

Inside this Issue

West Nile Virus...1 & 2
Gonorrhea.....3
Hurricane Katrina.....3 & 4

WEST NILE VIRUS

Spring is here! And summer isn't far behind. As we look forward to the warm weather and outdoor activities, it's time to start thinking about West Nile Virus (WNV), which is considered endemic in Michigan.

Epidemiology

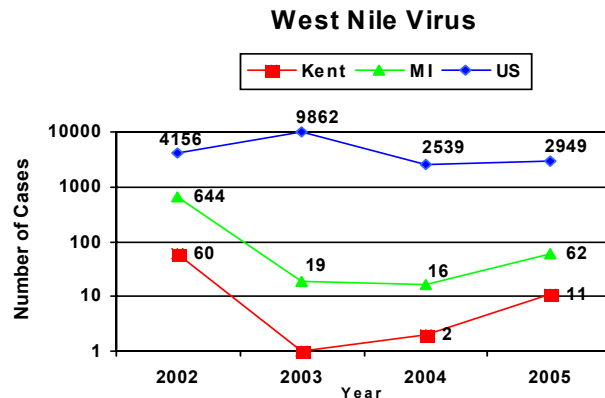
Following the epidemic/epizootic year of 2002, Michigan experienced two years of low case levels (see chart). However, in 2005, there was an increase to 62 confirmed cases statewide. Annual patterns observed at the Kent County level have been similar to State patterns. **The reason for the variability from year to year is yet to be determined.** Research suggests dry and hot weather conditions help amplify the virus in birds and mosquitoes. In the 1999 outbreak in New York, WNV cases "were clustered in an area with higher vegetation cover, indicating favorable mosquito habitat." In a 2002 outbreak in Chicago, cases occurred in areas with more vegetation, older housing, lower population density, predominance of older Caucasian residents, and proximity to birds, but factors were influenced by variations in mosquito abatement practices. (CDC, 2005)

Surveillance

Surveillance in humans and domesticated and wild animals is vital to characterizing the epidemiology of WNV.

Mosquitoes

In 2004, 4,000 mosquito pools were tested; 55 positive pools were detected in nine Michigan counties. *Culex species* mosquitoes continue to be the primary species transmitting WNV to humans. **New research suggests that the *Culex sp.***



shift their feeding behavior from birds to mammals in late July and August. This is consistent with the temporal pattern of reported human disease in Kent County. Mosquito testing is available at Michigan State University's Department of Microbiology and Molecular Genetics.

Corvids

Most species of birds can be infected with WNV. Recent surveillance activities in the northeastern region of the United States suggest that the American Robin may be the most common reservoir for WNV, even though corvids (crows, bluejays and ravens) are the most appropriate

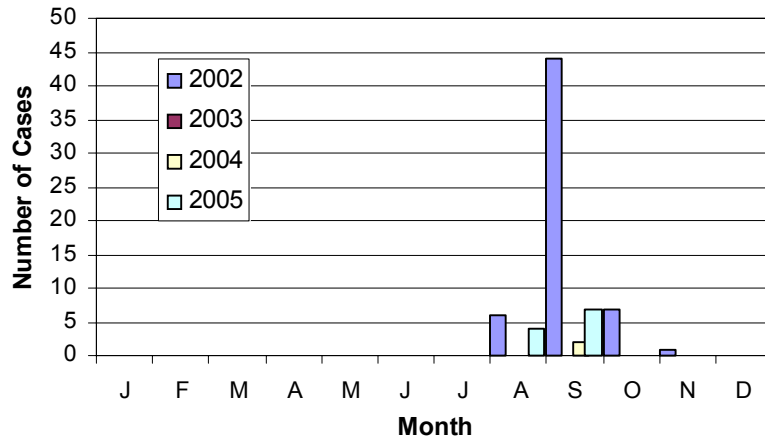
QUICK FACTS:

- Peak levels of corvid deaths usually precede the onset of the first annual human case by two weeks.

- The American Robin may be the most common reservoir for WNV.

- Most human infections are mild, with symptoms including fever, headache, and body aches, occasionally with skin rash and swollen lymph glands.

WNV Cases In Kent County by Month Reported



West Nile Virus cont'd

sentinel to predict the onset of human infection each year. This is because corvids are likely to die quickly. Research has shown that peak levels of corvid deaths usually precede the onset of the first annual human case by two weeks. The Diagnostic Center for Population and Animal Health (DCPAH) will be testing specimens from dead corvids again this year. Reports of dead corvids can be received at www.michigan.gov/emergingdiseases.

Domestic/Wild Animals

In 2005, there were 13 equine cases of WNV. Animal disease reports are accepted by the Michigan Department of Agriculture. Domestic animal testing is available at the owner's expense through the DCPAH. Wildlife testing will be carried out as decided by the Michigan Department of Natural Resources.

Humans

West Nile Virus infection continues to be a reportable condition in Michigan. Michigan conducts WNV surveillance in blood donors; six WNV positive donors were identified in Michigan in 2005. In addition, physicians and laboratorians should continue to report any suspect or confirmed human cases to the Communicable Disease Unit at the Kent County Health Department (616-632-7228). Up-to-date surveillance data is available at www.michigan.gov/emergingdiseases.

Arboviral Testing

The Michigan Department of Community Health (MDCH) laboratory performs an arboviral testing panel consisting of WNV, Saint Louis Encephalitis (SLE) virus and Eastern Equine Encephalitis (EEE) virus on CSF. **A new IgM test will be used this year providing WNV/SLE test results in one day with other arboviral test results to follow.** Physicians using other laboratories should order a complete arboviral panel for suspect WNV cases because WNV specific tests cross-react with SLE.

