



# Sepsis and Tick-borne Illness: An Information Gap

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## INTRODUCTION

- ❖ Severe sepsis and septic shock impact approximately 65,000 adults and almost 600 children in New York each year
- ❖ In 2018, almost 24% of these NY adult patients died from sepsis
- ❖ 1 in 3 U.S. hospital deaths are sepsis-related
- ❖ Columbia County has a 594.4/100k Lyme infection rate, in the worst 25% of counties
- ❖ New York State: highest number of babesiosis cases in the nation with significantly increasing incidence from 2011-2019.
- ❖ New York State: 2<sup>nd</sup> highest number of anaplasmosis cases in the nation

- ❖ Capital Region showing an 8.4-fold increase between 2010 and 2018.
- ❖ Hospitalization was reported in 35.2% of these cases.

## WHO IS AT RISK?

- ❖ Those who work and recreate outside at a higher risk of tick-borne illness
- ❖ Certain groups are at a higher risk for complications:
  - ❖ older people
  - ❖ those with compromised immune systems from conditions such as HIV, splenectomy, from treatments and medications

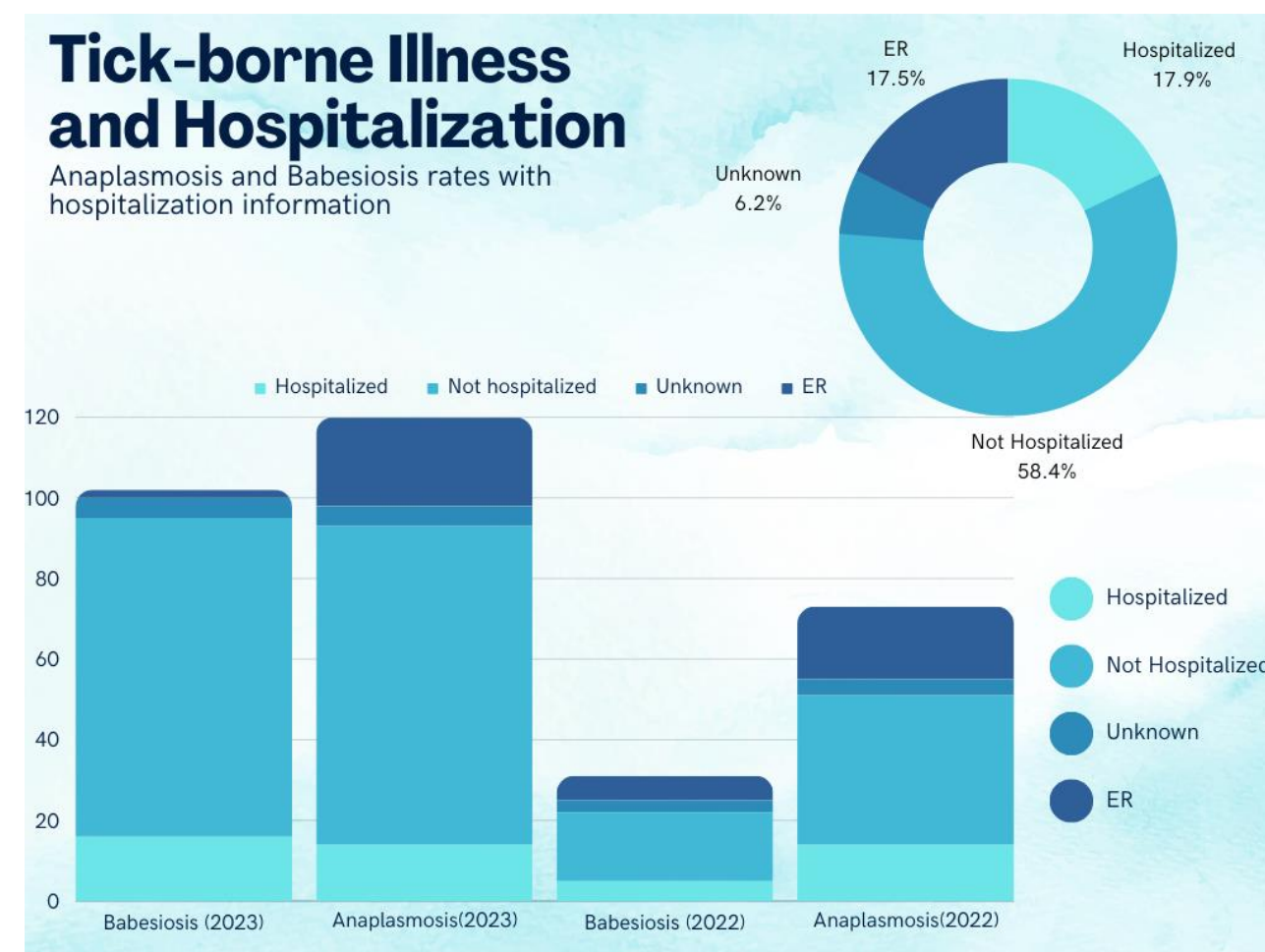
## OBJECTIVES

- ❖ Describe the warning signs of sepsis, the symptoms of tick-borne illness, and their relation to each other.
- ❖ Identify preventative actions to take to avoid and mitigate tick-related sepsis.
- ❖ Utilize the infographic to learn about tick-borne illness and sepsis in plain language.

## WHAT IS SEPSIS?

The body's life-threatening reaction to infection

- ❖ Symptoms: Headache, fever or low temperature, chills, low blood pressure, high heart rate, change in mental status, extremely ill



Hospitalization Rates for Columbia County for 2022- September, 2023 for Anaplasmosis and Babesiosis

## RECOMMENDATIONS

To prevent and mitigate tick bites:

- ❖ Wear light-colored, permethrin-treated clothing, long sleeves, closed shoes, and pants tucked into socks.
