

**Illinois Department of Public Health**

**Division of Environmental Health Vector Control Program**

**&**

**Communicable Disease Control Section Vector-Borne Diseases  
Program**

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**(410 ILCS 450/) Lyme Disease Prevention and Protection Act  
2023 Status Update**

**Date xx, 2024**

## Background

### PUBLIC HEALTH

(410 ILCS 450/) Lyme Disease Prevention and Protection Act.

The Lyme Disease Prevention and Protection Act (the Act), also known as the Lauryn Russell Lyme Disease Prevention and Protection Law, went into effect on January 1, 2019. The Act provided a background on Lyme disease as well as a call for the creation of the Lyme Disease Prevention, Detection, and Outreach Program and the Lyme Disease Task Force.

## Lyme Disease Prevention, Detection, and Outreach Program

(410 ILCS 450/10) Sec. 10. Lyme Disease Prevention, Detection, and Outreach Program.

The Act states that:

The Department of Public Health shall establish a Lyme Disease Prevention, Detection, and Outreach Program. The Department shall continue to study the population of ticks carrying Lyme disease and the number of people infected in Illinois to provide data to the public on the incidence of acute Lyme disease and locations of exposure in Illinois by county. The Department shall partner with the University of Illinois to publish tick identification and testing data on the Department's website and work to expand testing to areas where new human cases are identified. The Department of Public Health shall establish a Lyme Disease Prevention, Detection, and Outreach Program. The Department shall require health care professionals and laboratories to report acute Lyme disease cases within the time frame required under the Control of Communicable Diseases Code to the local health department. To coordinate this program, the Department shall continue to support a vector-borne disease epidemiologist coordinator who is responsible for overseeing the program. The Department shall train local health departments to respond to inquiries from the public.

The Illinois Department of Public Health's Division of Environmental Health (IDPH EH) Vector Surveillance and Control Program (Vector Program) and the Communicable Disease Control Section (CDCS) Vector-Borne Diseases (VBDs) Program together compose the Lyme Disease Prevention, Detection, and Outreach Program and has addressed this directive by conducting the following programmatic activities.

### Environmental Health Vector Control Program

#### 1) Illinois Active Tick Surveillance Program

Prior to 2018, the IDPH EH Vector Program primarily conducted tick surveillance through a passive program in which local health departments, clinicians, and other Illinoisans could submit ticks to the Vector Program for identification. Although this information is beneficial, it does not provide the geographic specificity or granularity of active tick surveillance data needed to direct public health action. In 2019, the IDPH EH Vector Program developed an active tick surveillance program, which aims to monitor tick presence, abundance, and infection prevalence in medically important ticks to direct public health action and educate residents and clinicians of local risks.

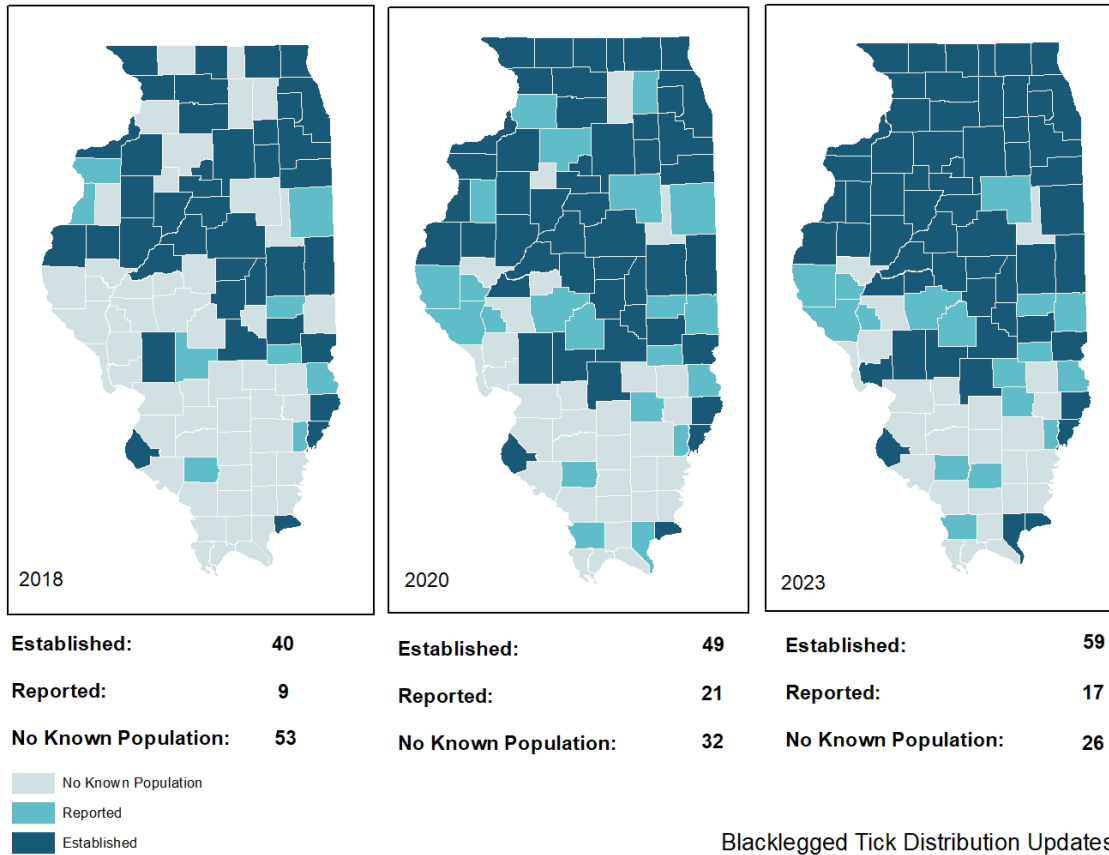
The active tick surveillance program began with an Intergovernmental Agreement (IGA) between the IDPH EH Vector Program and the University of Illinois (U of I) Natural History Survey Medical Entomology Laboratory (INHS MEL). The purpose of this IGA was to conduct targeted tick surveillance in areas of disease foci or outbreak locations, establish sentinel sites for recurring tick surveillance over time, and collect, identify, and test ticks for pathogens of public health concern.

The IDPH EH Vector Program developed a system for selecting counties for active tick surveillance based on the CDC Tick Surveillance Objectives outlined in their 2019 *Surveillance for Ixodes scapularis and pathogens in this tick species in the United States* publication. The first two objectives are outlined below and must be met before moving onto other objectives:

- Classify county status for *I. scapularis*: established, reported, or no data available.
- Classify county status for presence of specific pathogens in *I. scapularis* ticks: present or no data available.

In addition to these county statuses for *Ixodes scapularis* and *Borrelia burgdorferi* (the causative agent of Lyme disease), the IDPH EH Vector Program also incorporates the 5-year human Lyme disease incidence for each county and prioritizes counties that have high numbers of Lyme disease incidence.

The first goal of the active tick surveillance program is to determine what counties have *Ixodes scapularis* present. For a county to be established, 6 or more ticks of the same life stage must be found in a 12-month period, or two or more life stages must be found in a 12-month period. For a county to be reported, fewer than six ticks of the same life stage must be found within a 12-month period. In 2018, Illinois had 37 established counties, 6 reported counties and 59 counties with no data available. After the 2022 active tick surveillance season, Illinois had 59 established counties, 17 reported counties, and 26 counties with no data available. **Figure 1** illustrates the progress of the active tick surveillance program in county status since 2018. A current distribution map is also included in **Attachment 1**.



**Figure 1: County status for *I. scapularis* in Illinois**

The second goal of the IDPH EH Vector Program’s active tick surveillance is to determine what counties have pathogens of public health concern, specifically *Borrelia burgdorferi* for the purpose of the Act. Prior to 2018, limited research had been done in Illinois to define counties with *B. burgdorferi* presence. As of 2022, the active tick surveillance program has identified *B. burgdorferi* from *I. scapularis* ticks collected from 41 counties, shown in **Attachment 2**.

Additionally, the IDPH EH Vector active tick surveillance program is not limited to *Ixodes scapularis* surveillance alone. **Table 1** outlines the ticks that have been collected by the INHS MEL through this active tick surveillance program IGA with IDPH EH Vector Program. **Table 2** outlines all pathogen testing that has been conducted by INHS MEL as part of the IGA with IDPH EH Vector Program.

