



Updates in Tick Surveillance in North Carolina



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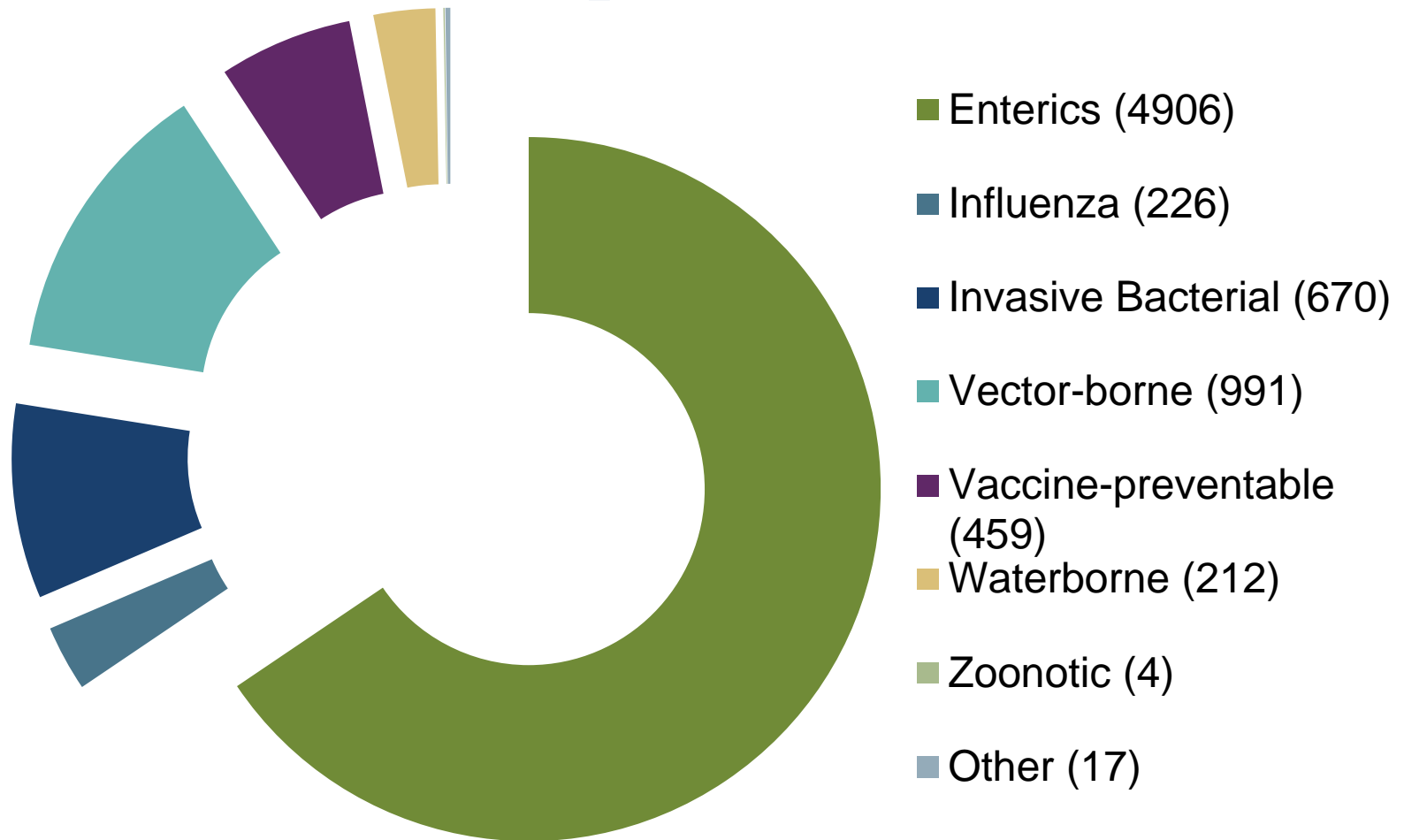


