

July 2013

*CDInfo is a surveillance newsletter intended to promote prevention of morbidity and mortality by providing useful data and practical recommendations for clinicians, laboratorians, and infection control personnel who diagnose, treat or report infectious diseases in Chicago.*

## West Nile Virus

Now that warm weather has arrived, levels of outdoor activities increase along with health concerns such as [West Nile virus \(WNV\)](#)<sup>1</sup>. WNV is spread through the bite of infected mosquitoes, and infections can be asymptomatic or can manifest as West Nile fever, meningitis, encephalitis and acute flaccid paralysis. WNV was first detected in Chicago in 2001 among dead birds. The following year, Chicago faced its largest epidemic during which 225 human cases were reported, including 22 fatalities. In subsequent years WNV case counts in Chicago peaked in 2005, however this was surpassed by the 2012 season with 60 cases (Figure 1).

### Summary of the 2012 Season

**Mosquito Surveillance.** CDPH used 76 adult mosquito traps in Chicago in 2012. From May through October, mosquitoes were trapped, identified, and tested for WNV to determine the risk of human infection in different areas of the city. Overall, the risk of WNV infection in Chicago in the summer of 2012 was relatively high. CDPH tested 2,478 mosquito pools, of which 437 (17.6 %) were positive for WNV. The WNV transmission period was longer than usual, lasting from early July to late September. In total, WNV-infected mosquitoes were identified in 40 of Chicago's 77 community areas. The long transmission period also likely contributed to the increase in cases.

**Human Case Surveillance.** In 2012, 60 human cases of WNV infection, including four fatalities, were reported in Chicago. The ages of cases ranged from 15-81 years with a median age of 56 years. Fifty-three percent of cases were male. Dates of symptom onset for all cases ranged from July 1 to October 8.

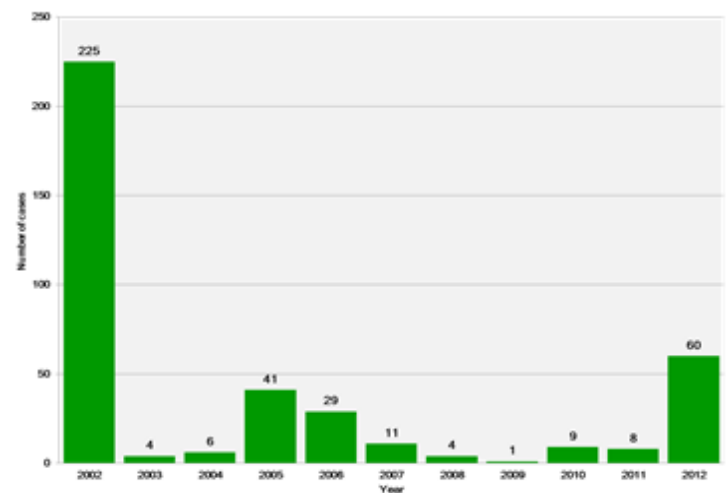
It is likely that the above normal temperatures combined with drought resulted in more WNV activity in mosquitoes and more human cases. The risk of human infection was highest in August and early September, with infection rates among wild mosquitoes as high as 22% during some weeks.

**Larval Mosquito Control.** As in previous years, CDPH has utilized a targeted larviciding approach which focused on areas that have continuous mosquito activity for WNV as well as human cases. Over 90,000 catch basins within the city were treated in May with larvicide (Fourstar XR®) to limit mosquito breeding and reduce the adult mosquito population density.

After larvicide treatments, 84% of catch basins in the city were not breeding mosquitoes.

**Adult Mosquito Control.** In order to reduce the risk of human infections, the CDPH Environmental Health program performed targeted insecticide spraying of adult mosquitoes, also known as adulticiding. Adulticide (Zenivex®) was used on 11 occasions in July through late August.

**Figure 1. Number of reported confirmed and probable cases of West Nile virus among Chicago residents by year, 2002-2012.**



### 2013 WNV Season

When adult mosquito control becomes necessary, CDPH will provide advance notice to the public through press releases which can be found on the Environmental Health [homepage](#)<sup>2</sup>. Larviciding efforts occurred in May and surveillance started in June.

In Illinois, WNV cases are reportable to the local health department within seven days via the Illinois National Electronic Disease Surveillance System (INEDSS). Human specimens (serum and cerebrospinal fluid) will be accepted by the IDPH laboratory beginning May 15, 2013 and ending October 31, 2013. Healthcare providers must obtain [authorization](#)<sup>3</sup> from CDPH before submitting specimens to the state laboratory.

Healthcare providers and laboratories should direct all requests for laboratory testing to the Communicable Disease Program at 312-746-5925 or 312-746-6225.

Weekly updates on WNV activity in Chicago will be distributed via the Health Alert Network and on the Environmental Health homepage under [West Nile Virus Surveillance Reports](#)<sup>4</sup>.