**Table 1. Infectious Vectors Identified in Ticks Collected through Active Tick Surveillance**

Tick Species	2019	2020	2022
<i>Ixodes scapularis</i>	881	340	578
<i>Amblyomma americanum</i>	2,254	1,468	1,308
<i>Amblyomma maculatum</i>	6	774	0
<i>Dermacentor variabilis</i>	135	2,285	162

**Table 2. Tick Pathogen Detection Status**

Pathogen	Tests	Positive
<i>Anaplasma phagocytophilum</i>	1,818	53
<i>Babesia microti</i>	1,820	11
<i>Borrelia burgdorferi</i>	1,798	378
<i>Borrelia mayonii</i>	1,164	0
<i>Borrelia miyamotoi</i>	1,795	39
<i>Ehrlichia chaffeensis</i>	4,085	152
<i>Ehrlichia ewingii</i>	4,351	167
<i>Ehrlichia muris eauclairensis</i>	928	0
<i>Francisella tularensis</i>	701	6
<i>Rickettsia parkeri</i>	4,777	189
<i>Rickettsia rickettsii</i>	4,218	1
<i>Heartland virus</i>	3,190	2 batches*

\*Heartland virus was tested by the CDC and ticks were tested in pools or batches rather than individuals, due to the hundreds of ticks collected for testing

**2) Program Funding**

The IDPH EH active tick surveillance program initiative is primarily funded through the Used Tire Fund (Illinois State Special Fund 294). In May 2022, the IDPH EH Vector Program applied for Centers for Disease Control and Prevention (CDC) Epidemiology and Laboratory Capacity (ELC) Budget Period 4 funding for active tick surveillance and was awarded \$10,000.

The IDPH EH Vector Program distributes Vector Surveillance and Control grants to 97 local health departments (LHDs) through the Comprehensive Health Protection Grant bundle. The Vector grants are funded through the Emergency Public Health Fund (Illinois State Special Fund 240). Below are the past 5-year total funding awards:

- Fiscal Year 2020: 2.8 million
- Fiscal Year 2021: 2.8 million
- Fiscal Year 2022: 2.2 million
- Fiscal Year 2023: 2.5 million
- Fiscal Year 2024: 2.8 million

The Vector Surveillance and Control grants are used primarily to fund West Nile virus surveillance and prevention as specified in the statute (415 ILCS 5/55.6a). However, certified LHDs may utilize up to 20% of their grant award for non-mosquito vectors such as ticks.

Beginning in State Fiscal Year 2024 (July 1, 2023 – June 30, 2024), the IDPH EH Vector Program developed a new active tick surveillance grant program. A total of \$400,125 was made available for IDPH Active Tick Surveillance Grants. Any certified LHD that applied would receive \$4,125 to conduct active tick surveillance and provide tickborne disease prevention awareness. There were 78 certified LHD grantees for the new Active Tick Surveillance Grant initiative.

### 3) Tickborne Disease Incidence Maps

Average 10-year tickborne disease human incidence was calculated by county for the years 2013-2022. Cases were counted based on county of residence at the time of symptom onset. All probable and confirmed cases for each disease were included. Case definitions were based on the recommended CDC and Council of State and Territorial Epidemiologists (CSTE) case definition for the year of symptom onset. Of note, the Lyme Disease case definition was updated in 2022. The 10-year tickborne disease incidence maps were created by the IDPH EH Vector Program using ESRI ArcGIS software (**Attachment 3**).

### 4) Illinois Active Tick Surveillance Mapping Application [<https://arcg.is/15fDSO>]

The IDPH EH Vector Program created an interactive tick mapping application to report all the surveillance findings from the active tick surveillance program. The mapping application was created and is maintained entirely by the IDPH EH Vector Program through ESRI ArcGIS software.

The Illinois Tick Surveillance Mapping Application is divided into tabs for each of the four ticks of public health importance: blacklegged tick, Lone Star tick, Gulf Coast tick, and American dog tick. In each individual tick species' tab are additional tabs showing the current tick's distribution map in Illinois, along with any pathogens that have been tested for in that tick. Counties on the map may be selected to see a detailed description of ticks collected and tested in that county.

The Illinois Tick Surveillance Mapping Application is updated at a minimum of twice a year but is also updated more frequently as data becomes available.

### 5) Data Reporting

All tick collection, identification, and pathogen testing data are displayed on the interactive Illinois Active Tick Surveillance Mapping application. Additionally, all data are reported to the CDC through the ArboNET data reporting platform.

### 6) Educational Outreach Trainings

In 2023, the IDPH EH Vector Control Program conducted tick surveillance trainings for LHD staff. Information that was covered included active tick identification, active tick surveillance methods, tickborne disease pathogens, and public health messaging. Training dates and locations were based on volunteer sites and are listed here:

1. March 29, 2023 – Tazewell County Health Department
2. April 5, 2023—Macon Mosquito Abatement District
3. April 6, 2023—Jackson County Health Department
4. April 11, 2023—Madison County Health Department
5. April 13, 2023—Champaign-Urbana Public Health District
6. April 18, 2023—Winnebago County Health Department
7. April 27, 2023 – DuPage County Health Department





## Illinois State Fair

The IDPH EH Vector Program had an educational booth at the 2023 Illinois State Fair in Conservation World. IDPH Vector Control staff provided educational materials to Illinoisans on both ticks and mosquitoes (Figure 3). Fair goers had the opportunity to ask questions of the IDPH EH Vector Program staff and learn about efforts in Illinois to discover what tick species are present and what pathogens they are carrying. Educational materials and mosquito/tick repellent wipes were available for guests to keep. Additionally, 3,000 tick removal kits were given away at the State Fair. Tick removal kits consisted of tweezers, band aid, bag, alcohol wipe, repellent wipes, information card, and tick identification card (Figure 4).



Figure 3. IDPH Vector Program State Fair Educational Booth



Figure 4. Tick Removal Kits



## Communicable Disease Control Section-Vector-Borne Diseases (VBDs) Program

### 1. Human Vector-Borne Diseases Surveillance

- The IDPH VBD Program is managed by a VBD epidemiologist program manager who conducts human surveillance on 22 reportable mosquito- and tick-borne diseases for Illinois residents. The program manager also trains LHDs to respond to inquiries from the public. IDPH conducts human VBD surveillance through electronic reporting via the Illinois National Disease Surveillance System (I-NEDSS) in accordance with the Council of State and Territorial Epidemiologists (CSTE) case definitions, which are algorithms put in place for all 50 states and U.S. territories to ensure consistency in data that is reported to CDC. Surveillance is the ongoing, systematic collection, analysis, and interpretation of health-related data essential to planning, implementation, and evaluation of public health practice. I-NEDSS is an electronic platform by which suspect human VBD cases with positive laboratory reports are electronically imported from commercial and private laboratories for patients who reside in Illinois. Some cases may be manually entered into I-NEDSS by IDPH or the LHD if the laboratory is not enrolled in electronic reporting via I-NEDSS. When the LHD receives a paper laboratory report that is not already in I-NEDSS, they enter the report either as a new case or as an addendum to an already existing case. The program epidemiologist utilizes I-NEDSS to 1) monitor the VBD data that are imported looking for aberrations or anomalies; 2) ensure LHDs are conducting investigations in a timely manner for suspect cases in their respective jurisdictions; and 3) create daily, weekly, and quarterly reports by querying data to identify areas that require additional follow up as outlined below:
  - Daily review of new laboratory and provider reports in I-NEDSS for all 22 VBDs, monitoring for cases that are new or unusual to Illinois.
  - Weekly review of six reports for all 22 reportable tick- and mosquito-borne illnesses to identify gaps in data. Variables queried include clinical symptoms, laboratory reports, serotype, treatment, exposure history, where disease was acquired, death information, case classification, and cases that have been opened greater than 30 days.
  - Review of death certificates in the Illinois Vital Records Reporting System (IVRS) for cases who have expired to determine if the cause of death was attributed to the illness or complications from the illness.
  - Follow-up with LHDs: Cases found to have gaps in data are sent back to the LHD conducting the investigations, requesting further investigation and completion of reports before it can be closed.
  - Follow-up on cases opened greater than 30 days with an email sent to LHDs notifying them their case investigations need to be completed so the case can be closed.
  - Respond to questions from the Centers for Disease Control and Prevention (CDC) regarding case investigation data that has been submitted to them.
  - Monitor cases who have tested positive for a VBD and have received or donated blood and received or donated organs/tissue for transplant into another person. When a case such as this has been identified, further follow up and collaboration with the CDC, the LHD, the blood and/or organ/tissue donor facility, and potentially another state public health department must be done for testing of the donor and/or recipient for the pathogen in question.

- Laboratory reports are the primary means by which IDPH and LHDs receive suspected reports of Lyme disease and other VBDs. In accordance with Illinois Administrative Code Section 690.698 Tickborne Diseases, laboratories report suspected cases of Lyme diseases (and other tick- and mosquito-borne diseases) to the Department via electronic laboratory reporting (ELR) into the Illinois National Electronic Disease Surveillance System (I-NEDSS) within 7 days. Each lab report is automatically electronically sent to the LHD in the jurisdiction where the case resides via I-NEDSS so the LHD can begin their investigation. (Note: administrative rule changes are pending JCAR approval.)
- The IDPH VBD program manager maintains and updates information on VBDs on the IDPH web portal which is accessible to all LHD staff. Everything the LHD needs to know about conducting their case investigation for Lyme disease and all other VBDs is on the IDPH web portal CD Topics A through Z pages. Each reportable VBD has a web portal page that is specific to that disease.

The information below is a snippet of what the VBD Program Epidemiologist has put on the IDPH Lyme disease web portal page to assist LHDs in conducting their case investigations and provide links to FREE educational materials for the healthcare providers in their jurisdictions, including materials they can pass on to their patients. There is an additional section for Education and Prevention of Lyme Disease plus additional resources at the bottom of the portal page that are not included below. All LHD VBD staff have access to the IDPH web portal.

