

Lyme Disease

Communicable Disease Program

McHenry County Department of Health

May 21 . 2012



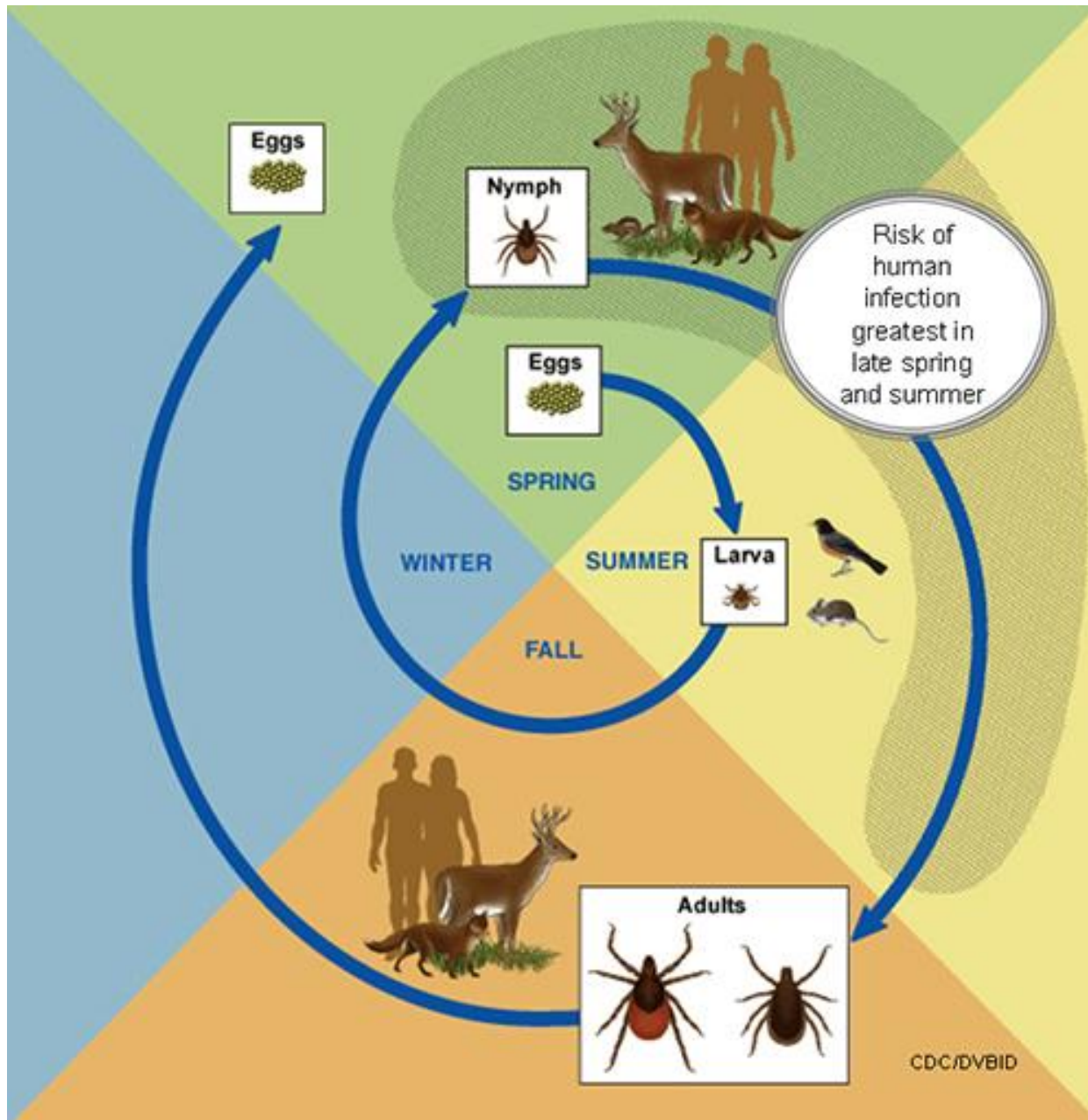
Lyme Disease

- A vector-borne illness that affects multisystems
- Cause by the spirochete *Borrelia burgdorferi*
- Transmitted by the bite of the Ixodes ticks (scapularis and pacificus)



History

- Identified in Lyme and Old Lyme Connecticut, 1975
- First Article appeared in 1977
- Nationally Reportable in 1991
- 6th Most Commonly Reported Disease in U.S.