Ronna Chan, PhD
Zika Pregnancy
Registry



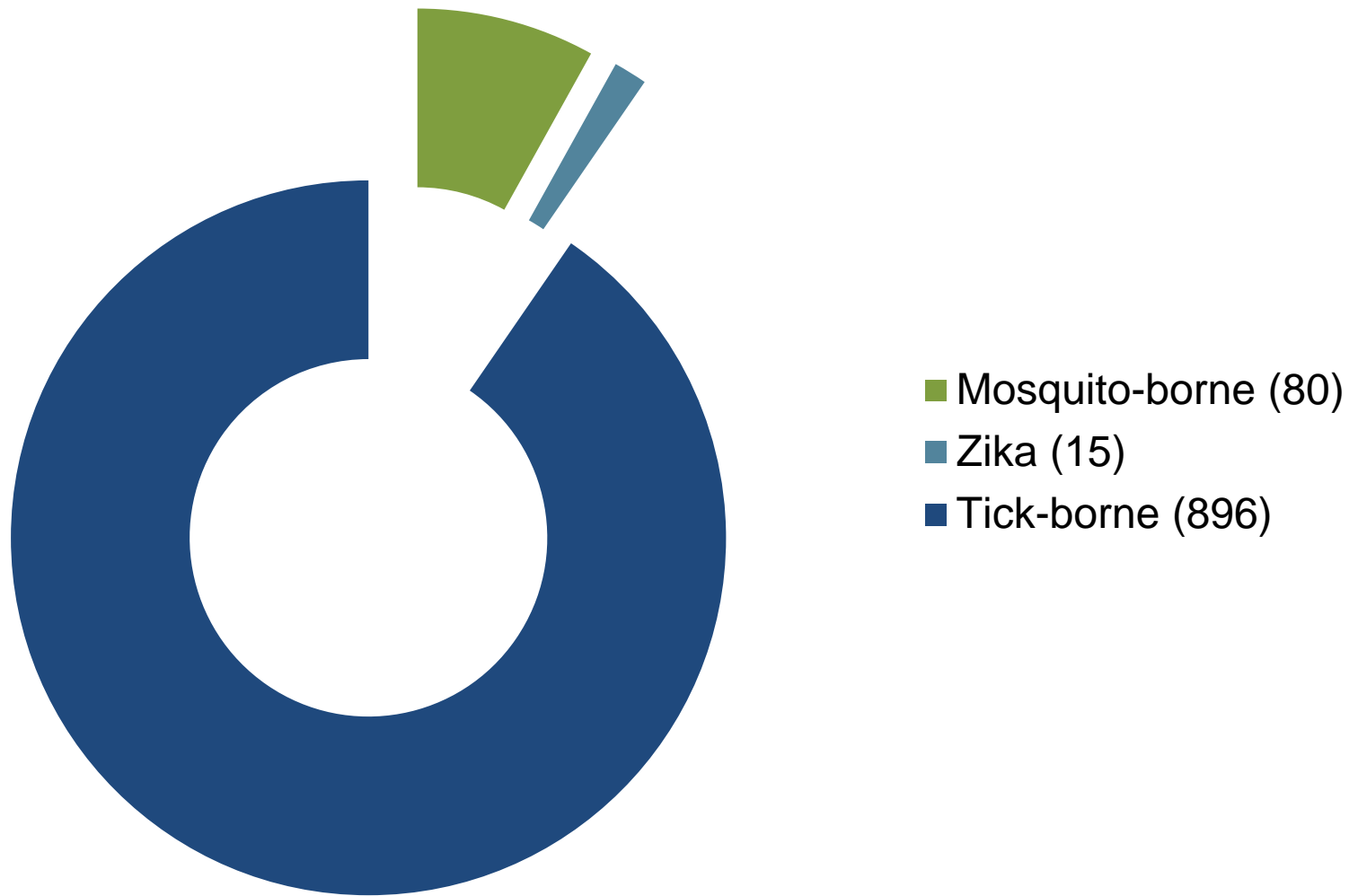
Teresa Fisher, RN, BSN
Vector-borne Nurse
Consultant