**Start** > Home > Communities > Communicable Disease Control > CD Topics A-Z

### **Lyme Disease**

[Lyme disease](#) is caused by the bacterium *Borrelia burgdorferi* and *Borrelia mayonii* and is [transmitted](#) to humans through the bite of infected [blacklegged \(deer\) ticks also known as \*Ixodes scapularis\*](#), which are present throughout Illinois and the eastern half of the United States. Ticks actively quest for a host when temperatures are at or above 40 degrees Fahrenheit or 4 degrees Celsius.

**In the spring, before tick activity peaks**, Local Health Departments should consider posting tick [prevention posters, signs and brochures](#) they can order **free of charge** from CDC at parks and other outdoor recreational areas in their jurisdictions that may be potential tick habitats. Tick habitats include areas with tall grass, forested or brushy areas with leaf litter where deer and rodents carrying ticks and tickborne pathogens may be present.

#### **Rules of the Illinois Department of Public Health**

**2022 Lyme Disease Case Definition** - new pathogen (*Borrelia mayonii*) also transmits Lyme disease and should be added to laboratory testing panels. See laboratory testing below for new testing criteria.

**NEW** [Tick flyer with crossword for kids and families](#) (downloadable and printable in English and Spanish) - provide this for families and providers in your jurisdiction.

**NEW Lyme disease public web page updates** with information for clinicians, Lyme disease data and more.

[2018 Tickborne Diseases of the US - A CDC Reference Manual for Healthcare Providers](#) – Please order this for your LHD and healthcare providers in your jurisdiction **free of charge** by [clicking here](#).

[Studies/Articles and Other Resources](#): LHDs, please share these resources with healthcare providers in your jurisdictions.

Peer-reviewed study [Estimating the Frequency of Lyme Disease Diagnoses, United States, 2010–2018](#), Kugeler\_EID\_2021.pdf

Peer-reviewed study [Changing Trends in Age and Sex Distributions of Lyme Disease—United States, 1992-2016](#), Kugeler\_PHR\_2021.pdf

Peer-reviewed study [Use of Commercial Claims Data for Evaluating Trends in Lyme Disease Diagnoses, United States, 2010-2018](#)

[Estimating the Frequency of Lyme Disease Diagnoses, United States, 2010–2018](#)

[National Institute of Health Study: Dangers of Long-Term or Alternative Treatments for Lyme Disease](#)

[Syndromic surveillance of ED visits for tick bites by time, region, age, and sex](#)

[IDPH Lyme Disease Public Web Page](#)

[Illinois Interactive Tick Surveillance Map](#)

[TickNET](#) is a collaborative public health effort in tickborne disease surveillance, research, education, and prevention.

[Vector-Borne Diseases Table of Symptoms and Incubation Periods](#): Please use this document to make sure your case falls within the appropriate incubation period for the specific disease you are investigating.

[2021 Lyme disease exposure map](#)

[Lyme disease Clinical Symptoms](#)

Information the LHDs are to obtain from the patient's health care provider in addition to basic investigation procedures are detailed in the initial Lyme Disease Prevention and Protection Act Status Report, dated June 28, 2022.

### **Government guidance and recommendations of the federal Centers for Disease Control and Prevention**

IDPH VBD Program follows and recommends to LHDs guidance on the surveillance of all mosquito and tick-borne VBDs provided from various branches of the Division of Vector-Borne Diseases (DVBD) at the CDC. IDPH guidance and recommendations are acquired from the following CDC DVBD branches:

- Arboviral Diseases Branch
- Bacterial Diseases Branch
- Dengue Branch
- Rickettsial Zoonoses Branch

### **Designated Web Page**

The IDPH public web page for Lyme disease can be found on the [Tickborne Illnesses](#) page.

Content on the public Lyme disease web page, noted below, includes, but is not limited to, the prevention, detection, and treatment of Lyme disease and is intended for physicians, other healthcare professionals and providers, and other persons (the public) subject to an increased risk of contracting Lyme disease.

For clinicians:

This section was created in 2022 on the IDPH public Lyme disease web page and includes subject matter for clinicians including physicians, other healthcare professionals and providers, as well as other persons subject to an increased risk of contracting Lyme disease. Content for clinicians on the public Lyme disease web page includes information on the following topics:

- Lyme disease incidence
- Transmission
- Patient assessment considerations
- Symptoms of the three clinical phases of Lyme disease and incubation period for each phase
- Collection of a thorough exposure and travel history from the patient
- Diagnostic laboratory testing
- CDC treatment recommendations for Lyme disease based on clinical presentation
- Post exposure prophylaxis
- Prevention

*Note:* [Spotted Fever Rickettsioses Information for Clinicians](#) page was developed and posted on IDPH public web page in 2023.

Anaplasmosis web page content, including information for clinicians, is currently being developed to be added in Tickborne Illnesses panel on the public web page.

Tools for clinicians:

- CDC Tickborne Diseases of the United States: A Reference Manual for Health Care Providers (with information on ordering hardcopies free of charge)
- Illinois Interactive Tick Surveillance Map
- Caring for your patient after a tick bite
- How to remove an attached tick
- IDPH Lyme Disease Pocket Cards (for public consumption, print your own or how to request cards from IDPH VBD Program)
- CDC Lyme Disease Educational Brochures and how to order free of charge
- Scientific peer-reviewed research articles (see #5 below)

Continuing Education for Clinicians – CDC Training Modules:

- [MODULE 1: Introduction to Tickborne Diseases and Disease Prevention](#)
- [Module 2: Lyme Disease Clinical Overview](#)
- [Module 3: Lyme Disease Testing and Diagnosis](#)
- [Module 4: Lyme Disease Treatment and Management](#)

Data and Statistics:

The following Illinois data are reported on the IDPH public Lyme disease web page under the [Lyme Disease Data](#) tab.

- Reported tickborne cases 2012-2022.
- Map of reported incidence rate of Lyme disease by county, 2010-2019\*is currently being updated

- Human VBD exposure data for Lyme disease and Rocky Mountain Spotted Fever are shared with the EH Vector Control Program for the following purposes:
  - a. To inform of human cases in areas where ticks have not been collected and tested for tick-borne pathogens, so tick drags in the area(s) can be done.
  - b. Human exposure maps for Lyme disease and RMSF are created using VBD data by EH Vector Control staff proficient in the ARC GIS mapping application.

Lyme Disease Task Force:

All 2024 meeting dates have been established and voted on by the board. They are posted on the IDPH public webpage. A static link has been created for those attending through WebEx to be utilized when logging into the meetings. Meeting minutes that have been reviewed and voted on for approval by the board are posted under the previous meeting agenda. A tab has remains on the main IDPH public Lyme disease web page, linking information on task force meetings in order of occurrence, with the most recent task force meeting on top.

The task force met each quarter in 2023-2024 and discussed surveillance results, funding, website updates as well as emerging topic updates such as alfa gal syndrome, climate change impact, outbreaks related to RMSF,

**Peer-reviewed scientific research articles**

Articles published on the IDPH public web page include synopses with a link to each article. Articles are as follows:

- a. Changing Trends in Age and Sex Distributions of Lyme Disease—United States, 1992-2016
- b. Estimating the Frequency of Lyme Disease Diagnoses, United States, 2010–2018
- c. Tick and Tickborne Pathogen Surveillance as a Public Health Tool in the United States, May 2020

**Educational Materials**

- Webinar:  
The IDPH VBD Program hosts an annual webinar to educate LHD staff prior to tick and mosquito season. On May 17, 2023, the webinar, which was on the topic of anaplasmosis and ehrlichiosis surveillance, had 138 people in attendance from LHDs throughout the State. The webinar covered the following topics for anaplasmosis and ehrlichiosis, including the following: epidemiology and statistics/incidence, reporting requirements, transmission, transmission cycle and tick habitat, risk factors, clinical symptoms, diagnosis, treatment, prevention, case investigation process, utility of the 2022 national case definition for Lyme disease in a case investigation and IDPH and CDC public web page resources.
- IDPH Public Web Page  
Information for the public on the prevention, detection, and treatment of Ehrlichiosis.  
*Note: The IDPH public web page for Anaplasmosis is in the process of being developed.*
  - What is ehrlichiosis?
  - How does a person get ehrlichiosis?
  - What are the symptoms of ehrlichiosis and how soon do they occur?
  - How is ehrlichiosis diagnosed?
  - What is the treatment for ehrlichiosis?
  - How can ehrlichiosis be prevented?
  - How should an attached tick be removed?

