

# Ticks and Lyme disease



# Ticks and Lyme disease

- Ticks
- Lyme disease
- Surveillance
- Statistics

# What is a tick?

- A tick is an arthropod
- They are related to spiders and mites
- They have eight legs and crawl
- They do not jump or fly
- They can range in size from a poppy seed to a small grape when they are fully fed or “engorged”
- Widely distributed around the world, especially in warm, humid climates



# Ticks

- Can be found in forested areas
- They wait on long grass and in low shrubs
- When a human, bird or animal comes by they grab on and crawl up
- They always crawl upwards to find a place to feed
- Ticks feed for days (blood of mammals, birds, reptiles and amphibians)
- They look for a safe, hidden place where they won't be disturbed
- Commonly found in hair or hairline, behind ears, groin and armpits



# Ticks in Niagara

There are two main types of ticks found in Niagara:

- **American dog tick**
- **Blacklegged tick or deer tick**

Others which have been identified:

- **Lone star tick**
- **Groundhog tick**
- **Squirrel tick**



# American dog tick

- The most common tick found in Niagara
- Found in areas with long grass and trees
- Larger tick (about the size of an apple seed)
- Active in spring and summer
- **Does not** transmit the bacteria that causes Lyme disease





# Blacklegged tick



**Male**



**Female**



**Engorged - female**

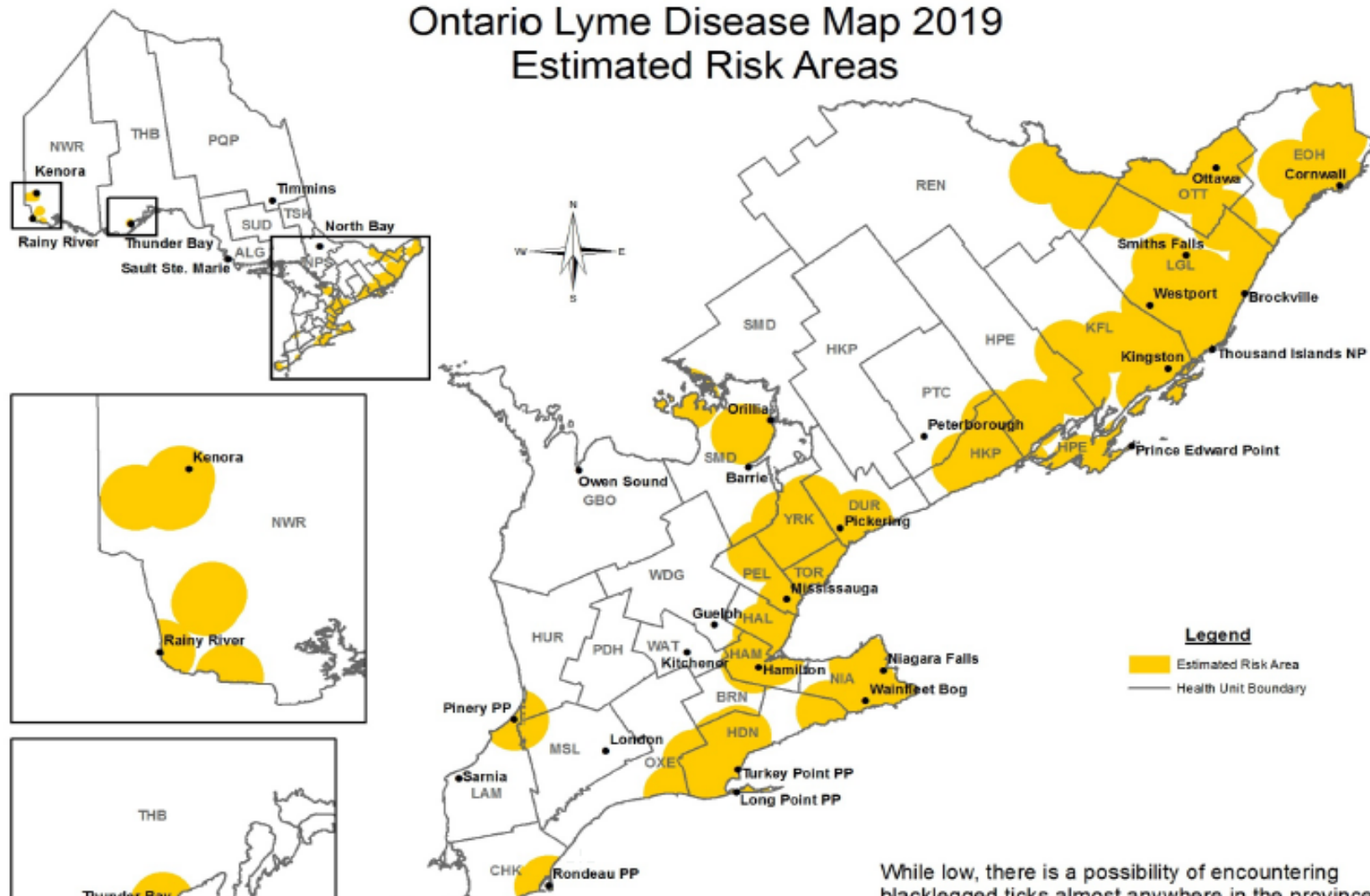
- Males – completely black back with reddish orange around the outside
- Females – reddish orange with black scutum (shield area above the mouth parts)