*Confirmed and Probable Communicable Diseases reported in 2017**



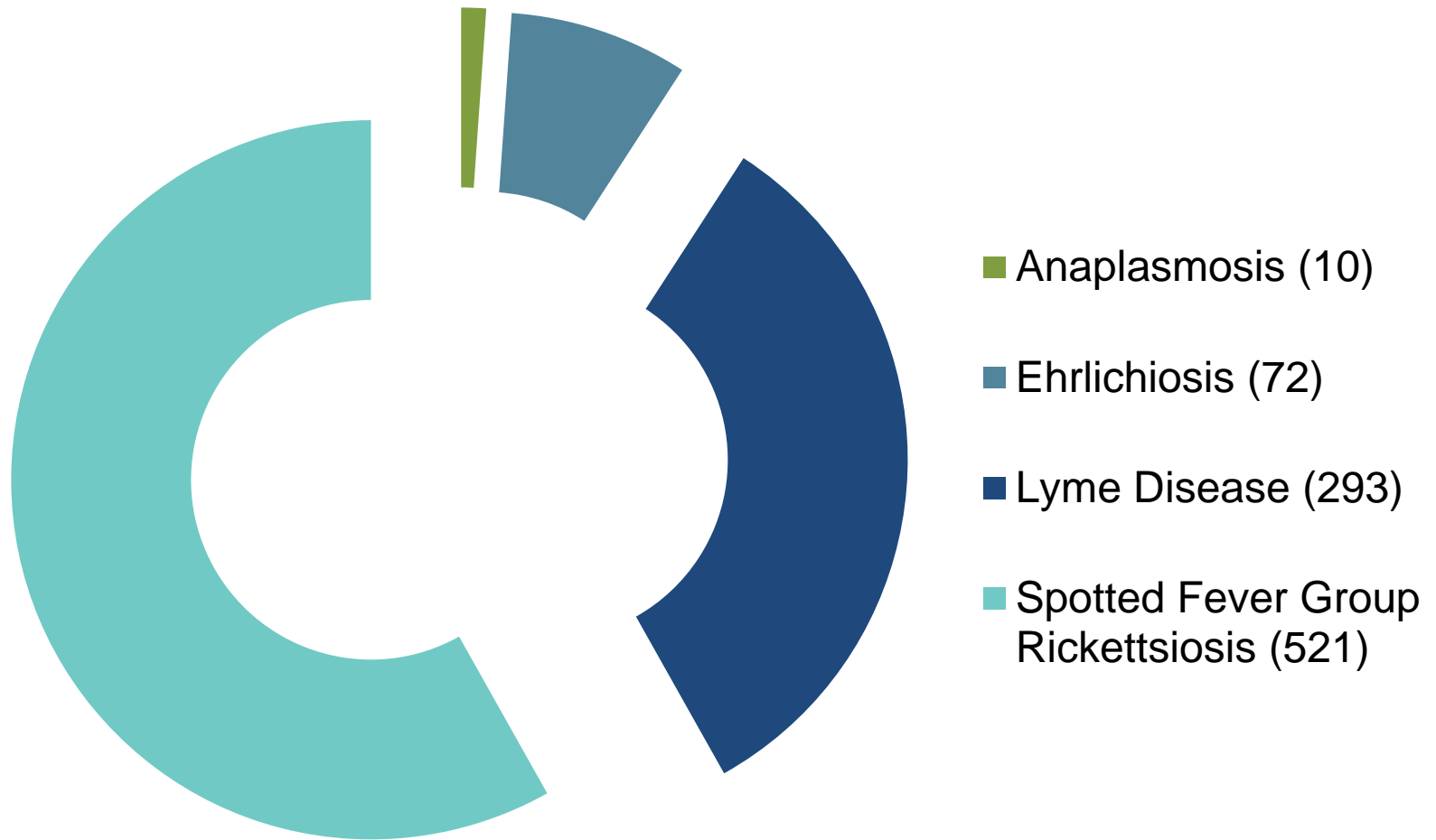
** Note: this data is preliminary and does not include STDs.*

*Confirmed and Probable Vector-borne diseases reported in 2017**



** Note 2017 data are preliminary*

*Confirmed and Probable Tick borne diseases reported in 2017**



** Note 2017 data are preliminary*

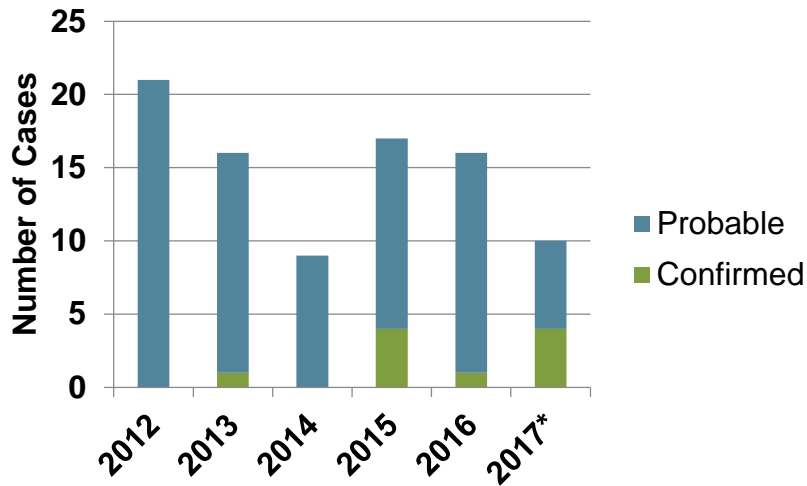
Tick borne illness Event Investigation Details