TICK, Tick, TICK



One of the most efficient carriers of disease because they attach so firmly

Ticks can only crawl, not fly or jump

Ticks wait for their host from the tips of grasses and shrubs

Ticks are active when temperature > 40



Blacklegged Tick (*Ixodes scapularis*)



Lone Star Tick (*Amblyomma americanum*)



Dog Tick (*Dermacentor variabilis*)



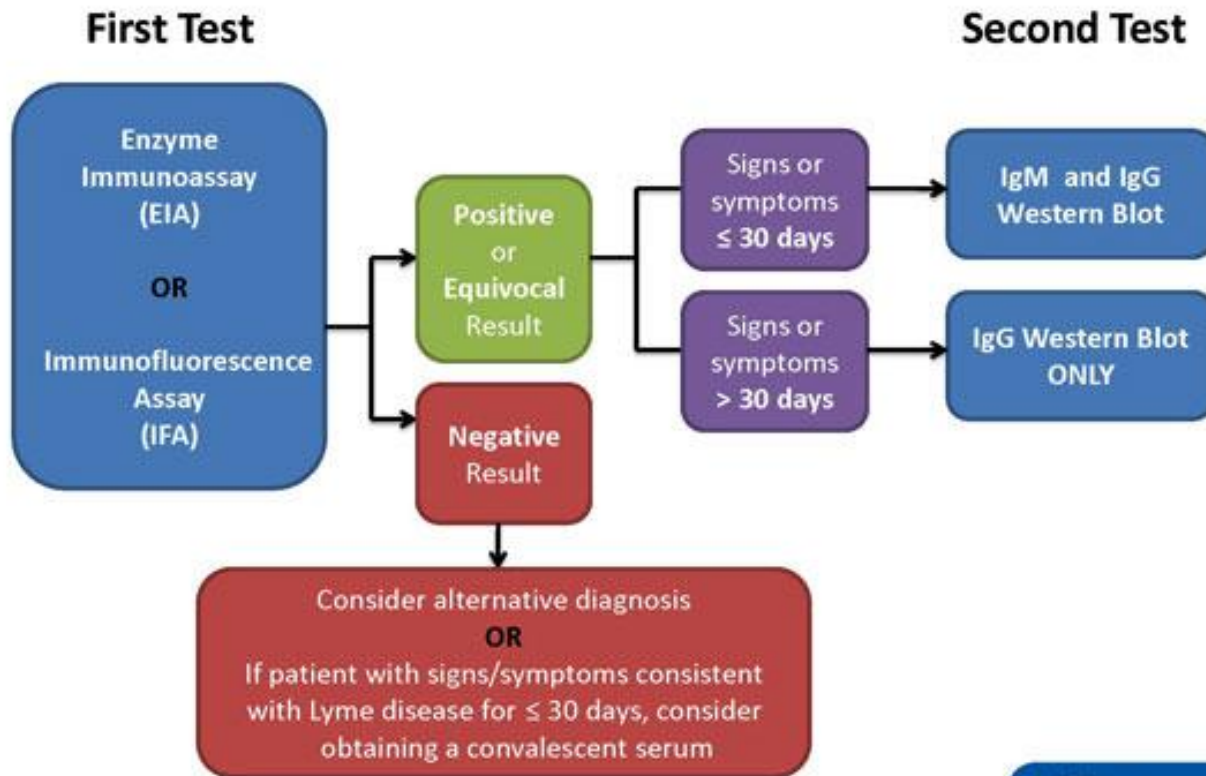
Tick Identification and Testing

- Tick Identification
 - Division of Environmental Health
 - University of Illinois Cooperative Extension Service
 - Illinois Department of Public Health Entomologist
- Previous Years- Dog Ticks
 - 2012-Deer Ticks
 - Deer Ticks found locally
- Testing of Ticks
 - West Nile Virus Vector Prevention Grant
 - Lyme, Anaplasmosis, Babesiosis
- 2012-up to 20 ticks
 - To date: 2 samples submitted (Cary, Lake in the Hills)