- Resources (EH Vector Control Program and CDCS VBD Program):
  - INHS Medical Entomology Laboratory Active Tick Surveillance
  - IQuery
  - National Data and Statistics
  - Vector Control and Surveillance
  - Tickborne Diseases of the United States, Reference Manual for Health Care Providers
  - Information for Hunters on Ticks
  - Lyme Disease Data and Statistics
- Publications (EH Vector Control Program and CDCS VBD Program):
  - Tickborne Disease Incidence Maps
  - Reported Tickborne Cases 2011-2021
  - Lyme Disease Pocket Card
  - Tick Prevention Poster
  - 2021 Human Exposures
  - 2020 Human Exposures
  - 2019 Human Exposures
- Partnership with Illinois Department of Natural Resources (IDNR)
  - Office of Land Management – IDPH CDCS VBD Program ordered and/or printed brochures, tick signs (posted at trail entrances), pocket cards distributed to IDNR for distribution to IL State Parks Visitor Centers. Details of IDPH educational materials are below.

#### IDPH Pocket Cards and Tick Remover Cards –

Produced by IDPH VBD Program manager – approximately the size of a credit card, the Lyme disease and spotted fever rickettsial diseases pocket cards and IDPH tick remover cards have been distributed to the Illinois Department of Natural Resources for distribution to IL State Parks Visitor Centers in 2023. All the cards have a QR Code that takes the user to the IDPH Tickborne Illnesses web page for more detailed information.

- IDPH Lyme Disease Pocket Card – educational information on the symptoms, diagnosis, treatment, and prevention of Lyme disease. One side of the card has a ruled edge for the purpose of measuring the diameter of the erythema migrans rash. See graphic below. Image posted on the IDPH Lyme Disease web page.
- IDPH Spotted Fever Rickettsial Diseases Pocket Card (includes Rocky Mountain spotted fever (RMSF) and *Rickettsia parkeri*) – educational information on the symptoms, diagnosis, treatment, and prevention of spotted fever rickettsial diseases. Image posted on the IDPH RMSF web page.
- IDPH Tick Remover Cards – 20,000 tick remover cards were procured and delivered to IDNR in April 2023. These cards were distributed to IL State Parks Visitor Centers throughout the state. On the card includes a graphic of how to use the card to remove attached ticks using notches for small and larger sized ticks.
- See Attachment 4 for images of the IDPH Lyme disease and RMSF pocket cards and the IDPH tick remover cards that were distributed throughout Illinois in 2023.

Below is a list of all the brochures from IDPH and ones ordered from CDC that were mailed to IDNR for distribution to IL State parks throughout the State since 2019. See **Attachment #4** for pictures of the brochures, pocket cards, and trail sign disseminated to the public via State parks.

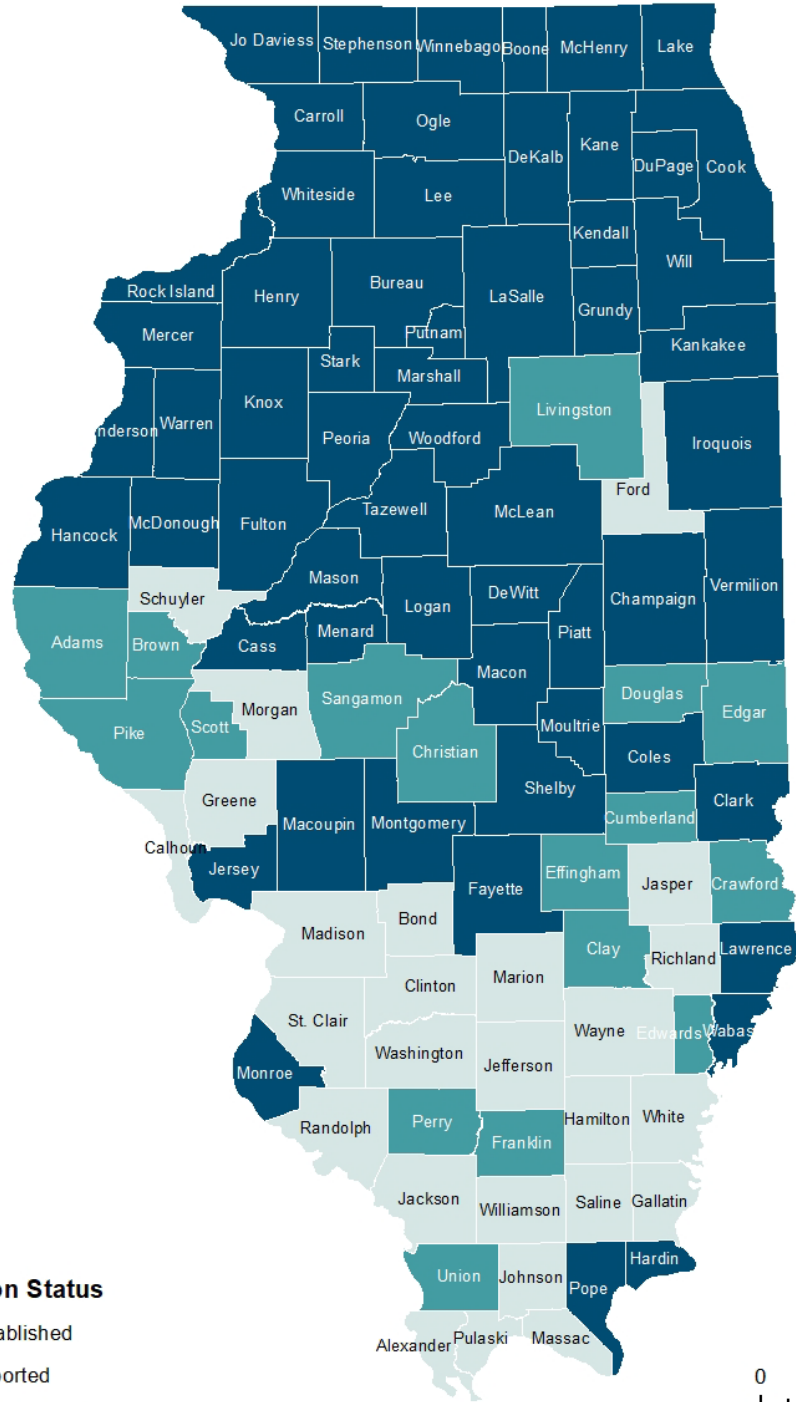
<b>Brochure/Sign</b>	<b># Ordered / Printed</b>	<b>Language</b>
IDPH Lyme Disease Pocket Cards	14,000	English
IDPH RMSF Pocket Cards	10,500	English
IDPH Don't Let a Tick Make You Sick Crossword	20,000	English
IDPH Don't Let a Tick Make You Sick Crossword	Pdf sent to IL school nurses and ISBE for their newsletter.	English
IDPH Don't Let a Tick Make You Sick Crossword	650	Spanish
IDPH Tick Remover Cards	20,000	English
CDC Lyme Disease What you need to know	4,500	English
CDC Tickborne Disease Prevention and Tick Removal Bookmark	5,500	Spanish
CDC Prevent Tickborne Diseases Bookmark	1,000	English
CDC Prevent Tickborne Diseases Bookmark	2,500	Chinese
CDC Protecting Yourself from Ticks and Mosquitoes	4,000	English
CDC Protecting Yourself from Ticks and Mosquitoes	2,500	Spanish
CDC Mosquito Bites are Bad Activity Book (16-page children's activity book)	2,500	English
CDC Mosquito Bites are Bad Activity Book	2,500	Spanish
CDC Prevent Mosquito Bites Door Hanger	2,500	English



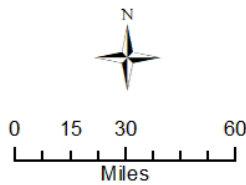
Attachment 1

*Ixodes scapularis* Population Status by County

# *Ixodes Scapularis* Population Status by County



**Population Status**  
Established  
Reported  
No data available



Attachment 2

*Borrelia burgdorferi* (causative agent of Lyme Disease)