Disease	Total Events Created for Investigation	Events created by Electronic Lab Report (ELR)	% of Total Events created by ELR	% of Total Events Resulting in C/P Case Classification
Anaplasmosis	39	17	44%	(4/6) 26%
Ehrlichiosis	250	172	69%	(8/64) 29%
Lyme Disease	1617	1391	86%	(69/224) 18%
Spotted Fever Group Rickettsiosis	2568	1904	74%	(6/515) 20%

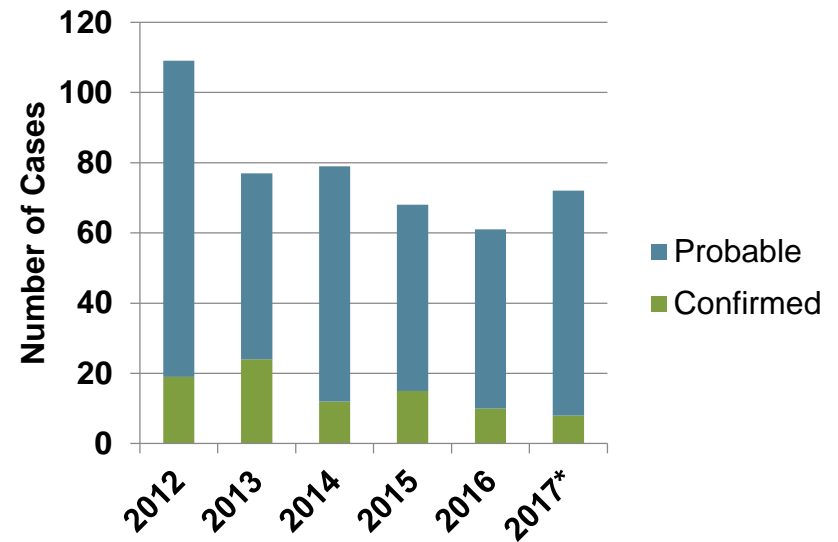
***Preliminary Tickborne Human
Surveillance Data for 2017***

Anaplasmosis and Ehrlichiosis disease burden in North Carolina is minor.