Testing: Two Tier required

Two-Tiered Testing for Lyme Disease



Preventative Treatment* (CDC 2012)

- A single dose of doxycycline may be offered to adult patients and to children 8 years of age when *all* of the following circumstances exist:
 - the attached tick can be reliably identified as a deer tick
 - The tick is estimated to have been attached for 36 h on the basis of the degree of engorgement of the tick with blood or of certainty about the time of exposure to the tick;
 - prophylaxis can be started within 72 h of the time that the tick was removed

*Infectious Diseases Society of America, 2006

Lyme Disease: Stages, Symptoms and Treatment



- **Early localized stage (3-30 days post-tick bite)**
- Red, expanding rash called erythema migrans (EM)
- Fatigue, chills, fever, headache, muscle and joint aches, and swollen lymph nodes
- Treatment: Doxycycline or Amoxicillin; 14 to 21 Days*



*Guidelines of the Infectious Diseases Society of America, 2006



Early disseminated stage (days to weeks post-tick bite)

- Untreated, the infection may spread from the site of the bite to other parts of the body, producing an array of specific symptoms that may come and go, including:
- Additional EM lesions in other areas of the body
- Facial or Bell's palsy (loss of muscle tone on one or both sides of the face)
- Severe headaches and neck stiffness due to meningitis (inflammation of the spinal cord)
- Pain and swelling in the large joints (such as knees)
- Treatment: IV Ceftriaxone for 2-4 weeks for neuro and heart; Oral regimen for joint involvement 4-8 weeks*

*Guidelines of the Infectious Diseases Society of America, 2006

Late disseminated stage (months-to-years post-tick bite)

- Approximately 60% of patients with untreated infection may begin to have intermittent bouts of arthritis, with severe joint pain and swelling. Large joints are most often affected, particularly the knees.
- Up to 5% of untreated patients may develop chronic neurological complaints months to years after infection. These include shooting pains, numbness or tingling in the hands or feet, and problems with short-term memory.
- Treatment: : IV Ceftriaxone for 2-4 weeks for neuro and heart; Oral regimen for joint involvement 4-8 weeks*