# Blacklegged tick

- **Can** transmit the bacteria that causes Lyme disease
- High risk, high tick areas in the Niagara region are:
  - Mud Lake Conservation Area, Port Colborne
  - Point Abino, Fort Erie
  - Rotary Park, St. Catharines
  - Wainfleet Bog Conservation Area, Wainfleet
- **Ticks feed on birds, so they can be potentially dropped off anywhere**



## Ontario Lyme Disease Map 2019 Estimated Risk Areas



A map of Ontario showing the areas where blacklegged ticks are known to be established. The majority of the risk areas are in southern Ontario along the north shores of Lake Erie, Lake Ontario and the St. Lawrence River. There are also risk areas in health units of Northwestern and Thunder Bay.

While low, there is a possibility of encountering blacklegged ticks almost anywhere in the province, provided the habitat is suitable for blacklegged ticks (e.g., wooded or brushy areas).

# Niagara Region Public Health & Emergency Services

- We provide education to the public, healthcare professionals and anyone who is bitten by a blacklegged tick
- We monitor human cases of Lyme disease
- We conduct tick surveillance activities within the Niagara region
  - **Passive surveillance:** public health inspectors identify ticks brought in by the public
  - **Active surveillance:** actively looking for blacklegged ticks through tick dragging

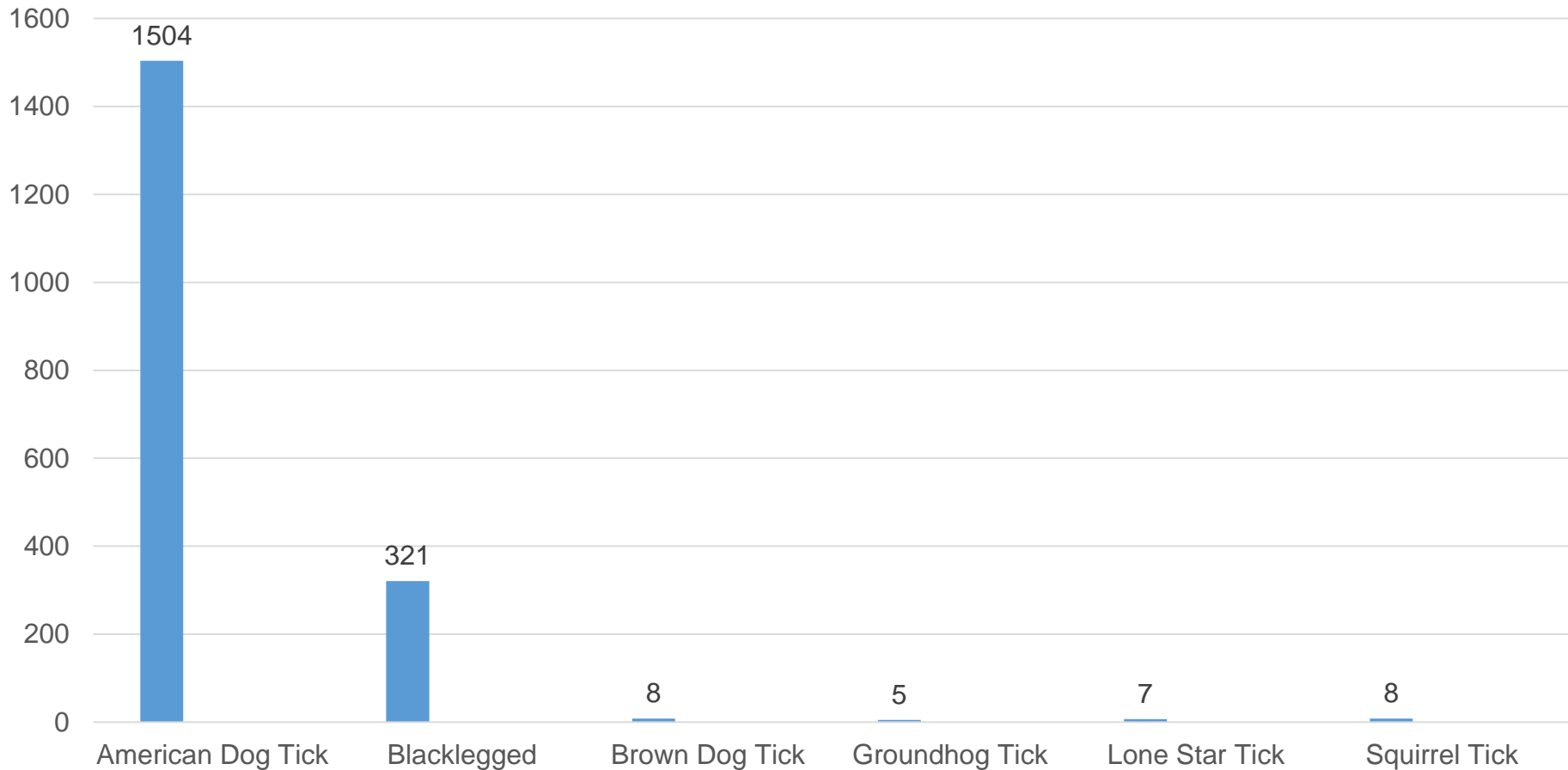
# Active surveillance – tick dragging

- Consists of dragging a flannel cloth over and around vegetation where ticks may be waiting for a passing host



# Tick submissions by type - 2018

Tick submission by type 2018



# How do I prevent a tick bite?

- Be aware when in blacklegged tick habitats (wooded, brushy areas especially along trails and the fringe area between the woods and border)
- Keep grass mowed
- Remove leaf litter
- Wear light coloured clothing to help spot ticks
- Wear closed shoes
- Wear long sleeve shirts and pants (tuck shirt into pants and pants into socks)
- Apply DEET or ICARIDIN to exposed skin
- Daily self inspect for attached ticks
- Shower or bathe within two hours of being in forested or long grass areas





# Lyme disease early symptoms

Symptoms that can occur 3-30 days after exposure are:

- Bulls-eye skin rash
  - Occurs in 70-80% of cases
- Muscle and joint pain
- Fever
- Headache
- Fatigue



# Bull's eye rash



Image from CDC, Tickborne Diseases of the United States, Reference Manual for Health Care Providers  
Second Edition, 2014

# Lyme disease symptoms

## Later complications

- Arthritis
- Facial paralysis
- Meningitis/encephalitis
- Heart infection
- Paralysis/loss of sensation