Anaplasmosis in North Carolina

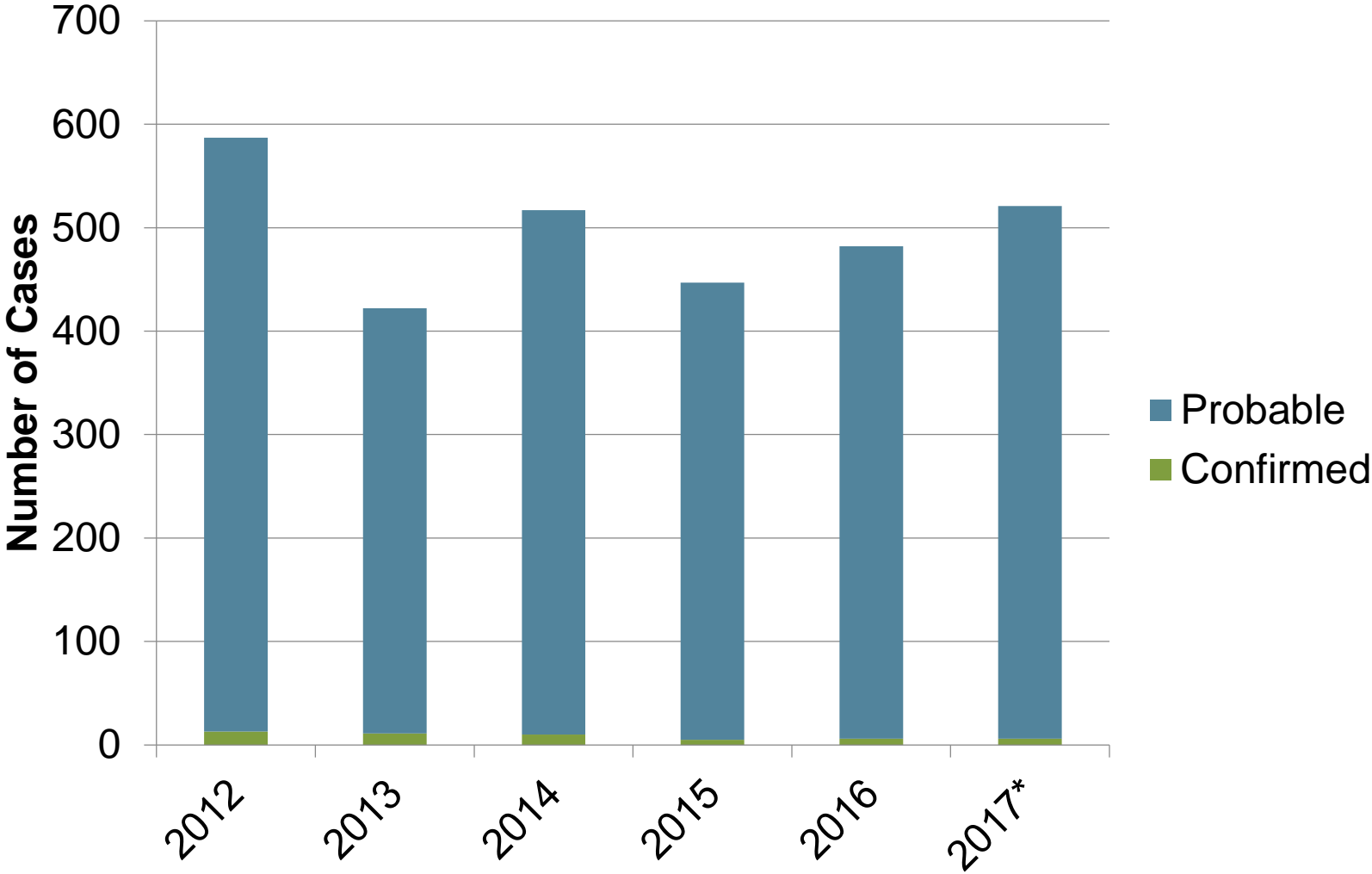


Ehrlichiosis in North Carolina



** Note 2017 data are preliminary*

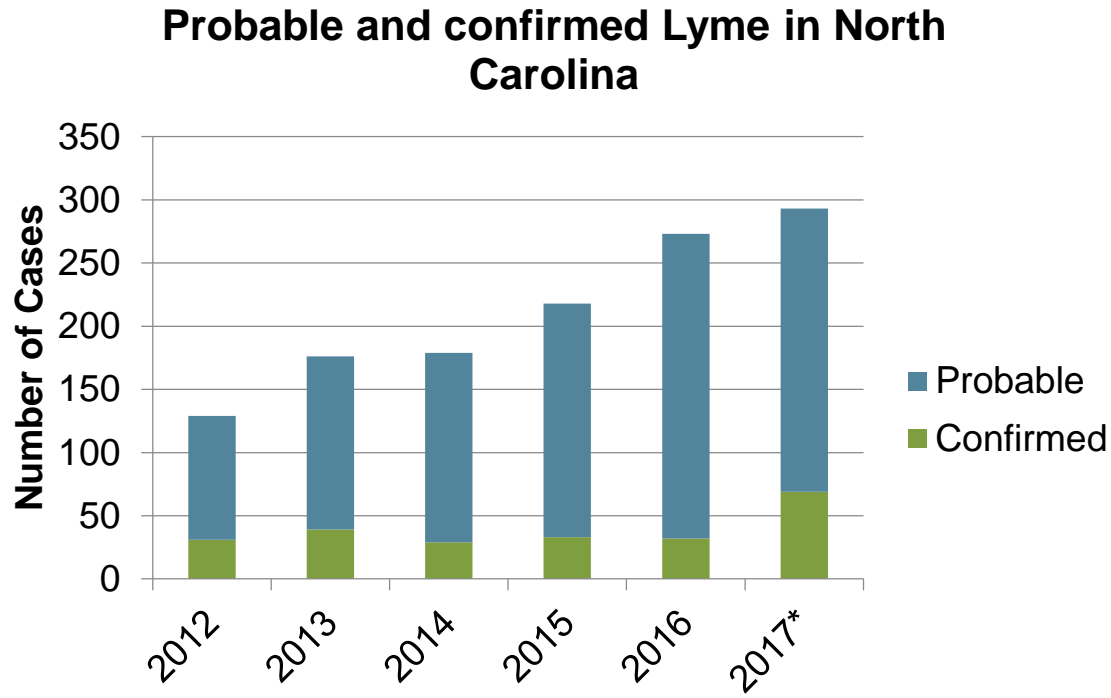
Rickettsiosis accounts for the majority of tick-borne disease burden in North Carolina.



