



NC DEPARTMENT OF  
**HEALTH AND  
HUMAN SERVICES**

ROY COOPER • Governor

KODY H. KINSLEY • Secretary

MARK BENTON • Deputy Secretary for Health

SUSAN KANSAGRA MD, MBA • Assistant Secretary for Public Health, Division of Public Health

Date: 3 April 2023  
To: North Carolina Clinicians  
From: Alexis M. Barbarin, MEd, PhD, & Michael Doyle, State Public Health Entomologists  
Through: Erica Wilson, MD, Medical Director  
Subject: Annual Update on Diagnosis and Surveillance for Vector-borne Diseases

### Introduction

Vector-borne diseases in North Carolina are caused by a wide range of mosquito- and tickborne bacteria, viruses, and parasites that are both endemic and travel-associated. Vector-borne illnesses continue to cause significant morbidity in North Carolina, with more than 700 cases in 2022. This update is intended to encourage patient education about the prevention of mosquito- and tickborne illness, as well as to provide a reminder about diagnosis, treatment, and reporting.

### Surveillance for Vector-borne Illnesses

Per North Carolina law (10A NCAC 41A .0101), clinicians are required to report confirmed or suspected cases of the tick-borne illnesses anaplasmosis, babesiosis, ehrlichiosis, rickettsiosis and Lyme disease. All cases of arboviral encephalitis are reportable. Additionally, clinicians are required to report confirmed or suspected cases of certain travel associated conditions, including dengue, malaria, Zika, Chikungunya and Yellow Fever. Laboratory diagnostic tests demonstrating isolation or identification of the pathogens are also reportable by laboratories to the Division of Public Health. North Carolina adheres to national case definitions for each of the vector-borne infections, which establish uniform criteria for disease reporting to accurately monitor trends, take action to reduce disease, and protect public health.

### Actions for North Carolina Clinicians

- Report cases of vector-borne infections to your local health department within 7 days of a positive laboratory test, or within 24 hours for Zika virus infection.
- Remind patients to take preventive measures including: recognizing and avoiding tick habitats; using [CDC-recommended](#) and [EPA-registered](#) insect repellents when outdoors; showering immediately after returning indoors; [removing attached ticks promptly](#); using permethrin treated clothing; creating tick-safe zones in their yard; and tipping and tossing any standing water in their yards that would promote mosquito development.

### Familiarize yourself with information from the CDC:

- Rocky Mountain Spotted Fever: <https://www.cdc.gov/rmsf/healthcare-providers/treatment.html>
- Other spotted fever rickettsia: <https://www.cdc.gov/other spotted fever/healthcare-providers/index.html>
- Lyme disease: <https://www.cdc.gov/lyme/healthcare/index.html>
- Ehrlichiosis: <https://www.cdc.gov/ehrlichiosis/healthcare-providers/index.html>
- La Crosse Encephalitis: <https://www.cdc.gov/lac/healthcare-providers/index.html>
- Malaria: <https://www.cdc.gov/parasites/malaria/index.html>

**NC DEPARTMENT OF HEALTH AND HUMAN SERVICES • DIVISION OF PUBLIC HEALTH**

LOCATION: 225 North McDowell St., Raleigh, NC 27603  
MAILING ADDRESS: 1902 Mail Service Center, Raleigh, NC 27699-1902  
www.ncdhhs.gov • TEL: 919.733.7301 • FAX: 919.733.1020

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER