



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.

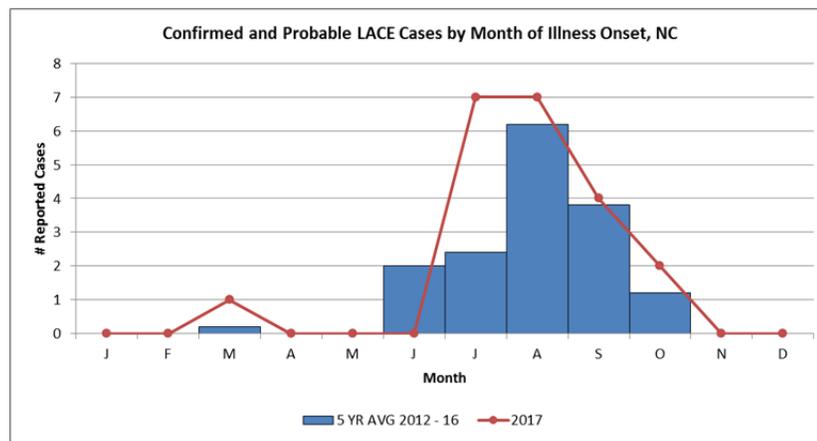
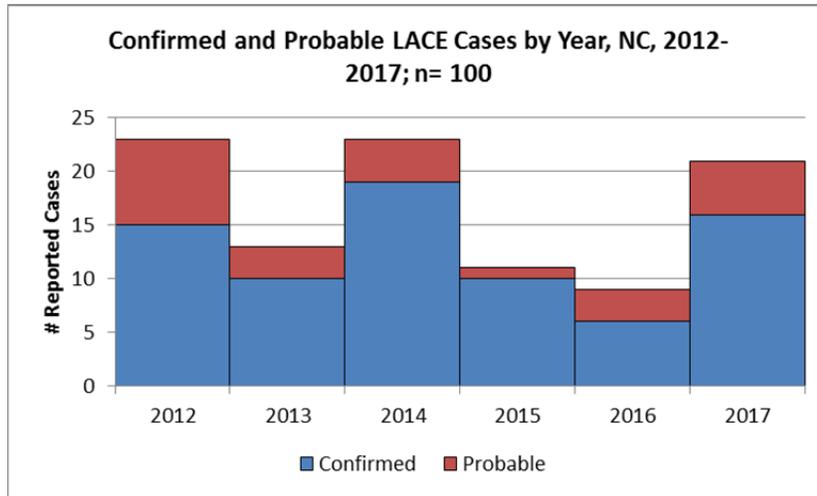
CC: Zack Moore, MD, MPH, State Epidemiologist
Evelyn Foust, MPH, CPM, Communicable Disease Branch Head

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Tel 919-733-3419 • Fax 919-733-9555

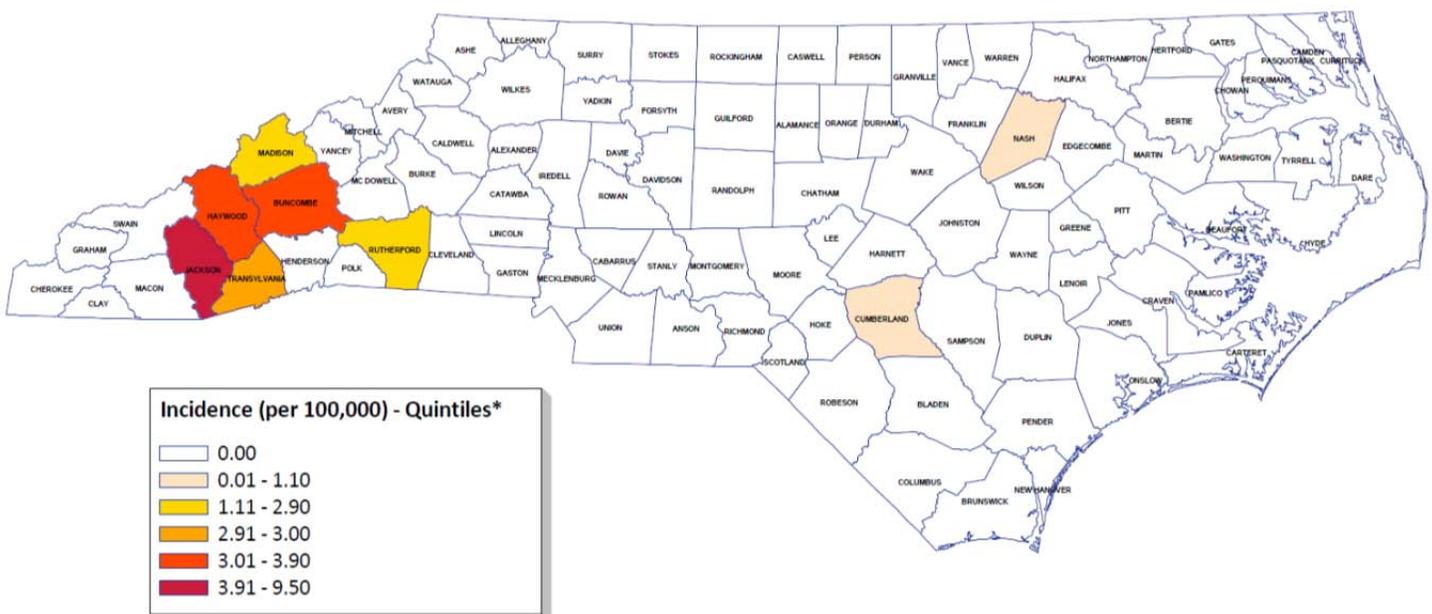
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Summary data for all reportable condition is available here: <http://epi.publichealth.nc.gov/cd/figures.html>



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).