** Note 2017 data are preliminary*

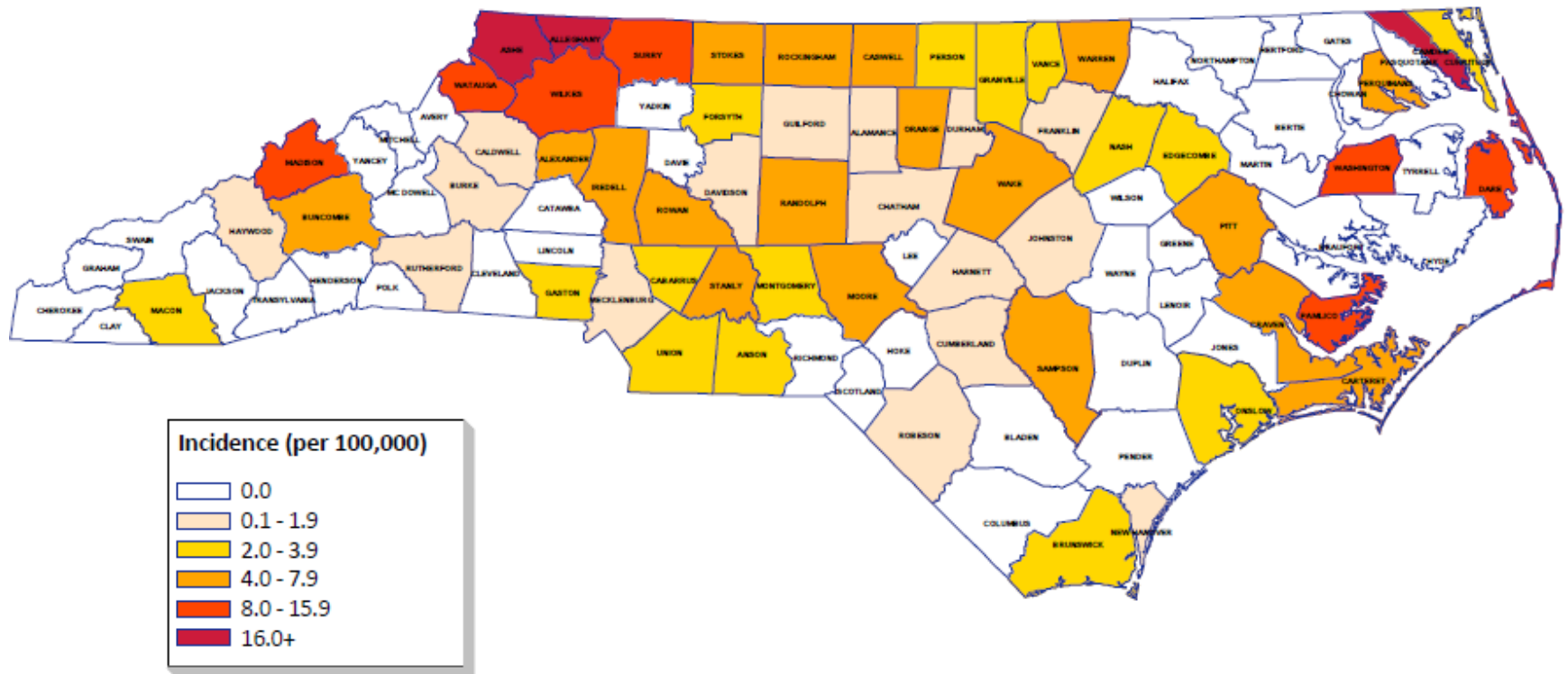
Lyme disease and North Carolina

- Caused by *Borrelia burgdorferi*
- Vectored by *Ixodes scapularis* ticks
- Symptoms: erythema migrans rash, fever, headache, myalgia, arthralgia, swollen joints.