- ❖ Check skin and clothes frequently for ticks
- ❖ Stay in the middle of the trail, avoid brush/overgrown grass
- ❖ Use insect repellents like DEET.
- ❖ After your activity, do a full body check for ticks on yourself, kids, and pets. Check anywhere ticks may hide. Bathe or shower within 2 hours.
- ❖ Remove any ticks promptly with fine tipped tweezers . Run clothes in the dryer for 10 minutes to kill ticks.
- ❖ Watch for symptoms of tick-borne illness: Headache, fever, chills, fatigue, muscle pain, painful joints, rash

To help prevent sepsis:

- ❖ Wash tick bite immediately after removal with soap and water
- ❖ Watch the bite site carefully for signs of infection or rash.
- ❖ Let your doctor know you've had a tick bite, especially if you have symptoms.
- ❖ If prescribed antibiotics, take as prescribed and take the whole course.

## PLAN

Distribute infographic through existing partner channels: educational tables at hospital and in health building, All Trails Day, and sepsis information talks.

## REFERENCES

Healthy Capital District. (2023). *Lyme disease incidence rate*. <https://www.healthycapitaldistrict.org/indicators/index/view?indicatorId=305&localeId=1890>

New York State Department of Health. (2022). *Sepsis*. <https://www.health.ny.gov/diseases/condition/s/sepsis/>

Russell, A., Prusinski, M., Sommer, J., O'Connor, C., White, J., Falco, R....Backenson, P. (2021). Epidemiology and spatial emergence of anaplasmosis, New York, USA, 2010–2018. *Emerging Infectious Diseases*, 27(8), 2154-2162. <https://doi.org/10.3201/eid2708.210133h>

The Sepsis Alliance. (2022). *What is sepsis? Sepsis fact sheet*. <http://www.sepsis.org>

Swanson M, Pickrel A, Williamson J, Montgomery S. Trends in reported babesiosis cases — United States, 2011–2019. *MMWR Morb Mortal Wkly Rep* 2023;72:273–277. <http://dx.doi.org/10.15585/mmwr.mm7211a1>