Distribution Map by County

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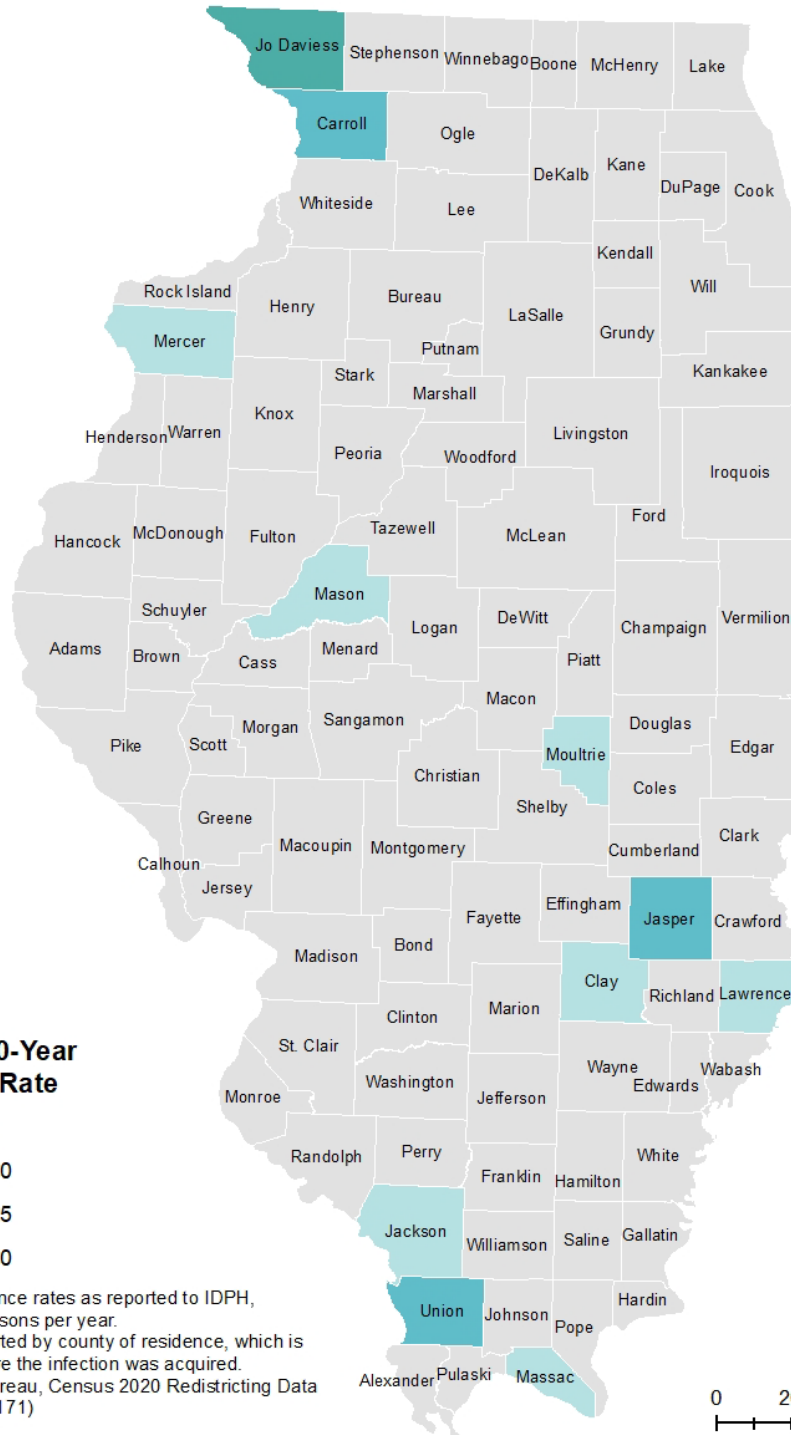


Attachment 3

10-year Tickborne Disease Incidence Maps

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# Reported Incidence Rate\* of Anaplasmosis By County, 2013-2022

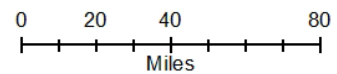


### Average 10-Year Incidence Rate

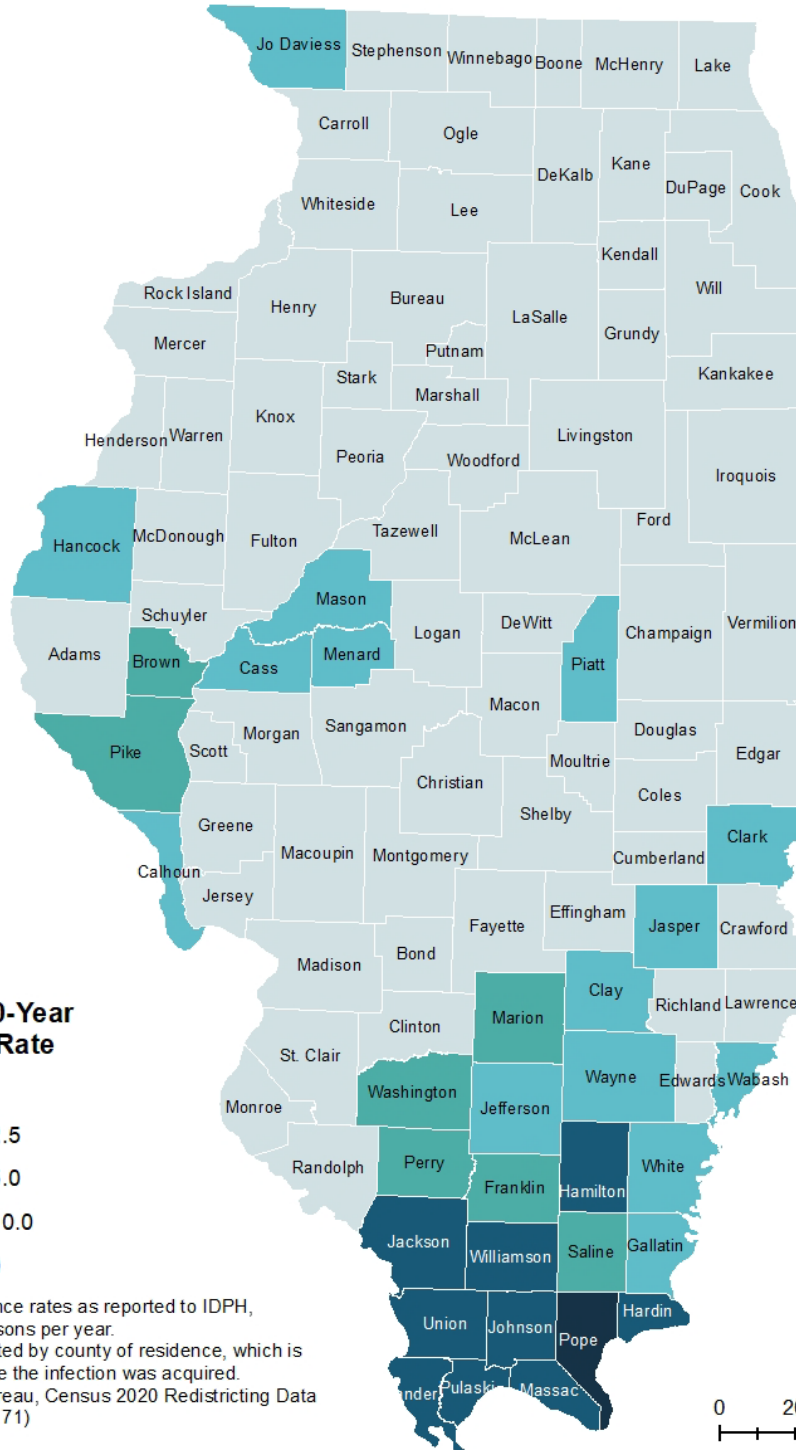
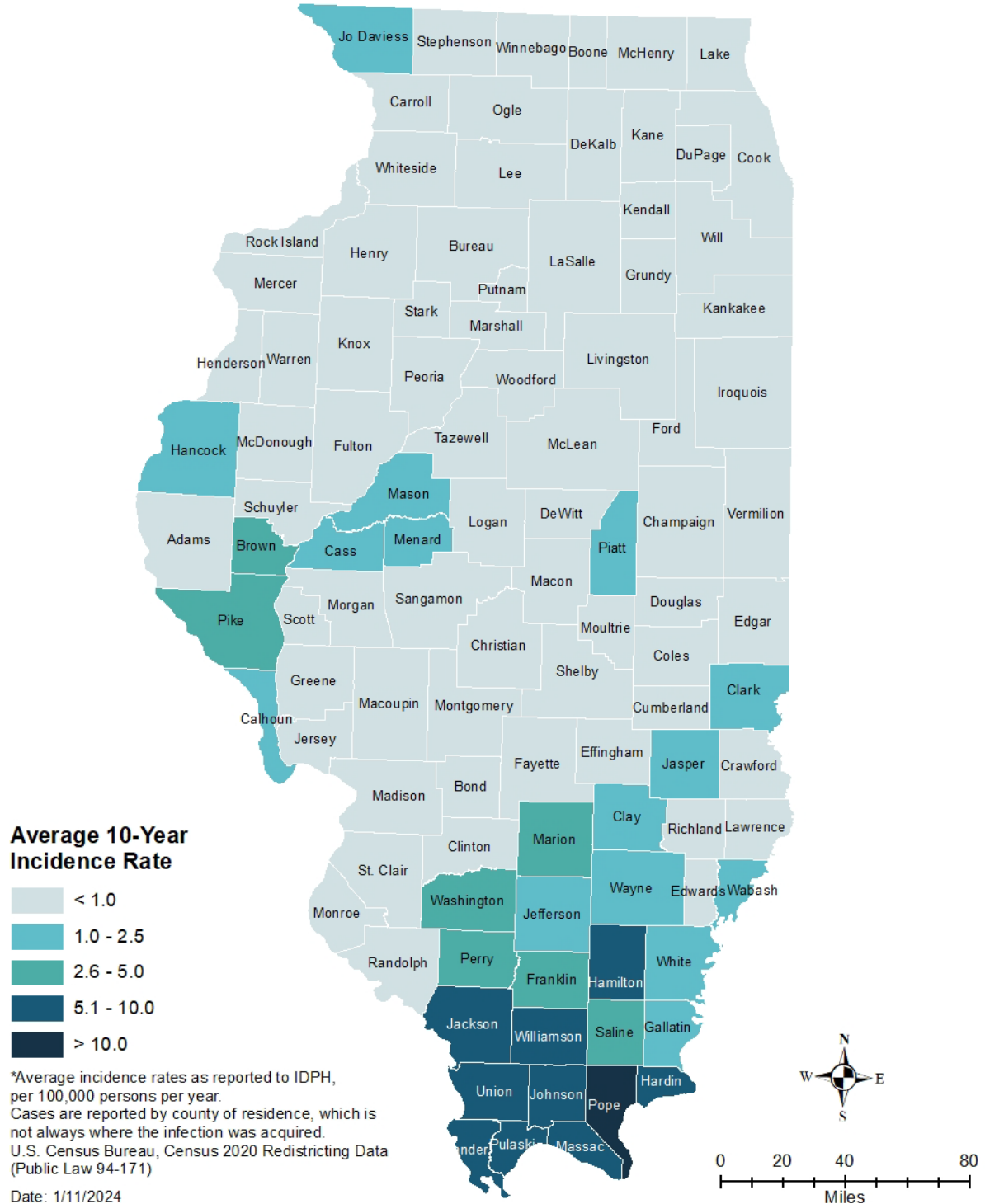
- <0.5
- 0.5-1.0
- 1.1-2.5
- 2.6-5.0