# Public health nurse role: disease of Public Health significance

## Education

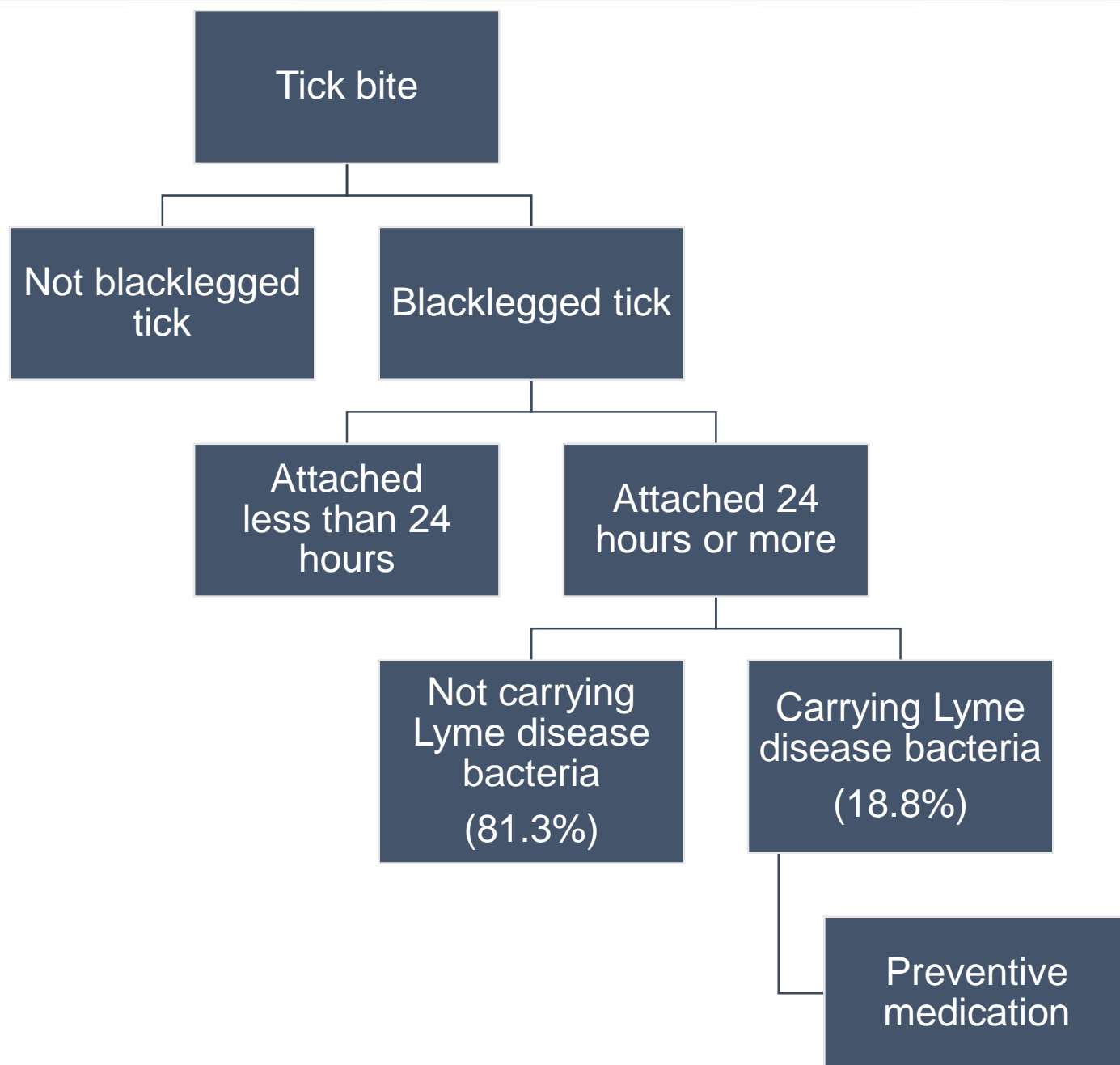
- Signs and symptoms
- Prevention strategies

