TARRANT COUNTY PUBLIC HEALTH
Division of Epidemiology and Health Information

Lou Brewer, RN, MPH
Director

Sandra K. Parker, MD
Health Authority/Medical Director

From: Anita Kurian, DrPH, MBBS
Epidemiology Division Manager & Chief Epidemiologist

To: Tarrant County Healthcare Providers

Date: July 30, 2012

West Nile virus (WNV) has been identified seasonally in Texas since 2002. Tarrant County Public Health has conducted surveillance for WNV since that time. Countywide case totals fluctuate, but there has always been activity. From 2002 through 2011, the mean case count is 18 ranging from no cases in 2010 to 53 cases in 2006. Most WNV exposures occur during the months of July through October with a peak during the first 2 weeks of August. Surveillance indicators thus far suggest that 2012 will be a very active year for WNV.

From 1/1/12 through 7/30/2012, the total case count is 61 with 24 of those being neuroinvasive disease with no fatalities. The remaining 37 are West Nile fever, the less severe clinical manifestation. In addition, 15 asymptomatic blood donors during this time period have been identified. Seventeen of Texas' 254 counties have reported human illness to DSHS with the expectation that others will be added as the season progresses. At this stage in the season, North-Central Texas is most affected.

Based on these surveillance indices, Tarrant County is requesting that healthcare providers increase their clinical suspicion for the complex of illness presentations of WNV infection, including West Nile fever, meningitis, encephalitis, and poliomyelitis.

WNV Clinical Descriptions

Of the people who are bitten by WNV-infected mosquitoes, approximately 20% develop what has been termed West Nile fever. Clinical features of West Nile fever frequently include fever, headache, and marked fatigue or muscle weakness. Occasionally, a skin rash on the trunk of the body, lymphadenopathy, or orbital pain are also present. Less than 1% of persons bitten by WNV-infected mosquitoes develop neuroinvasive infection, but adults over the age of 50 years are at greatest risk. When the CNS is affected, clinical syndromes range from febrile headaches to aseptic meningitis to encephalitis. A less common form of WNV neuroinvasive disease is West Nile poliomyelitis. This syndrome is characterized by the acute onset of asymmetric limb weakness or paralysis in the absence of sensory loss. The paralysis can occur without fever, headache, or other symptoms typically associated with WNV infection.

In patients with neuroinvasive infection, examination of the CSF shows pleocytosis, usually with a predominance of lymphocytes. Protein is universally elevated; glucose is normal. Computed tomography is not useful in the diagnosis of WNV infection, it is useful in excluding other etiologies of acute meningoencephalitis.

Further clinician guidance on WNV disease can be accessed at the CDC website:
www.cdc.gov/ncidod/dvbid/westnile/clinicians/

Laboratory Diagnosis of WNV Infection

The diagnosis of WNV infection relies on a high index of clinical suspicion and on results of specific laboratory tests. The most efficient diagnostic method is detection of IgM antibody to WNV in serum collected within 8-14 days of illness onset or in cerebrospinal fluid (CSF) collected within 8 days of illness onset using the IgM antibody-capture, enzyme-linked immunosorbent assay (MAC-ELISA). Testing of serum and CSF for IgM antibodies to WNV and St. Louis encephalitis (SLE) virus is available through many hospital and commercial laboratoriesas well as the DSHS laboratory.

Disease Reporting

Arboviral infections, including WNV infection, are required to be reported to Tarrant County Public Health within one week of diagnosis. Please fax patient demographics, laboratory diagnostic results and physician notes to 817-850-8921 attention: Notifiable Disease Conditions.

If you have any questions, please contact the Tarrant County Public Health Epidemiology 24/7 hotline (817-994-3708). Additional updates regarding West Nile virus Activity in Tarrant County can be accessed at: www.tarrantcounty.com/publichealth.

This alert was adapted from information provided by the Texas Department of State Health Services.