*Guidelines of the Infectious Diseases Society of America, 2006

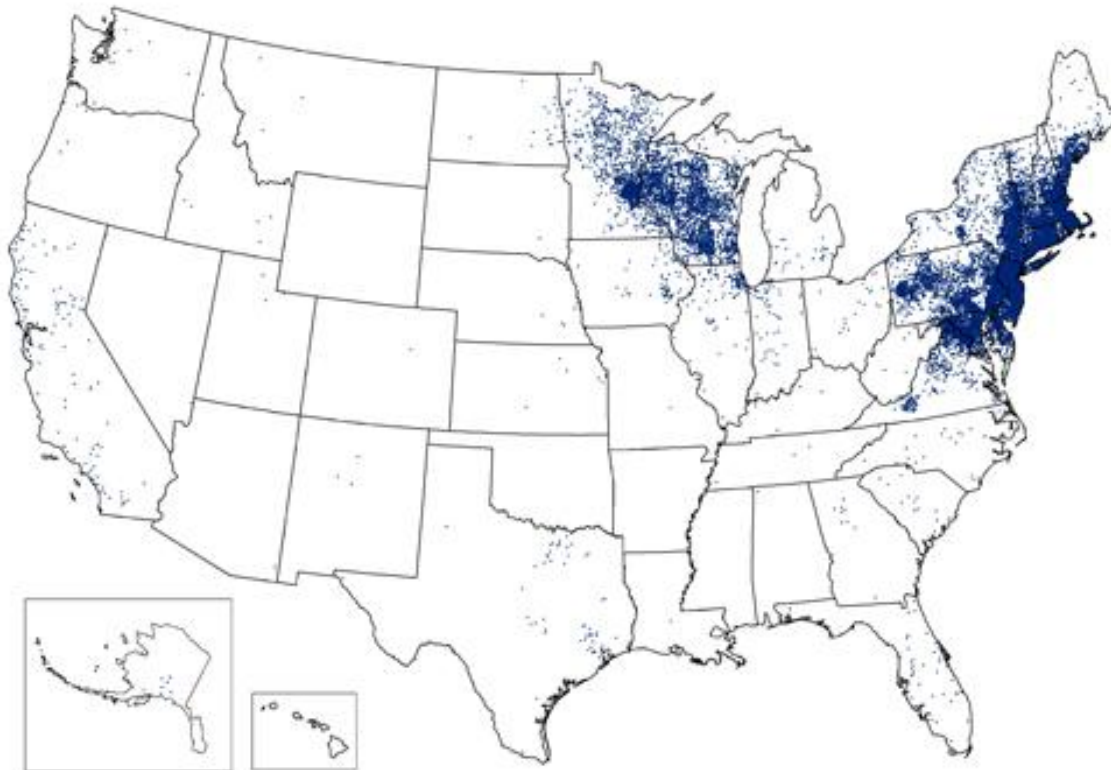
Post-treatment Lyme disease syndrome

- **Lingering symptoms after treatment**
- Approximately 10-20% of patients with Lyme disease have symptoms that last months to years after treatment with antibiotics
- Symptoms can include muscle and joint pains, cognitive defects, sleep disturbance, or fatigue.
