



Epi Data Tables

New York City Department of Health and Mental Hygiene

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West Nile Virus among New York City Residents, 1999-2012

Data Tables

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Data Sources

Data presented are based on case surveillance of West Nile virus (WNV) illness conducted between 1999 and 2012 by the New York City Health Department. Positive WNV laboratory reports and reports from medical providers were investigated by interviewing the medical provider and patient or a family member. Cases were categorized as West Nile Fever (WNF) or West Nile Neuroinvasive Disease (WNND).

Surveillance for WNV has occurred in two phases.

Phase 1: From 1999 through 2005, through active surveillance, the Health Department investigated all cases of aseptic meningitis and encephalitis, conditions associated with WNV that must be reported to the Health Department. Staff arranged to collect and transport diagnostic specimens obtained from hospitalized patients to the Health Department's Public Health Laboratory (PHL) where WNV testing was conducted.

Phase 2: Because of increased availability of commercial testing, surveillance transitioned to the current, more passive system between 2006 and 2012. The Health Department discontinued transportation of diagnostic specimens to PHL in 2006 and routine WNV testing at PHL in 2010. Laboratory WNV test results are reported directly to the Health Department.

Additional data were gathered via comprehensive review of medical charts for patients diagnosed with WNND from 1999-2009.

[To access the related Epi Data Brief, go to \[www.nyc.gov/html/doh/downloads/pdf/epi/databrief31.pdf\]\(http://www.nyc.gov/html/doh/downloads/pdf/epi/databrief31.pdf\)](http://www.nyc.gov/html/doh/downloads/pdf/epi/databrief31.pdf)

Table 1: Characteristics of reported West Nile virus cases, overall and by type of illness, NYC, 1999-2012
Source: NYC Department of Health and Mental Hygiene Bureau of Communicable Disease

	All reported West Nile virus (WNV) cases		Disease Type			
	N	(%)	West Nile fever (WNF)		West Nile neuroinvasive disease (WNND)	
	N	(%)	N	(%)	N	(%)
Overall	292		53	18	239	82
Age Category						
<20	12	4	6	11	6	3
20-29	13	5	4	8	9	4
30-39	26	9	8	15	18	8
40-49	31	11	9	17	22	9
50-59	41	14	13	25	28	12
60-69	60	21	7	13	53	22
70-79	65	22	4	8	61	26
80+	44	15	2	4	42	18
Gender						
Female	122	42	29	55	93	39
Male	170	58	24	45	146	61
Race/Ethnicity						
Asian*	3	1	0	0	3	1
Black*	21	7	2	4	19	8
Hispanic	23	8	3	6	20	8
White*	151	52	11	21	140	59
Other*	3	1	0	0	3	1
Unknown	91	31	37	70	54	23
Borough						
Bronx	45	15	5	9	40	17
Brooklyn	51	18	13	25	38	16
Manhattan	33	11	12	23	21	9
Queens	110	38	11	21	99	41
Staten Island	53	18	12	22.6	41	17

* non-Hispanic

Table 2: West Nile virus disease clinical presentation and outcomes, NYC, 1999-2009

Source: NYC Department of Health and Mental Hygiene Bureau of Communicable Disease

Characteristic	n*	%
Signs & Symptoms		
Fever	153 / 166	92%
Headache	92 / 157	59%
Stiff Neck	50 / 154	33%
Photophobia	34 / 141	24%
Fatigue	110 / 150	73%
Muscle Pain	66 / 154	43%
Muscle Weakness	121 / 162	75%
Rash	34 / 159	21%
Nausea	96 / 155	62%
Diarrhea	46 / 155	30%
Vomiting	79 / 157	50%
Altered Mental Status	100 / 164	61%
Seizures	26 / 164	16%
Comorbid Medical Conditions		
Hypertension	86 / 147	59%
Diabetes	41 / 136	30%
Cardiac Disease	22 / 128	17%
Lung Disease	22 / 128	17%
Hepatitis	7 / 122	6%
Pancreatitis	2 / 119	2%
Seizures	5 / 126	4%
Cancer	27 / 129	21%
HIV	5 / 107	5%
Immunocompromise	11 / 120	9%
Outcomes and Hospital Information		
Length of stay in hospital median	11 days	
Death	26 / 166	16%
Admitted to ICU	57 / 152	38%
Length of stay in ICU median	7.5 days	
Intubated	31 / 150	21%

*Medical records were reviewed and interviews conducted for 166 case patients between 1999 and 2009. Denominator indicates the number of cases for which information was available and varies due to missing data and changes in the questionnaire over time.

Table 3. West Nile virus cases syndromes, median ages, and deaths by year, NYC, 1999-2012

Source: NYC Department of Health and Mental Hygiene Bureau of Communicable Disease

Year	Cases	Syndrome		Median age*		Deaths**	
		West Nile neuroinvasive disease	West Nile fever	Years	Range	#	Case fatality in WNND*
2012	41	26	15	58	(1-88)	6	23%
2011	11	9	2	69	(41-86)	2	22%
2010	42	34	8	58.5	(19-87)	1	3%
2009	3	3	0	63	(60-73)	0	0%
2008	15	8	7	60	(33-86)	1	13%
2007	18	13	5	64	(8-90)	5	38%
2006	12	8	4	51.5	(22-80)	2	25%
2005	14	11	3	61	(27-84)	2	18%
2004	5	2	3	28	(1-66)	0	0%
2003	32	31	1	67	(8-93)	7	23%
2002	29	28	1	72	(22-86)	3	11%
2001	9	7	2	46	(28-75)	1	14%
2000	14	14	0	62	(36-87)	1	7%
1999	47	45	2	69	(5-90)	4	9%
TOTAL	292	239	53	63	(1-93)	35	15%

*Median age and case fatality rate calculated for neuroinvasive cases only

**Data on deaths may be incomplete; only deaths that are reported to New York City Health Department are captured.

Table 4: West Nile virus (WNV) rates per 100,000 by age group and syndrome, NYC, 1999-2012*Source: NYC Department of Health and Mental Hygiene Bureau of Communicable Disease*

Age Category	West Nile neuroinvasive disease		West Nile fever		Total West Nile virus	
	#	rate avg	#	rate avg	#	rate avg
<20	6	0.02	6	0.02	12	0.04
20-29	9	0.05	4	0.02	13	0.07
30-39	18	0.10	8	0.04	26	0.14
40-49	22	0.14	9	0.06	31	0.19
50-59	28	0.21	13	0.09	41	0.30
60-69	53	0.59	7	0.07	60	0.66
70-79	61	1.03	4	0.07	65	1.10
80+	42	1.12	2	0.05	44	1.17
Total	239	0.41	53	0.05	292	0.46