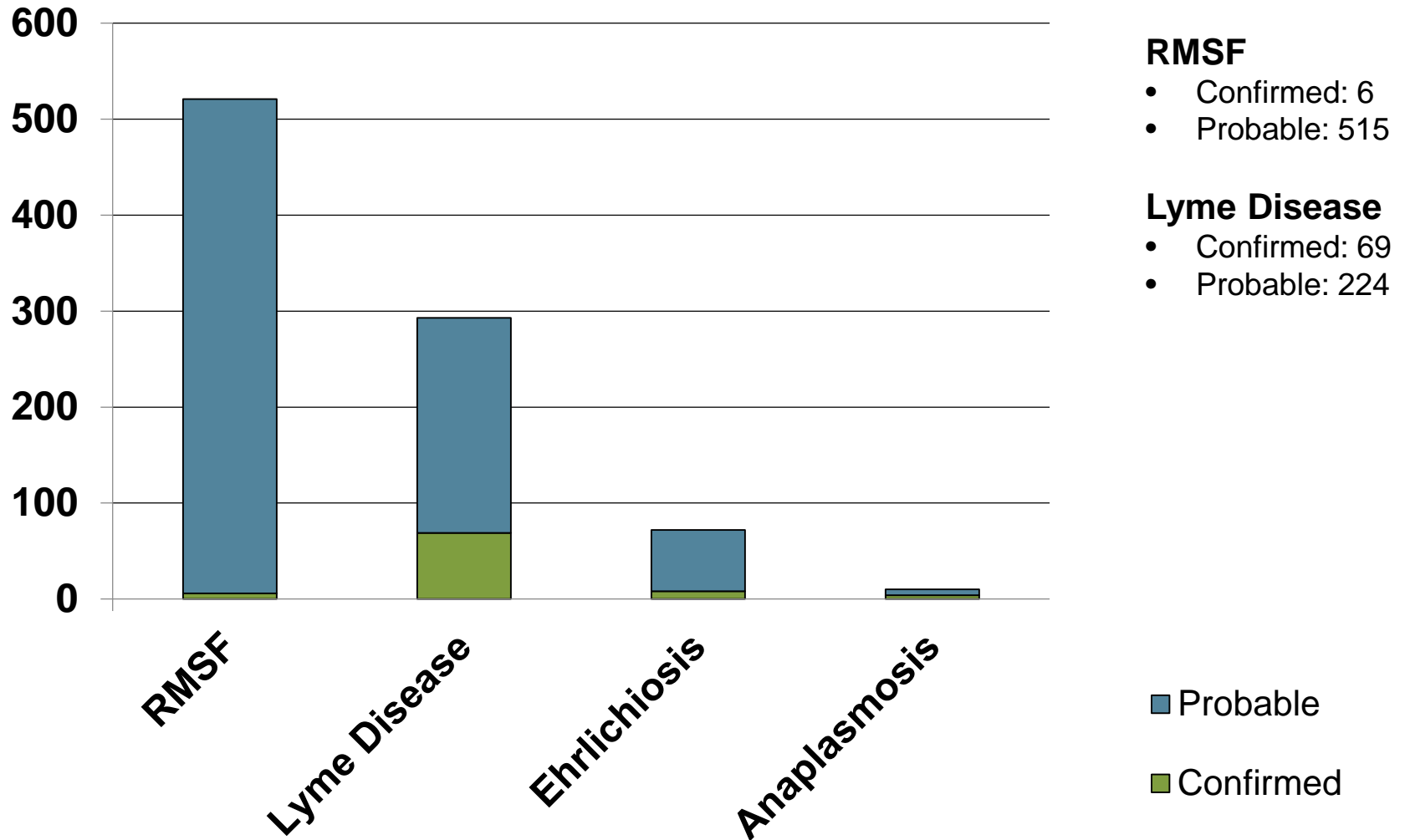
** Note 2017 data are preliminary*

*Incidence of Confirmed and Probable Cases of Lyme in North Carolina (2017)**



** Note 2017 data are preliminary*

Tick Borne Illness in 2017



* Note 2017 data are preliminary

*Ticks Collected in North Carolina have been positively identified as being infected with *B. burgdorferi**

- UNC-G collected ticks in the following counties:

- Alexander
- Forsyth
- Guilford
- Iredell
- Patrick -VA
- Rockingham
- Stokes
- Surry
- Yadkin