- There is some evidence that PTLDS is caused by an autoimmune response, in which a person's immune system continues to respond, doing damage to the body's tissues, even after the infection has been cleared.
- Studies have shown that long term antibiotic therapy is not helpful and can be harmful for persons with PTLDS.

Lyme Disease in United States

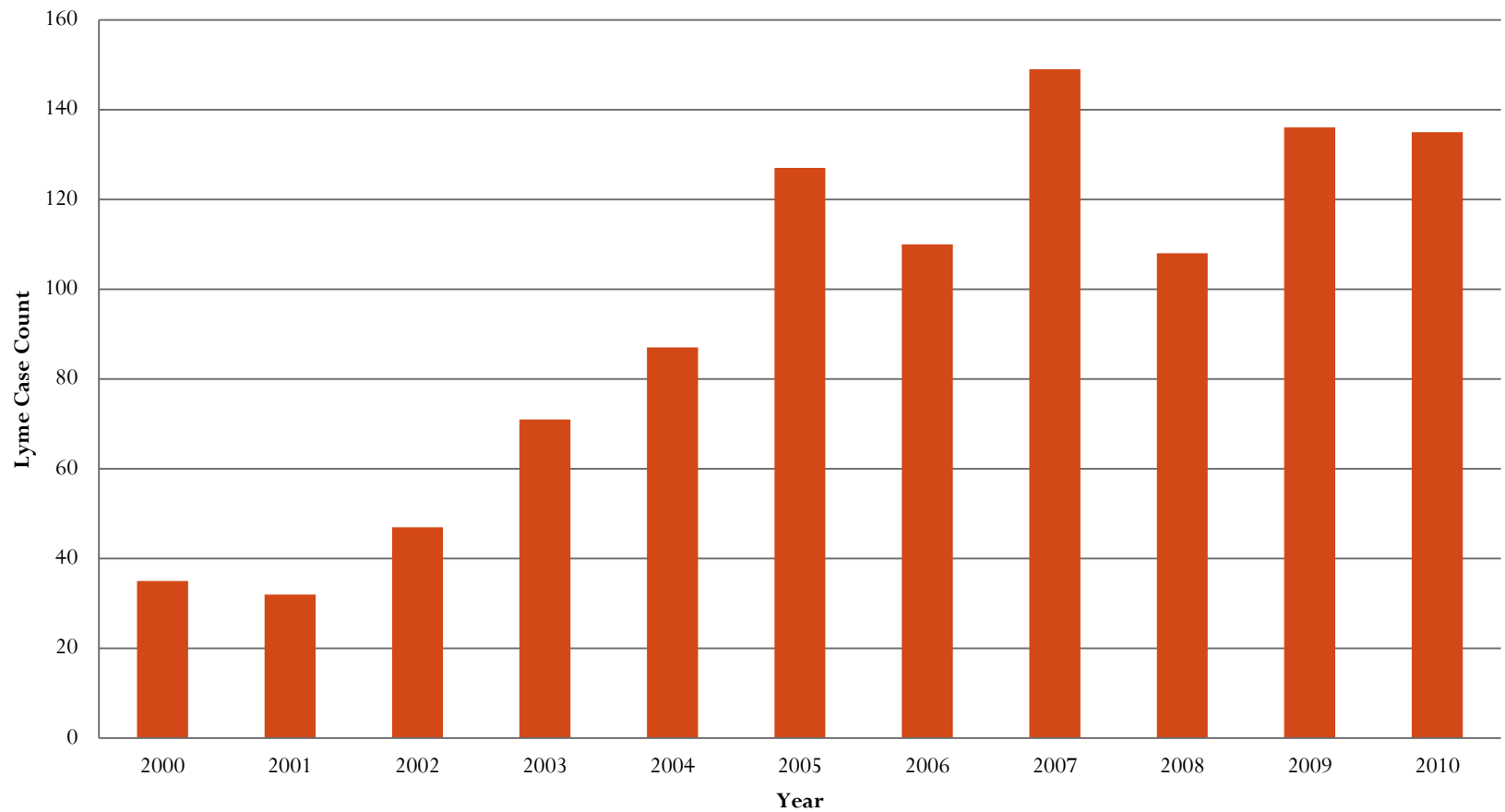
(CDC 2012)

