

LYME DISEASE IN NYC, 2017



- Lyme disease is caused by the bacteria ***Borrelia burgdorferi***. Infected **blacklegged ticks (*Ixodes scapularis*)** (Image 1) spread the bacteria when they bite humans and some animals, including dogs.
- Common symptoms of Lyme disease include a **bullseye rash (erythema migrans)**, **headache, fever, fatigue, swollen lymph nodes, and muscle and joint pain**.
- The blacklegged tick is established in two areas of New York City (NYC): It is widespread across **Staten Island** and is present in a small part of the **North Bronx**.
- The main **risk factors** for Lyme disease for New Yorkers are **travel to an endemic area** (an area where blacklegged ticks are widespread) or **spending time outdoors in Staten Island**.
- Ticks are found in cooler areas where trees, brush, leaf litter and tall grasses provide cover and shade from the sun. Ticks avoid heat and direct sunlight.
- Most people are bitten by ticks during the **spring, summer and fall**, when ticks are most active.
- Lyme disease symptoms usually develop **3 to 30 days after the tick bite**.

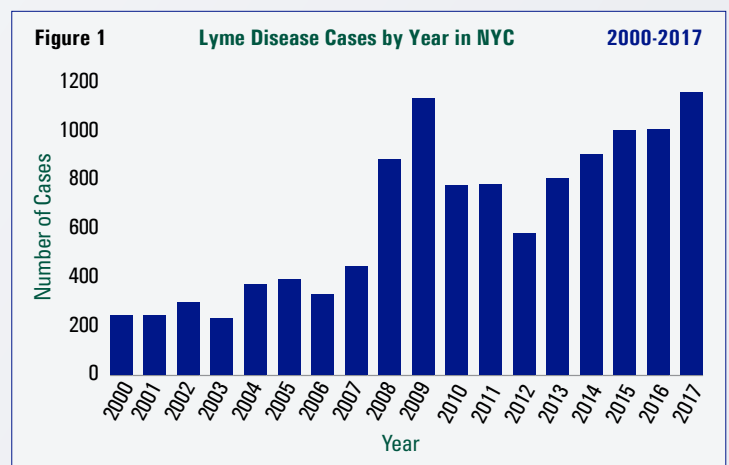


Image 1. *Ixodes scapularis* larva, nymph, adult male and adult female from left to right.

NYC Tick Surveillance Data, 2016*

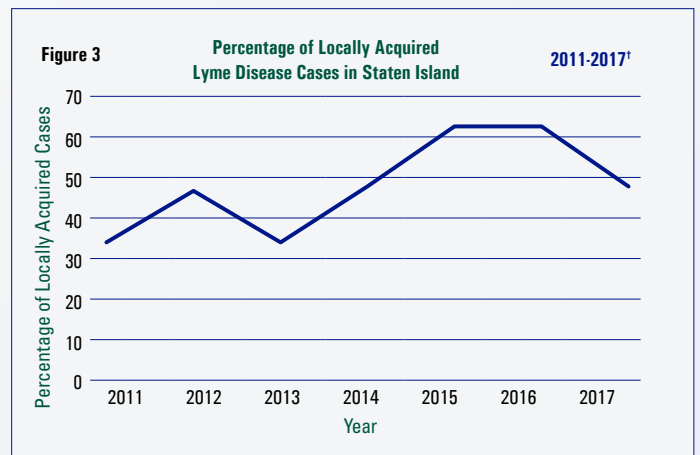
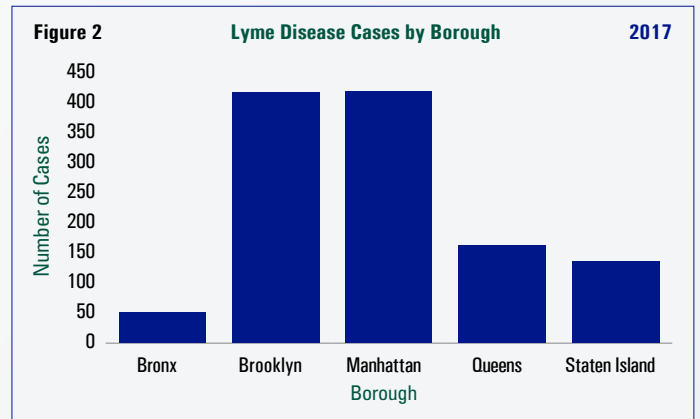
- Tick surveillance is conducted in select parks in NYC.
- Blacklegged ticks are established across Staten Island and in Pelham Bay Park in the Bronx, where the number of ticks collected has been increasing.
- Ticks collected from the Bronx (47%) and Staten Island (19%) tested positive for the bacteria that causes Lyme disease (*Borrelia burgdorferi*).

* Tick surveillance data is only available in the year following collection and testing



Patient Characteristics of NYC Lyme Disease Cases, 2017

- There were 1,090 reported cases of Lyme disease among NYC residents in 2017 (Figure 1).
- Cases were reported among residents of all five boroughs, with the majority of cases occurring among Manhattan (35%) and Brooklyn (35%) residents (Figure 2).
- Residents of Manhattan, Brooklyn and Queens were infected while traveling to surrounding states and counties, including the Catskills and Hudson Valley (61%), Pennsylvania (17%), New Jersey (6%) and Long Island (6%).[†]
- Local transmission of Lyme disease continued to occur in Staten Island and the percentage of locally acquired infections continued to increase (Figure 3).[†]
- Most cases occurred among residents who identified as male (56%).
- The median age of cases was 38 years old (range 6 months to 91 years).
- The majority of cases identified as White, non-Hispanic (77%).



[†] Based on interviews conducted with a subset of patients (n=173) with a physician-reported erythema migrans (EM) rash.

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.