

North Carolina Department of Health and Human Services Division of Public Health

Roy Cooper Governor Mandy Cohen, MD, MPH Secretary

> Daniel Staley Director

Date: 11 May 2018 To: NC Clinicians

From: Carl Williams, DVM, DACVPM, State Public Health Veterinarian

Through: Jean-Marie Maillard, MD, MSc, Medical Director

Subject: Annual Update on Diagnosis and Surveillance for Arboviral disease

Introduction

Arboviral diseases in NC are caused by a wide range of mosquito-borne viruses that are both endemic and travel-associated. LaCrosse virus encephalitis (LACE) is the most commonly reported endemic arboviral infection, with approximately 20 reported cases annually. LaCrosse virus infections can be asymptomatic or can cause a range of signs and symptoms including fever, altered mental status, peripheral neurologic dysfunction and, rarely, death. Although reported across the state, over 75% of all LACE cases have been reported from southwestern NC. West Nile virus infection and Eastern equine encephalitis are other neuro-invasive diseases that have been reported in NC, but much less commonly than LACE.

Surveillance for Arboviral Infections

Per North Carolina law (10A NCAC 41A .0101), physicians are required to report all confirmed or suspected cases of neuroinvasive arboviral diseases (i.e. those associated with encephalitis or meningitis) to their local health department.

Physicians are also required to report all confirmed or suspected infections with chikungunya, dengue, Zika and yellow fever viruses; all reports of these infections in NC to date have been associated with travel to endemic areas outside of the state.

Actions for North Carolina Clinicians

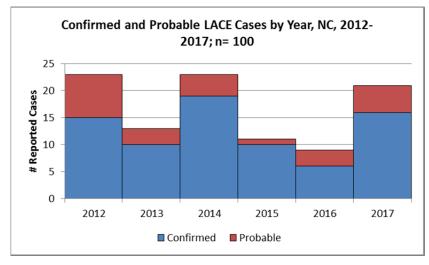
- Report cases of confirmed or suspected arboviral infections to your local health department promptly.
- Remind patients to take preventive steps, including using an EPA registered insect repellent; eliminating mosquito
 breeding sites at home; avoiding periods of mosquito activity to the extent possible; and maintaining screens on
 windows
- Consider arboviral infections in persons with a clinically compatible illness and/or appropriate travel history.
- Familiarize yourself with the laboratory assays available to diagnose arboviral infections for surveillance.
 Serologic testing for arboviral diseases is offered at no charge from the State Laboratory of Public Health
 (http://slph.ncpublichealth.com/virology-serology/arbovirus.asp). Early diagnosis of LACE is critical to adapting
 therapy and eliminating unnecessary treatment and also important for surveillance of the disease. The sensitivity
 and rapidity of diagnosis of the MAC ELISA test provide a powerful tool for the serodiagnosis of LaCrosse virus
 infections in humans.

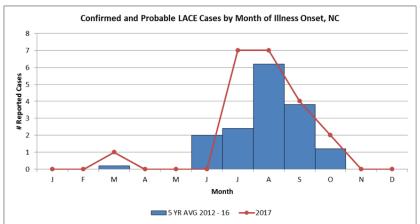
CC: Zack Moore, MD, MPH, State Epidemiologist

Evelyn Foust, MPH, CPM, Communicable Disease Branch Head









LACE, Incidence by County, NC, Jan. 1, 2017 - Dec. 31, 2017



^{*}Counties with at least one case were ranked by incidence rate and placed into quintiles (5 roughly equal groups divided at 20-percentile intervals).