\*Average incidence rates as reported to IDPH, per 100,000 persons per year. Cases are reported by county of residence, which is not always where the infection was acquired. U.S. Census Bureau, Census 2020 Redistricting Data (Public Law 94-171)

Date: 1/11/2024



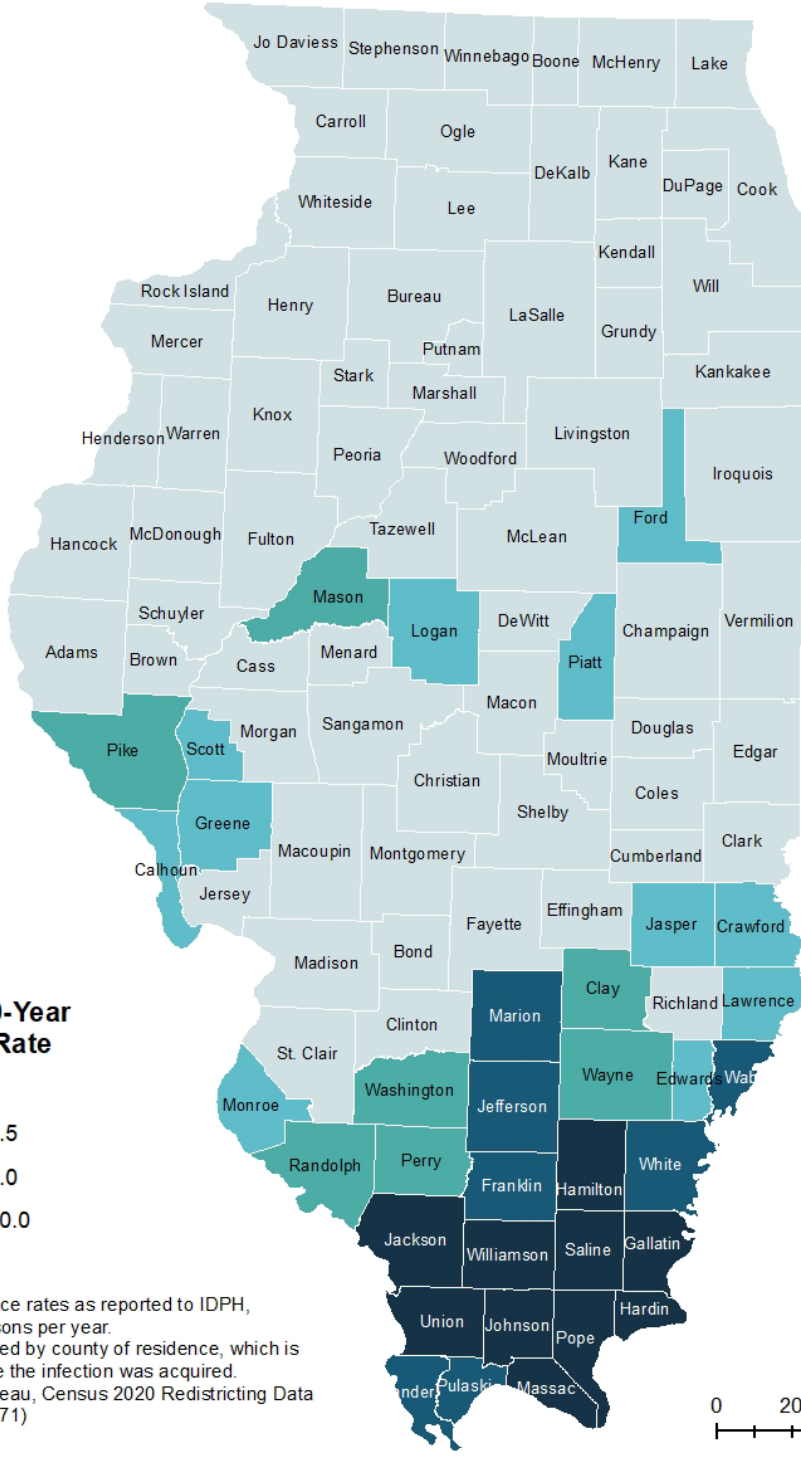
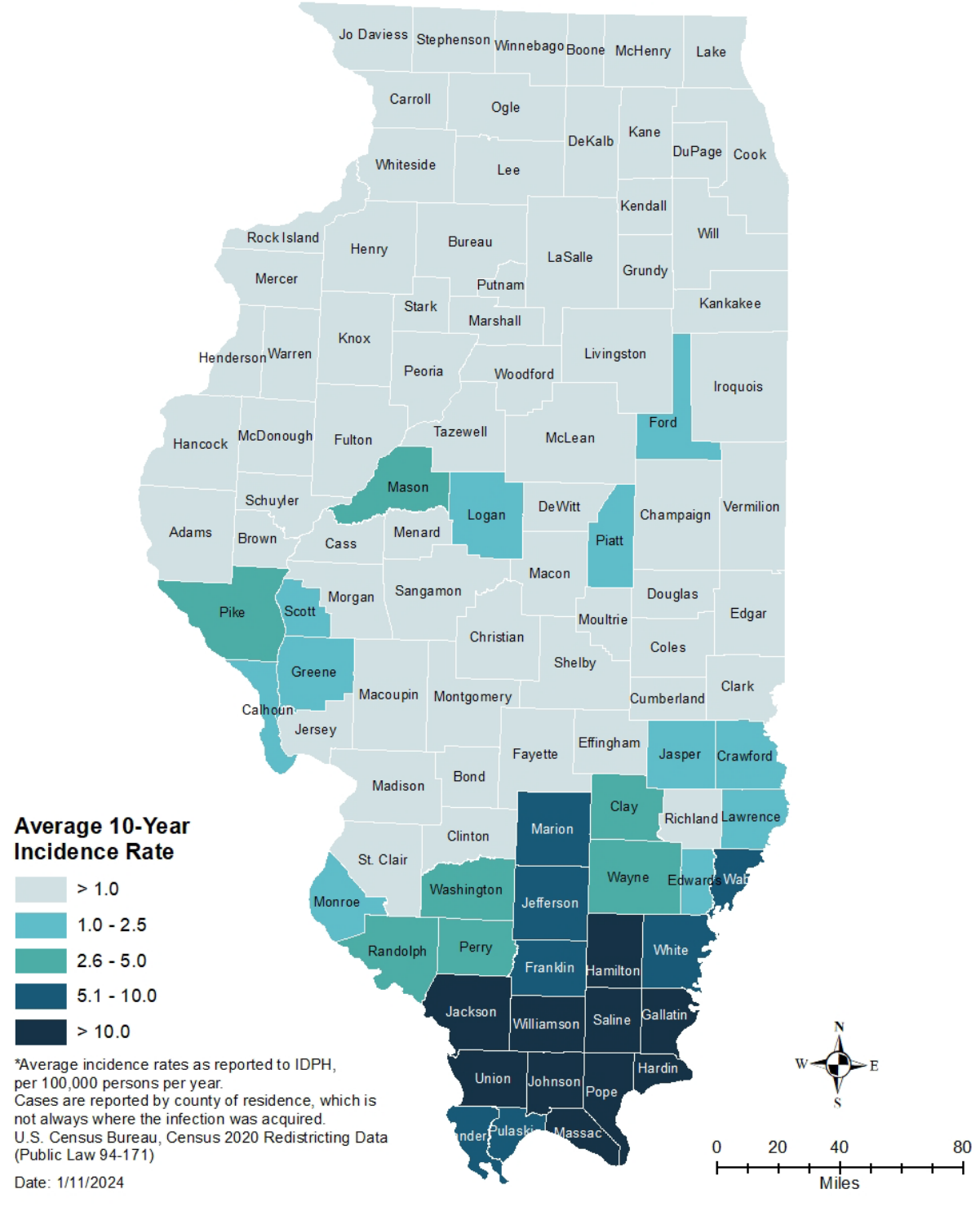
# Reported Incidence Rate\* of Ehrlichiosis By County, 2013-2022







# Reported Incidence Rate\* of Spotted Fever Group Rickettsiosis By County, 2013-2022



## Attachment 4

### IDPH and CDC Educational Brochures/Sign

#### IDPH Lyme Disease Pocket Card

### Lyme Disease

**Symptoms:** Rash - often shaped like a bull's-eye, fever, chills, headache, fatigue, muscle aches, joint swelling and pain, facial droop, heart palpitations/irregular heart beat, confusion. Symptoms may appear from a few days to 3 months or more after exposure.