Clinical Presentation

Most human infections are mild, with symptoms including fever, headache, and body aches, occasionally with skin rash and swollen lymph glands. More severe infection may be marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and, rarely, death.

Prevention

Prevention of illness from West Nile Virus continues to be preventing mosquito bites. The Kent County Health Department recommends using insect repellent containing DEET, staying indoors at dusk and dawn, wearing light colored long sleeved shirts and long pants, keeping window and door screens in good condition, and eliminating standing pools of water around yards, decks and other areas around the home.

FLUOROQUINOLONE-RESISTANT GONORRHEA IN KENT COUNTY

In 2003, the Kent County Health Department (KCHD) began sending *Neisseria gonorrhoeae* cultures for sensitivity testing to the Michigan Department of Community Health (MDCH) as part of a sentinel surveillance program. Other select counties in Michigan also participated in this program. Since that time, a total of 21 cases of fluoroquinolone resistant *N. gonorrhoeae* (QRNG) cases have been reported in Kent County. The sharp increase in 2005 was not surprising, as it was proportional to other counties in Michigan and in the U.S. MDCH ended its sentinel surveillance program after recognizing that QRNG exists in high risk populations and that health care providers need to alter their treatment of *N. gonorrhoeae* when caring for these populations.

In Kent County, most of the QRNG cases are white males, over 30 years of age, and men who have sex with men (MSM), in contrast to young black males who make up the majority of all gonorrhea cases. One case in 2005 had a history of travel to a location with a reported high prevalence of QRNG. Areas with increased prevalence are Asia, the Pacific Islands (including Hawaii), and California.

The CDC recommends treatment with **Ceftriaxone 125 mg intramuscularly** for patients with gonorrhea who:

- are MSM, or
- have a travel history suggesting acquisition of infection in an area with high QRNG prevalence, or
- report sexual contact with persons living in areas with high prevalence.

Clinicians and laboratories should report all gonorrhea cases including treatment failures and resistant gonococcal isolates to the Kent County Health Department–Personal Health Services via fax at (616) 632-7185. The Health Department follows up and interviews every case of gonorrhea. Recognizing resistant strains makes it even more critical to find the contacts of cases and offer treatment.

References:

CDC. Increases in Fluoroquinolone-Resistant *Neisseria gonorrhoeae* Among Men Who Have Sex with Men — United States, 2003, and Revised Recommendations for Gonorrhea Treatment, 2004. MMWR 2004;53:335-8.

Macomber, KE et al. Drug-resistant *Neisseria gonorrhoeae* in Michigan, Emerging Infectious Diseases, 2005; 11:1009-15

TIMELY PUBLIC HEALTH RESPONSE AFTER HURRICANE KATRINA

Responding to Hurricane Katrina proved to be a unique and challenging process when 132 evacuees arrived in Grand Rapids last September. The collaborative effort, of many area agencies, was the key to an immediate response and to assessing and meeting the needs of the evacuees. From a public health standpoint, it was important for the Health Department to be at the table from the beginning, especially with respect to communicable diseases.

The first priority was logistics. A clinic was established in the Red Cross Shelter, which included a section devoted to public health concerns. Health Department staff quickly developed a public health screening form and assembled supplies.

The next priority was to quickly screen each evacuee for immediate needs. Nurses from the Red Cross and the Health Department assessed each evacuee and offered referrals. Nearly 100% were screened for sexually transmitted infections (STI) and tuberculosis. Only one person had a positive tuberculin skin test; another person was positive for four STIs. The most common symptoms reported were:

- Rashes/sores (19%)
- Cough (16%)
- Diarrhea (11%)

QUICK FACTS:

- A total of 21 cases of fluoroquinolone resistant *N. gonorrhoeae* (QRNG) cases have been reported in Kent County.

- In Kent County, most of the QRNG cases are white males, over 30 years of age, and men who have sex with men (MSM).

- Areas with increased prevalence of QRNG are Asia, the Pacific Islands (including Hawaii), and California.



HEALTH DEPARTMENT
Caring today for a healthy tomorrow

CD/EPI Unit
700 Fuller Avenue, NE
Grand Rapids, MI 49503

Phone: 616.632-7228
Fax: 616.632-7085

We're on the Web!
www.accessKent.com/health

PRSR STD
U.S. POSTAGE
PAID
GRAND RAPIDS, MI
PERMIT #806

EDITING BOARD

Cathy J. Armstrong, R.N.,
BSN
Public Health Nurse

Denise Bryan, MPA
STD/HIV/TB Supervisor

Janice King, R.N., BSN
Public Health Nurse

Mary Lutzke, MPH
Epidemiologist

Julie Payne, MPH
Epidemiologist

If you would like to be added to our mailing list, please contact the Kent County Health Department CD/EPI Unit at: 616.632.7228

Hurricane Katrina cont'd

When evacuees were questioned about current chronic conditions, the following were the most common:

- Hypertension/heart disease (27%)
- Mental health conditions (19%)
- Drug/alcohol use (13%)
- Asthma/emphysema (13%).

Nearly one-third of evacuees were exposed to flood water; the majority reported exposure to **knee** and/or **chest deep** water levels. It is unknown if this exposure correlates with the 11% rate of diarrhea. Regardless of the rate, no outbreaks of diarrheal disease were seen at the Shelter. This could be attributed to no evacuees using the Shelter overnight. It was primarily used for meals or other aid.

Overall, the response was considered very successful. The most important lesson learned is that multi-agency collaboration is essential to any public health response to natural or man-made disasters.