosis	7 days	5	11	6	25	2	14	6	11	4	13	6	13.5
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	0	0	0	2	1	2	1	6	1	3	1	2.5
Lyme disease <sup>2</sup>	7 days	13	13	14	27	3	32	7	19	5	18	7	23
Malaria	7 days	1	4	1	2	1	7	1	4	2	4	1	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 <sup>6</sup>	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, human case	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, potential exposure	24 hrs	12	24	18	43	5	30	15	54	7	15	15	36.5
Reye syndrome	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Rheumatic fever <sup>5</sup>	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rocky Mountain spotted fever <sup>4</sup>	7 days	0	0	0	1	0	0	0	0	0	0	0	0
Salmonellosis	7 days	14	59	49	123	34	95	54	136	40	89	49	109
Severe Acute Respiratory Syndrome	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	7 days	1	6	8	20	7	22	258	277	5	12	7	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 <sup>3</sup>	7 days	0	0	0	0	0	0	0	0	0	0	0	0
<i>Staphylococcus aureus</i> , methicillin resistant (MRSA), in those < 61 days old	24 hrs	1	1	2	7	1	3	5	6	4	6	2	6
<i>Staphylococcus aureus</i> , methicillin resistant (MRSA), community cluster <sup>7</sup>	24 hrs	0	0	1	1	0	0	1	1	0	1	0	1
<i>Staphylococcus aureus</i> (vancomycin-resistant)	24 hrs	0	0	0	0	0	1	1	1	0	0	0	0.5
Streptococcal infections, group A invasive disease <sup>8</sup>	24 hrs	3	15	13	20	19	30	11	20	9	14	13	20
Toxic shock syndrome <sup>9</sup>	7 days	0	1	0	0	1	1	0	0	0	0	0	0
Trichinosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis	7 days	3	16	11	26	9	18	17	26	14	29	14	26
Tularemia	3 hrs	0	0	0	1	0	0	0	0	0	0	0	0
Typhoid fever	24 hrs	0	0	1	2	3	3	2	3	3	5	2	3
Typhus	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Vibriosis (non-cholera)	7 days	0	0	1	4	0	3	0	1	1	2	0	2.5
West Nile disease <sup>3</sup>	7 days	0	0	0	56	0	2	0	17	0	0	0	9.5
Yersiniosis	7 days	0	1	3	3	2	3	0	0	2	5	2	3
<b>STDs, HIV and AIDS</b>													
AIDS <sup>10</sup> (April - June)	7 days	**	11	9	17	**	16	17	26	8	19	**	18
Chancroid	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia	7 days	88	784	879	1650	593	1599	766	1542	798	1555	784	1577
Gonorrhea	7 days	11	116	116	196	81	241	108	223	106	225	108	224
HIV infection <sup>10</sup> (April - June)	7 days	**	9	10	20	**	24	21	27	20	40	8.5	25.5
Syphilis	7 days	0	3	10	12	16	24	10	25	17	33	10	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

<sup>1</sup> Provisional cases, based on date of onset

<sup>2</sup> Listed in CD Rules and Regulations under "Tickborne Disease"

<sup>3</sup> Listed in CD Rules and Regulations under "Arboviral Infections"

<sup>4</sup> O157:H7, STEC, EIEC, ETEC, EPEC

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

<sup>6</sup> Q fever case in 2004 not related to any suspected bioterrorism threat or event

<sup>7</sup> Two or more laboratory-confirmed cases of community onset MRSA infection during a 14 day period

<sup>8</sup> Includes streptococcal toxic shock syndrome and necrotizing fasciitis

<sup>9</sup> Due to *Staphylococcus aureus*

<sup>10</sup> HIV/AIDS data are provided quarterly by IDPH and are provisional, based on date of diagnosis

NR = Not reported

\*\* = Count of 5 cases or less

**Websites**

**CDC:**  
[www.cdc.gov](http://www.cdc.gov)

**IDPH:**  
[www.idph.state.il.us](http://www.idph.state.il.us)

**DuPage:**  
[www.dupagehealth.org](http://www.dupagehealth.org)

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