## Surveillance

- DOPHS
- Identify exposure locations

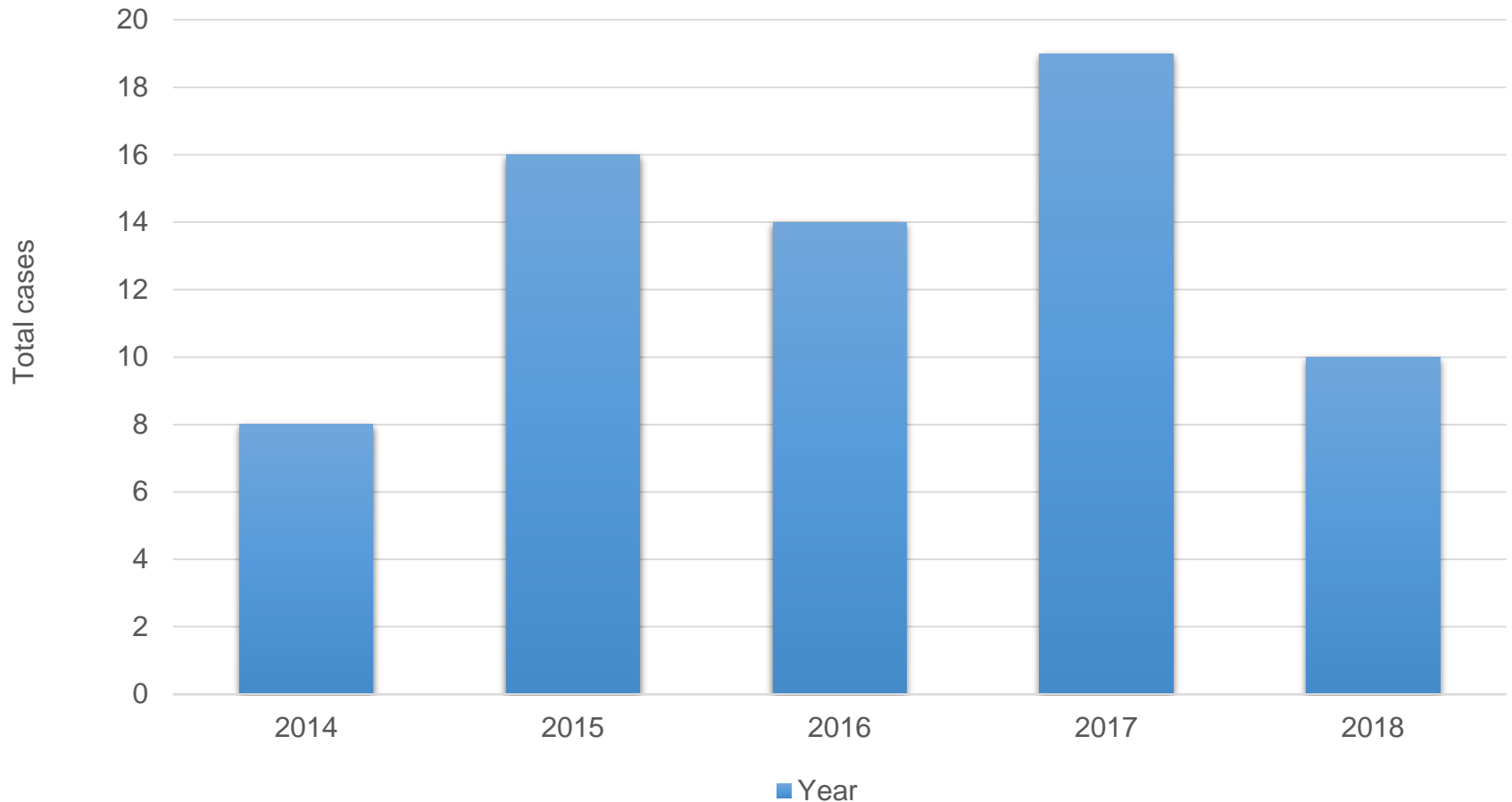
## Referral to primary care

- Prophylaxis
- Treatment





# Lyme disease in Niagara



# Questions?

<http://www.niagararegion.ca/health>

