



Tick-Borne Diseases

in New York City, 2018

Ticks and tick-borne diseases (TBDs) are a growing concern in New York City (NYC). This report summarizes surveillance data for ticks and TBDs, including babesiosis, anaplasmosis, ehrlichiosis and Rocky Mountain spotted fever (RMSF).

- Ticks are found in cooler areas where trees, brush, leaf litter and tall grasses provide cover and shade from the sun.
- Ticks are very small. Some are the size of a poppy or sesame seed, making them very hard to see.
- Ticks bite people mostly during the spring, summer and fall but can be active whenever the temperature is above freezing.
- Most NYC residents diagnosed with a TBD become infected while traveling to an area where infected ticks are widespread, such as upstate New York, Long Island and surrounding states.
- Infections among people who live and spend time outdoors on Staten Island have increased due to a growing population of infected ticks found there.

Ticks and Tick-Borne Diseases in NYC*



Blacklegged ticks can spread Lyme disease, anaplasmosis, babesiosis, and Powassan virus disease.

Image 1. Blacklegged tick, adult female



Lone star ticks can spread ehrlichiosis.

Image 2. Lone star tick, adult female



American dog ticks can spread Rocky Mountain spotted fever.

Image 3. American dog tick, adult female



Asian longhorned ticks have not been shown to spread diseases to humans in the United States.

Image 4. Asian longhorned tick, adult female

* For more information on the clinical signs, symptoms and treatment for each disease, click the disease hyperlinks above or visit nyc.gov/health and search for ticks.

NYC Tick Surveillance Data, 2017[†]

Tick surveillance is conducted in select NYC parks, most of which are on Staten Island.

- Blacklegged ticks are found throughout Staten Island and a small part of the North Bronx. In Staten Island, these ticks have been found to carry the bacteria that cause anaplasmosis (0.8%) and the parasite that causes babesiosis (2.8%). In the Bronx, they were found to carry the bacteria that cause anaplasmosis (0.8%) and two ticks were infected with Powassan virus.
- Lone star ticks are found in Staten Island and the North Bronx but have not been found to carry the bacteria which cause ehrlichiosis.
- American dog ticks are found in all five boroughs. Historically, a small number have been found to carry the bacteria which cause RMSF.
- Asian longhorned ticks are also found in Staten Island and the North Bronx but have not been found to carry any diseases.

[†] Tick testing results are available the year after collection.

Patient Characteristics of NYC Tick-Borne Disease Cases, 2018[‡]

- Excluding Lyme disease, there were 169 reported cases of TBDs among NYC residents in 2018 (Figure 1). Babesiosis was the most commonly reported disease, followed by anaplasmosis, ehrlichiosis and RMSF.
 - Patients were from all five boroughs; most were from Manhattan (53%) (Figure 2).
 - Most patients were male (66%) and White, non-Hispanic (73%).
 - TBDs were reported among individuals of all ages; however, rates of disease were highest among people ages 60 and older.
 - Most patients were infected outside of NYC.
- The most commonly reported destinations were upstate New York, Long Island, Connecticut, Massachusetts and New Jersey.[§]
- Local transmission of anaplasmosis and babesiosis was reported in Staten Island. The number of locally transmitted babesiosis cases among Staten Islanders increased from 63% in 2017 to 85% in 2018.[§]
 - RMSF can be locally transmitted in NYC. In 2018, two out of the four cases from the Bronx and Manhattan were infected with RMSF within NYC.[§]

[‡] Excludes Lyme disease cases

[§] Travel history obtained for 165 cases (98%), from either patient (91%) or health care provider (9%)

Figure 1. NYC Tick-Borne Disease Cases by Year, 2009–2018

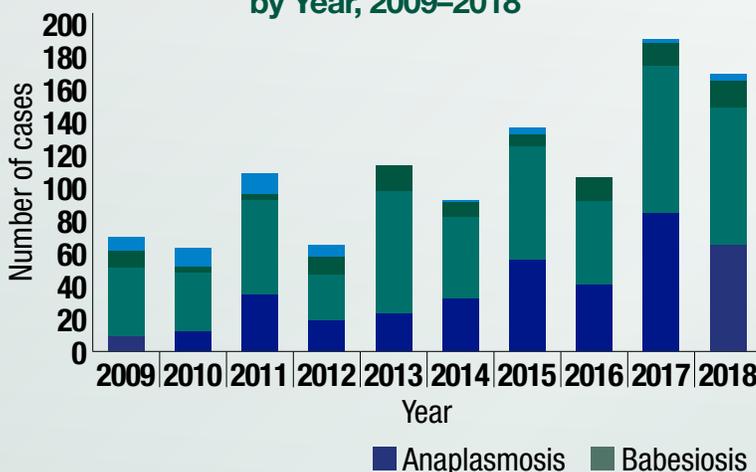
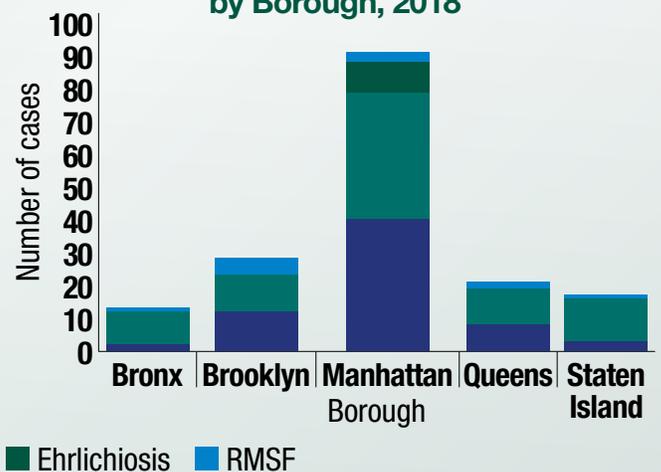


Figure 2. NYC Tick-Borne Disease Cases by Borough, 2018



Tick-Borne Disease Prevention

When spending time in areas where ticks may be found, follow these tips:

Before You Go Outdoors	After You Go Indoors
<ul style="list-style-type: none"> • Use insect repellent with DEET, picaridin, IR3535 or oil of lemon eucalyptus extract (also known as PMD). 	<ul style="list-style-type: none"> • Check your clothing for ticks and remove any that are found.
<ul style="list-style-type: none"> • Treat clothing and gear with products containing 0.5% permethrin. 	<ul style="list-style-type: none"> • Tumble-dry clothes in a dryer on high heat for 10 minutes to kill ticks on dry clothing.
<ul style="list-style-type: none"> • Wear long pants and closed-toe shoes, and tuck pant legs into your socks. 	<ul style="list-style-type: none"> • Shower soon after being outdoors.
<ul style="list-style-type: none"> • Avoid wooded and brushy areas with high grass and leaf litter and walk in the center of trails. 	<ul style="list-style-type: none"> • Check yourself, children and pets for ticks.



Talk to your veterinarian about the best tick prevention products for your pet.