West Nile virus and other arboviral activity:

Weekly Summary, Michigan 2012

August 24, 2012

This update includes provisional data reported to the Michigan Department of Community Health for January 1 – August 24, 2012 for notifiable arboviral disease caused by West Nile, Eastern equine encephalitis, La Crosse, Powassan, and St. Louis encephalitis viruses.

4,287

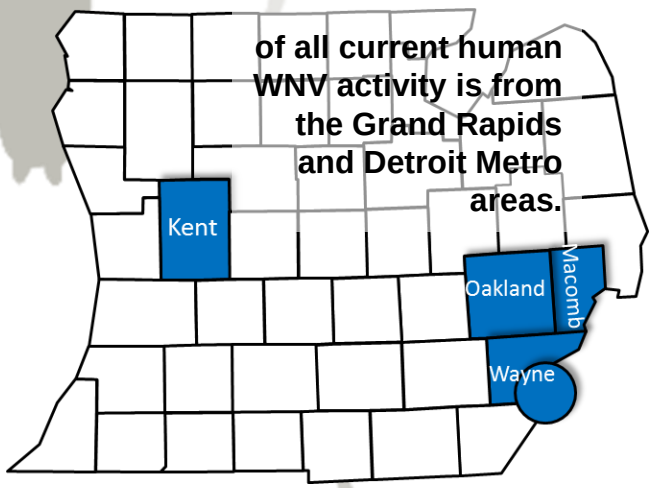
Mosquito pools tested for arbovirus infection so far in 2012. Fifteen pools have tested positive for WNV.

59

The median age among WNV cases is 59 years. The range is 18-86 years.

89%

of all current human WNV activity is from the Grand Rapids and Detroit Metro areas.



West Nile virus (WNV) activity in 2012

Reported WNV disease cases: As of August 24, 2012, there have been 57 human cases of WNV disease reported from ten Michigan counties. Of these cases, 50 (88%) were classified as neuroinvasive disease (e.g., meningitis, encephalitis, acute flaccid paralysis) and seven (12%) as non-neuroinvasive disease (Table 1). Dates of illness onset for disease range from July 13 – August 19.

Presumptive viremic blood donors: A total of 22 WNV presumptive viremic blood donors have been reported in Michigan. Nine donors were from Kent County and six donors were from Wayne County including one resident from the City of Detroit. Other counties with positive donors include Ingham, Livingston, Macomb, and Oakland. Most people who are infected with WNV do not develop an illness but virus might be temporarily present in their blood. These asymptomatic but infected people are detected through routine blood donor screening, which provides an important early warning of WNV activity in an area.

Comparison to 2011 data: Figure 1 displays the onset dates of human WNV cases in 2012 compared to 2011. Fifty-seven cases is the highest number of cases reported for this time of year since the mosquito-borne disease was first detected in Michigan citizens during the 2002 outbreak.

Ecological Surveillance: WNV activity is widespread in Michigan. Recent detections of WNV in mosquito pools have come from Wayne, Saginaw, Bay, and Midland counties. Several American Crows submitted the week of August 19 from Bay, Clinton, and Saginaw counties have tested positive for WNV. Current and previous human and ecologic surveillance results are compiled in Figures 2 and 3.

http://www.michigan.gov/westnilevirus

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Table 1. Human West Nile virus infections reported in Michigan, 2012, by county and reported clinical syndrome.

Human West Nile virus (WNV) infections reported, Michigan, 2012 (as of 08/24/2012)					
	Reported human disease cases				
County	Neuroinvasive disease cases	Non-neuroinvasive disease cases	Total cases	Deaths	Presumptive viremic blood donors
Allegan	0	1	1	0	0
Ingham	1	1	2	0	1
Lapeer	1	0	1	0	0
Livingston	0	0	0	0	1
Kent	10	0	10	0	9
Macomb	8	2	10	0	2
Muskegon	1	0	1	0	0
Oakland	7	0	7	0	3
Washtenaw	2	0	2	1	0
Wayne	10	2	12	1	5
City of Detroit	10	1	11	1	1
Totals	**50**	**7**	**57**	**3**	**22**

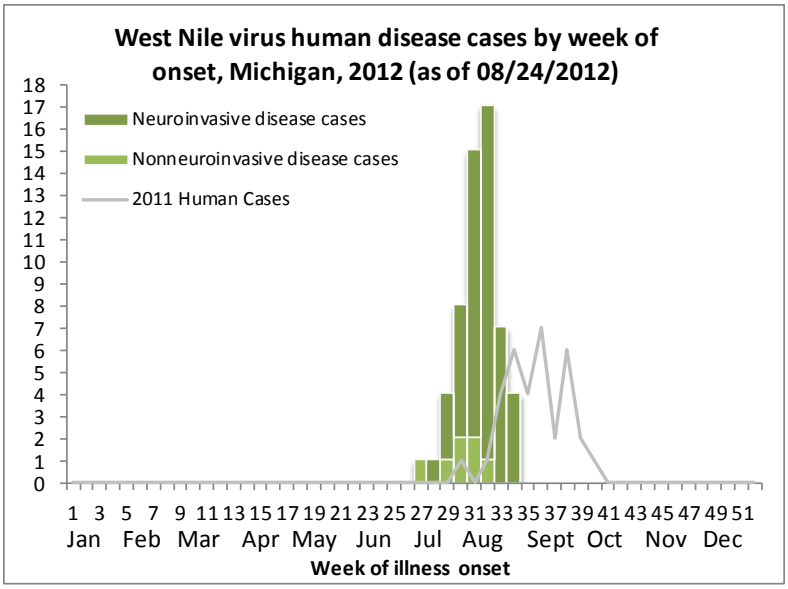

Figure 1 (left). Illness onset of WNV human cases in Michigan, 2012 (green bars), compared to 2011 (gray line). Reported human illness case onsets in 2012 began two-weeks earlier than in 2011 and have surpassed all previous years besides 2002.

Figure 2 (below left). Reported WNV human illnesses or presumptive viremic blood donors in Michigan, 2012, by county of residence.

Figure 3 (below right). Reported mosquito, domestic animal, and wildlife species testing positive for WNV in Michigan, 2012.