**Transmission:** Spread through the bite of infected ticks. *Immature ticks called nymphs, (the size of a poppy seed), infect most humans because they go undetected.*

**Diagnosis:** Clinical suspicion and a blood test - may be negative if done too early. If negative, repeat testing should be done 2-4 weeks after the 1<sup>st</sup> test.

**Treatment:** Antibiotics such as Doxycycline

**Prevention:** Avoid tick bites - avoid wooded brushy areas with high grass and leaf litter; walk in the center of trails; wear light colored clothing treated with 0.5% permethrin; use EPA-registered insect repellents containing DEET, picaridin, IR3535, oil of lemon eucalyptus, para-menthane-diol or 2-undecanone.

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### Lyme Disease

**How to remove a tick:**


- Use fine-tipped tweezers; grasp tick as close to the skin's surface as possible
- Pull upward with steady, even pressure - don't squeeze, twist or jerk the tick
- Clean the bite area and your hands with rubbing alcohol or soap and water
- Dispose of a live tick by putting it in alcohol, a sealed bag/container, or wrap tightly in tape


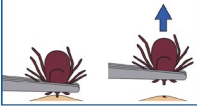
**Infected nymphs infect most humans**

**Blacklegged tick (*Ixodes scapularis*)**

adult female    adult male    nymph    larva

*If rash develops, use ruled edge below to measure rash in inches at largest diameter*




#### IDPH SFGR Bi-Fold Pocket Card

**How to remove an attached tick:**



- Use fine-tipped tweezers; grasp tick as close to the skin's surface as possible.
- Pull upward with steady, even pressure - don't squeeze, twist or jerk the tick.
- Clean the bite area and your hands with rubbing alcohol or soap and water.
- Dispose of a live tick by putting it in alcohol, a sealed bag/container, or wrap tightly in tape.



**Rocky Mountain Spotted Fever (RMSF) and Rickettsia Parkeri**

**Symptoms:**

- Rocky Mountain Spotted Fever**  
*Early (1-4 days)* - high fever, severe headache, rash initially appearing as pinpoint dots, swelling around eyes and hands, muscle aches, upset stomach with nausea and vomiting.
- Late (5 days or longer)* - brain swelling, altered thought processes, difficulty breathing, coma, risk of death if not treated prior to 5th day.
- Rickettsia Parkeri** — fever, headache, rash, and dark scab called an eschar at the site of tick attachment.

**Spotted Fever Group Rickettsioses**

State of Illinois  
Illinois Department of Public Health

**Transmission:** RMSF is spread through the bite of infected American dog ticks, and *R. parkeri* is spread through the bite of infected Gulf Coast ticks. Immature ticks called nymphs (the size of a poppy seed), infect most humans because they frequently go undetected.

**Diagnosis:** clinical suspicion and a blood test or testing of tissue from a biopsy.

**Treatment:** RMSF can be severe/fatal if not treated within 5 days. Treatment for RMSF and *R. Parkeri* infections is antibiotics such as Doxycycline. About 10% of RMSF cases don't develop a rash so treatment should not be withheld in absence of rash.

**Prevention:** Avoid contact with ticks – walk in the center of trails and wear clothing and gear treated with 0.5% permethrin. Inspect yourself and pets for ticks after being in brushy or wooded areas or spent time gardening or hunting. Use insect repellent registered by EPA containing DEET, picaridin, IR3535, Oil of Lemon Eucalyptus (OLE), para-menthane-diol (PMD), or 2-undecanone.

**Rocky Mountain Spotted Fever Symptoms Timeline**

Doxycycline is most effective at preventing severe illness and death if administered within the first five days of symptoms.

<b>Days 1-2:</b> high fever, headache, muscle aches.	<b>Days 2-4:</b> faint rash on hands and feet.	<b>Days 5-7:</b> rash worsens and spreads.	<b>Days 7-9:</b> rash turns purple. If untreated, risk of death increases.
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<https://www.cdc.gov/ticks/tickbornediseases/rmsf.html>  
[https://www.cdc.gov/rmsf/pdf/clinical\\_timeline\\_rocky\\_mountain\\_spotted\\_fever\\_08\\_english\\_7-2-2018-3-p.pdf](https://www.cdc.gov/rmsf/pdf/clinical_timeline_rocky_mountain_spotted_fever_08_english_7-2-2018-3-p.pdf)  
<https://www.cdc.gov/ticks/tickbornediseases/rickettsiosis.html>

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#### IDPH Tick Remover Cards



## Attachment 4 (Continued)

### IDPH Don't Let a Tick Make You Sick Crossword (English)

**State of Illinois**  
Illinois Department of Public Health

## Don't Let a Tick Make You Sick

*Fight the Bite*

**What is a tick?**  
Ticks are small bugs that are related to spiders. Like spiders, they have 8 legs, but they don't spin webs like spiders do. There are many kinds of ticks that can make you sick, but the most common tick in Illinois that can make you sick is the blacklegged tick (also called a deer tick). Blacklegged ticks are so tiny they can be mistaken for a freckle or a speck of dirt on your skin. The picture above is a hamburger bun with ticks that are the size of a sesame seed.

This picture is a blacklegged tick on a leaf that has been magnified so you can see what it actually looks like.

**Where do ticks live?**  
Ticks live close to the ground where there is tall grass, shrubs, and leaves. They wait on tips of tall grass and shrubs and grab on to an animal or human when they walk by. You may come in close contact with ticks when doing outdoor activities in areas ticks live, such as camping, hiking, fishing, mushroom hunting, or walking your dog.

**What do ticks eat?**  
Unlike spiders that get their food from eating bugs, ticks get their food from drinking blood from the animals and humans they bite. Tick bites don't usually hurt, so most people don't notice when they have been bitten.

**Where to Check for Ticks**

**Can a tick bite make me sick?**  
Tick bites can make people sick, but there are some things you can do to decrease your chances of getting sick after a tick bite.

**What do I do if I see a tick on me?**  
Tell your parents or another adult right away. They can use tweezers to pull the tick off. Once the tick is removed, be sure to wash the area of the bite with soap and water or disinfectant.

**What if I get sick after a tick bite?**  
If you get a fever, skin rash, headache, sore muscles or feel really tired up to 30 days after a tick bite or being in an area where ticks live, tell your parents. They should call your doctor to see if you need to be tested for a tick illness and if you need medicine.

**How can I keep ticks away from me?**  
When you go outside, wear insect repellent that has DEET and stay out of wooded areas and places with tall grass and weeds where ticks live.

If you go where ticks live, wear long sleeves and long pants and tuck your pants in your socks and walk in the center of trails. When you come back inside, take a bath or shower and let your parents check you for ticks.

Your pets can also get ticks, so always check them when they come in from outside.

**Where to Check Your Pet for Ticks**

Some images have been provided by the CDC.

**Tick Defense Knowledge Check**

**ACROSS**

- How many legs does a tick have?
- An adult should always use this tool to remove a tick.
- An outdoor activity that can bring you in close contact with ticks.
- Ticks are so small they can be mistaken for this.
- Ticks eat this.
- Ticks wait on this for animals and people to walk by.
- Places to check your body for ticks are in and around the hair and \_\_\_\_\_ under the arms, inside the belly buttons, around the waist, between the legs, and the back of the knees.

**DOWN**

- If you get sick after a tick bite, this may appear on your skin.
- Before going into areas where ticks live, wear insect repellent that contains this.
- After removing a tick, wash the bite area with soap and \_\_\_\_\_.
- Ticks are related to these creepy crawlers that spin webs.
- If you get sick after a tick bite, tell your parents so they can call your \_\_\_\_\_.
- When you come inside from an area where ticks live, be sure to \_\_\_\_\_ yourself for ticks.
- The most common tick that can make you sick in Illinois is a blacklegged tick, which is also called a \_\_\_\_\_ tick.

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### IDPH Don't Let a Tick Make You Sick Crossword (Spanish)

**Estado de Illinois**  
Departamento de Salud Pública de Illinois

## No dejes que una garrapata te enferme

*Combate la picadura*

**¿Qué es una garrapata?**  
Las garrapatas son pequeños insectos relacionados con las arañas. Al igual que las arañas, tienen 8 patas, pero no hacen telarañas. Hay muchos tipos de garrapatas que pueden enfermarte, pero la más común en Illinois es la garrapata de patas negras (también llamada garrapata del venado). Las garrapatas de patas negras son tan pequeñas que pueden confundirse con una pieza o una mota de suciedad en la piel. La imagen de arriba muestra un pan de hamburguesa con garrapatas del tamaño de una semilla de sésamo.