Reported Cases of Lyme Disease -- United States, 2010

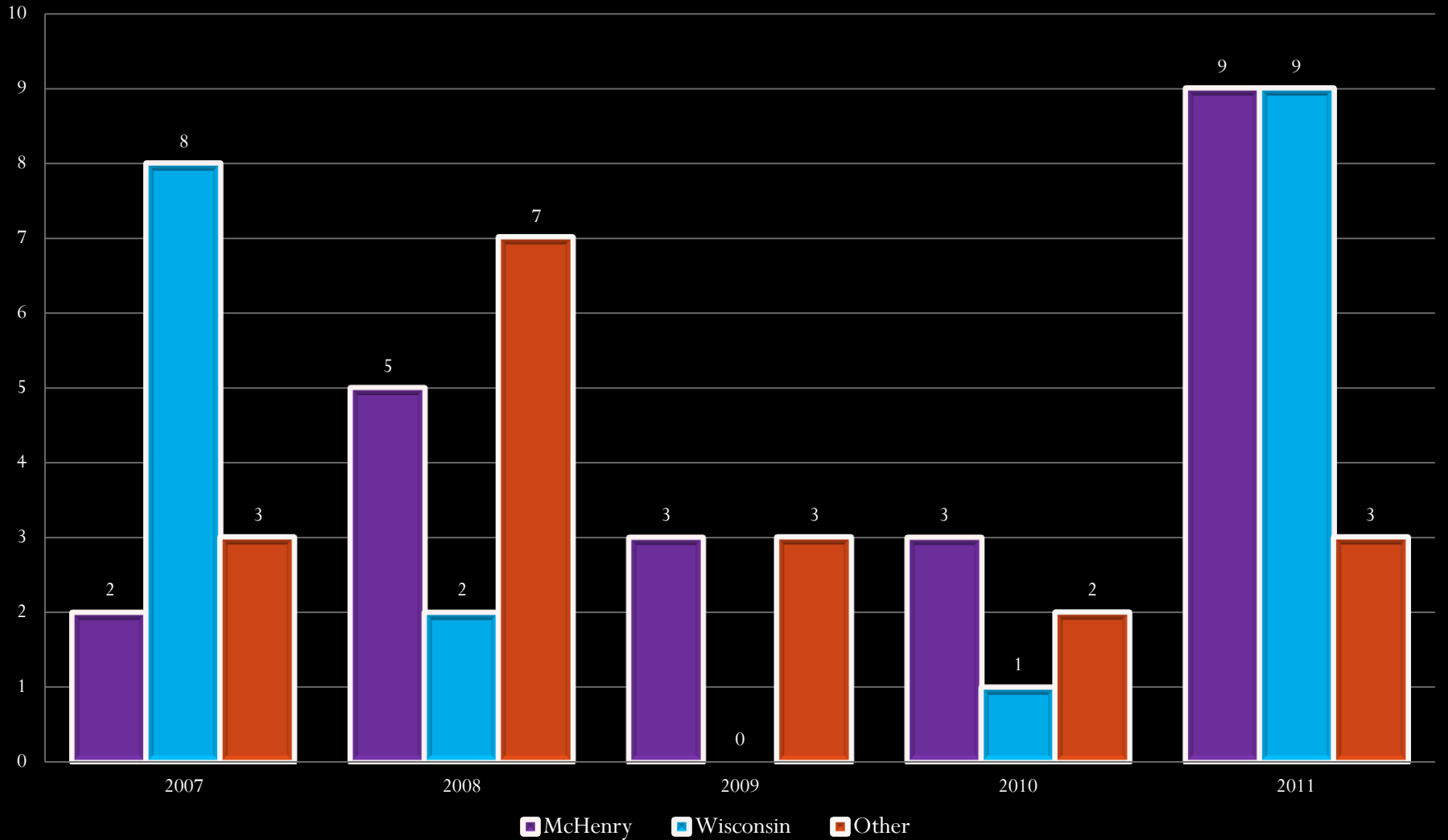


1 dot placed randomly within county of residence for each confirmed case

Reported Cases of Lyme Disease in Illinois 2000-2010 (IDPH 2012)



McHenry County Department of Health Reported Lyme Disease Cases by Exposure Location 2007-2011



Prevention

- ✓ Walk in the center of trails.
- ✓ Use repellents that contain 20% to 30% DEET
- ✓ Conduct a full-body tick check
- ✓ **Bathe or shower as soon as possible after coming indoors**
- ✓ Examine gear and pets
- ✓ Check your pets for ticks daily
- ✓ Reduce tick habitat in your yard.



**PREVENT
LYME
DISEASE!**

- WEAR REPELLENT
- CHECK FOR TICKS DAILY
- SHOWER SOON AFTER BEING OUTDOORS
- CALL YOUR DOCTOR IF YOU GET A FEVER OR RASH

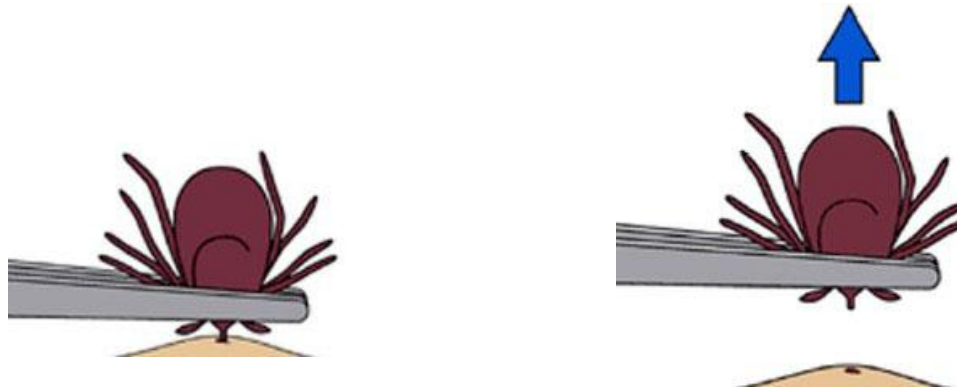


For more information:
www.cdc.gov



Removing a Tick

- Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible.



- Pull upward with steady, even pressure.
- After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol, an iodine scrub, or soap and water.
- Avoid folklore remedies such as "painting" the tick with nail polish or petroleum jelly, or using heat to make the tick detach from the skin.

A photograph of a misty forest path. The path is a narrow, winding trail of dark brown earth, flanked by lush green ferns and other forest plants. Tall, slender trees with thick trunks stand in the background, their tops shrouded in a light mist. The overall atmosphere is serene and natural.

A Walk in the Woods: Institute of Medicine Report
2011