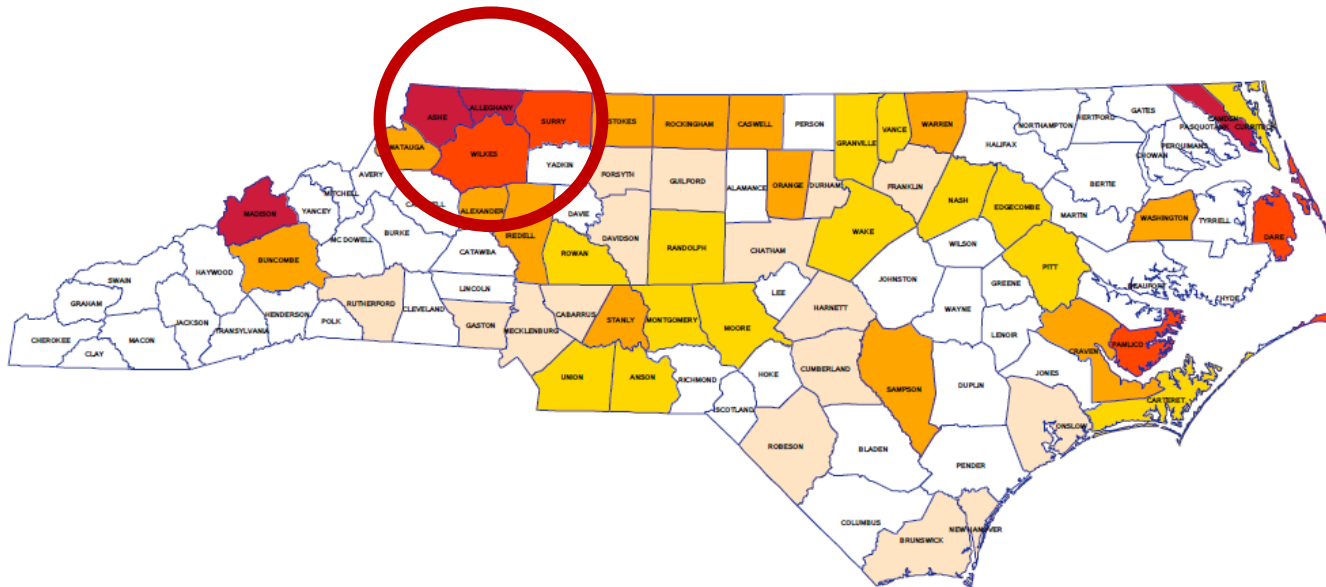
Flagging Results	Deer (host) Collected Results
Patrick County (VA) – <i>B. burgdorferi</i> detected	Forsyth County – <i>B. burgdorferi</i> detected
Rockingham County – <i>B. burgdorferi</i> detected	Rockingham County – <i>B. burgdorferi</i> detected
Stokes County – <i>B. burgdorferi</i> detected	Stokes County – <i>B. burgdorferi</i> detected
	Yadkin County – <i>B. burgdorferi</i> detected

- Ticks also tested positive for
 - *A. phagocytophilum*: Rockingham, Stokes, Forsyth, and Patrick (VA) Counties
 - *Borrelia miyamotoi*: Patrick (VA) and Rockingham Counties
 - No Babesia was found

* Note, this data is the property of UNC-G, therefore numbers have been removed.

Future Directions

- CDC ELC funding ~\$5,300 for tick surveillance
- Contract with UNC-G – Began November 15, 2017
- Tick Surveillance plan
 - Five counties – Ashe, Allegheny, Surry, Wilkes, Yadkin
 - Send to CDC for testing



Future Directions continued...

- Passive Tick Surveillance Program (Summer 2018)
 - Collection vials and prepaid labels sent to veterinarians and environmental health departments across the state
 - Will send in ticks to be identified by entomologists
 - Goal: Describe the diversity and distribution of ticks across North Carolina



*North Carolina
Division of
Public Health,
Communicable
Disease Branch
presents...*

**FIGHT
THE
BITE!**

The graphic features the words "FIGHT THE BITE!" in a bold, red, sans-serif font with a black outline. The word "THE" is smaller and positioned between "FIGHT" and "BITE!". A black silhouette of a tick is positioned above the letter "I" in "BITE!". A black silhouette of a mosquito is positioned to the right of the word "BITE!".