Esta foto es una garrapata de patas negras en una hoja que ha sido ampliada para que pueda ver como se ve realmente.

**¿Dónde viven las garrapatas?**  
Las garrapatas viven cerca del suelo, donde hay hierba alta, arbustos y hojas. Esperan en las puntas de la hierba alta y los arbustos y se agrupan a un animal o a un ser humano cuando pasan cerca. Puede entrar en contacto con garrapatas al realizar actividades al aire libre en áreas donde viven garrapatas, como acampar, hacer senderismo, pescar, buscar hongos o pasar a su perro.

**¿Qué comen las garrapatas?**  
A diferencia de las arañas que se alimentan de insectos, las garrapatas se alimentan de la sangre de los animales y humanos a los que pican. Las picaduras de garrapatas suelen doler, por lo que la mayoría de la gente no se da cuenta de que le han picado.

**Dónde buscar garrapatas en tu cuerpo**

**¿Puedo enfermarme de una picadura de garrapata?**  
Las picaduras de garrapata pueden enfermarte a las personas, pero hay algunas cosas que puedes hacer para disminuir las probabilidades de enfermarte después de una picadura de garrapata.

**¿Qué hago si veo una garrapata sobre mí?**  
Dile inmediatamente a tus padres o a otro adulto. Pueden utilizar unas pinzas para quitar la garrapata. Una vez que hayas retirado la garrapata, asegúrate de lavar el área de la picadura con agua y jabón o desinfectante.

**¿Qué pasa si me enfermo después de una picadura de garrapata?**  
Si tienes fiebre, erupciones en la piel, dolor de cabeza, dolor muscular o sientes mucho cansancio hasta 30 días después de una picadura de garrapata o de haber estado en una zona donde viven garrapatas, dile a tus padres. Ellos deben llamar a tu médico para ver si necesitas que te hagan pruebas para detectar una enfermedad causada por garrapatas y si necesitas medicamentos.

**¿Cómo puedo mantener las garrapatas alejadas de mí?**  
Cuando salgas, ponte repelente de insectos que tenga DEET y mantente lejos de las áreas boscosas y de los lugares con hierba alta y maleza donde viven las garrapatas.

Si vas a un lugar donde viven garrapatas, lleva manga y pantalones largos, métete los pantalones por dentro de los calcetines y camina por el centro de los senderos. Cuando vuelvas adentro, báñate o dúchate y deja que tus padres te revisen para ver si tienes garrapatas.

Tus mascotas también pueden contraer garrapatas, así que revílaslas siempre que vengan de fuera.

**Dónde buscar garrapatas en las mascotas**

Algunas imágenes han sido proporcionadas por la CDC.

**Verifica tu aprendizaje: Defensa contra garrapatas**

**HORIZONTAL**

- Una actividad al aire libre que puede ponerte en contacto cercano con las garrapatas.
- Si te enfermas después de una picadura de garrapata, dilelo a tus padres para que llamen a tu \_\_\_\_\_.
- Los lugares para revisar tu cuerpo en busca de garrapatas son dentro y alrededor del pelo y las \_\_\_\_\_ debajo de los brazos, dentro del ombligo, alrededor de la cintura, entre las piernas y detrás de las rodillas.
- Las garrapatas son tan pequeñas que pueden confundirse con esto.
- Las garrapatas esperan aquí a que pasen animales y personas.
- Después de quitar una garrapata, lavar el área de la picadura con jabón y \_\_\_\_\_.

**VERTICAL**

- La garrapata más común que puede enfermarte en Illinois es la garrapata de patas negras, o garrapata del \_\_\_\_\_.
- Antes de entrar en áreas donde viven las garrapatas, usa repelente de insectos que contenga esto.
- Cuando vuelvas a casa de un área donde viven las garrapatas, asegúrate de \_\_\_\_\_ que no haya garrapatas.
- Si te enfermas después de una picadura de garrapata, esto puede aparecer en tu piel.
- ¿Cuántas patas tiene una garrapata?
- Un adulto siempre debe usar esta herramienta para quitar una garrapata.
- Las garrapatas comen esto.
- Las garrapatas están relacionadas con estos espeluznantes rastreadores que tejen redes.

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Attachment 4 (Continued)

## LYME DISEASE: WHAT YOU NEED TO KNOW



HOW IT'S SPREAD  
 WHERE IT'S FOUND  
 HOW IT'S PREVENTED  
 HOW IT'S DIAGNOSED  
 HOW IT'S TREATED



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

CS30202A

## PREVENT TICKBORNE DISEASES

In people

- Wear insect repellent
- Shower soon after being outdoors
- Check for ticks daily
- See your doctor if you develop fever or rash after a tick bite or tick exposure



[www.cdc.gov/ticks](http://www.cdc.gov/ticks)



2008A-1 PUBLICATION NUMBER 20082

## PREVENT TICKBORNE DISEASES

In pets

- Talk to your veterinarian about tick prevention products
- Run your fingers through your pet's fur to feel for small bumps
- Check your pet for ticks daily



[www.cdc.gov/ticks](http://www.cdc.gov/ticks)



2008A-1 PUBLICATION NUMBER 20082



## PREVENT TICK BITES!

- 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/ticks](http://www.cdc.gov/ticks)



Centers for Disease Control and Prevention  
National Center for Emerging and Zoonotic Infectious Diseases


CS30202A

## PREVENT TICKBORNE DISEASES




- Wear repellent
- Check for ticks daily
- Shower soon after being outdoors
- Call your doctor if you get a fever or rash following a tick bite

[www.cdc.gov/ticks](http://www.cdc.gov/ticks)




CS30202A

## PREVENGA LAS ENFERMEDADES TRANSMITIDAS POR LAS GARRAPATAS



- Use repelente.
- Revise si tiene garrapatas todos los días.
- Dúchese pronto después de estar al aire libre.
- Lláme a su médico si presenta fiebre o sarpullido después de que lo pique una garrapata.

[www.cdc.gov/ticks](http://www.cdc.gov/ticks)




CS30202A

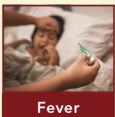
Rocky Mountain Spotted Fever **CAN BE DEADLY**

### Rocky Mountain Spotted Fever

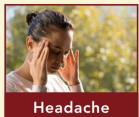
Signs & symptoms

- Fever
- Headache
- Rash
- Stomach pain
- Nausea or vomiting
- Muscle pain
- Lack of appetite






Fever




Headache



Rash

See a doctor if you have any of these symptoms.



CS30202A



Attachment 4 (Continued)



### Protecting Yourself from **Ticks and Mosquitoes**

Outdoor workers may be exposed to vector-borne diseases spread from the bites of infected ticks and mosquitoes. Ticks and mosquitoes may carry bacteria, parasites or viruses.

One of the most common tick-borne diseases in the U.S. is Lyme disease. Ticks are found in wooded areas, high grass, or leaf litter. They are most active during the spring, summer and fall, but in warmer areas may be active all year round.

One of the most common diseases carried by mosquitoes in the U.S. is West Nile virus infection. Mosquitoes may be found near standing water, or in weedy or wooded areas. They are usually most active during dawn and dusk in the warmer months.

#### Symptoms of Vector-borne Diseases

- Body/muscle aches
- Joint pain
- Fever
- Rash
- Headaches
- Stiff neck
- Fatigue
- Paralysis

#### Workplace Controls

Decrease tick populations:

- Remove leaf litter.
- Remove, mow, or cut back tall grass and brush.
- Discourage deer activity.

Eliminate standing water to decrease mosquito populations:

- Remove, turn over, cover, or store equipment.
- Remove debris from ditches.
- Fill in areas that collect standing water.
- Place drain holes in containers that collect water and cannot be discarded.



*Mosquitoes (left) and ticks (front of card) may carry bacteria, parasites or viruses.*

*Image courtesy of U.S. Department of Agriculture*

#### Protect Yourself

- Wear a hat and light-colored clothing (so ticks can be easily spotted), including long-sleeved shirts and long pants tucked into boots or socks.
- Use insect repellents.
  - Use repellents containing 20–50% DEET on exposed skin and clothing.
  - Reapply repellents as needed. (Always follow products labels).
- Use insecticides such as permethrin for greater protection.
  - Permethrin can be used on clothing, but not on skin.
  - One application to pants, socks, and shoes may be effective through several washings.
- Check skin and clothing for ticks daily. Check hair, underarms, and groin.
- Immediately remove ticks using fine-tipped tweezers.
  - Grasp the tick firmly, as close to your skin as possible.
  - Pull the tick's body away from your skin with a steady motion.
  - Clean the area with soap and water.
- Wash and dry work clothes using the "hot" settings to kill any ticks present.
- If you develop symptoms of a vector-borne disease, seek medical attention promptly. Tell your doctor that you work outdoors and report any ticks or mosquito bites.

#### DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention  
National Institute for Occupational Safety and Health

[www.cdc.gov/niosh/topics/outdoor/](http://www.cdc.gov/niosh/topics/outdoor/)

DHHS (NIOSH) Publication No. 2010-119

Telephone: 1-800-CDC-INFO  
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E-mail: [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov)



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