



2022 Kalamazoo County Lyme Disease Summary

Background:

Lyme disease is the most commonly reported vector-borne disease in the United States. Early signs and symptoms (3 to 30 days after tick bite) include: fever, chills, headache, fatigue, muscle and joint aches, and swollen lymph nodes. An erythema migrans (EM) rash occurs in 70 to 80 percent of infected persons at the site of the tick bite an average of seven days after the bite.

The tick vector *Ixodes scapularis* (blacklegged tick), is endemic in Michigan in portions of the Upper Peninsula and in the Western Lower Peninsula. However, the blacklegged tick is expanding into new areas in the state. For the purposes of national Lyme disease surveillance, MI is considered a low-incidence jurisdiction.

The Kalamazoo County Health & Community Services Department's Environmental Health Division completes field surveillance for ticks by conducting "Tick Drags" along trails and other potential tick habitats to capture and identify them. Black-legged ticks are the target species, but all ticks are of entomological interest. Peak transmission season for Lyme disease in Michigan (May through August) is associated with nymphal blacklegged ticks. (Source: michigan.gov/emergingdiseases)

Tick Bites:

Additional information from the CDC about what to do if you have a tick bite, including how to remove a tick, is at the end of this report.

Data Notes:

The data source for this report is the Michigan Disease Surveillance System (MDSS); accessed on 1/26/23. The data from 2022 is considered provisional and subject to change. Cases are counted by county of residence not geographic location of tick exposure.

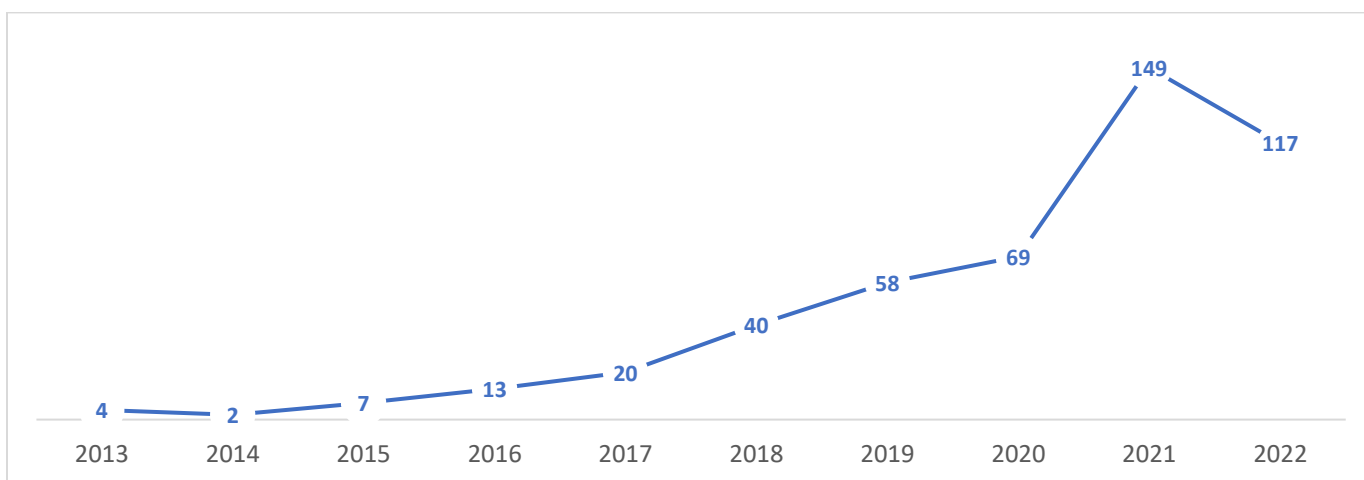
Data was selected by the following criteria: case referral date; Case Status=confirmed and probable; Investigation Status=active, completed, completed-follow up, new and review.

Report Date: 2/2/23

Kalamazoo County Number of Cases Reported by Year

From 2018-2021 there was a steady increase in the number of Lyme Disease cases reported in the county, with a peak number of cases in 2021. The largest increase occurred (116%) from 2020 to 2021, an increase during this time period was also seen statewide. From 2021 to 2022 the number of cases reported decreased by 21% (149 to 117). However, the number of cases reported in 2022 continued to be above historical norms.

Compared to other MI counties, Kalamazoo had a 'high' rate of Lyme Disease incidence per 100,000 from 2017-2021; however, the five counties in the state with the highest rates were in the UP.



5-Year Lyme Disease Incidence by County of Residence, 2017-2021

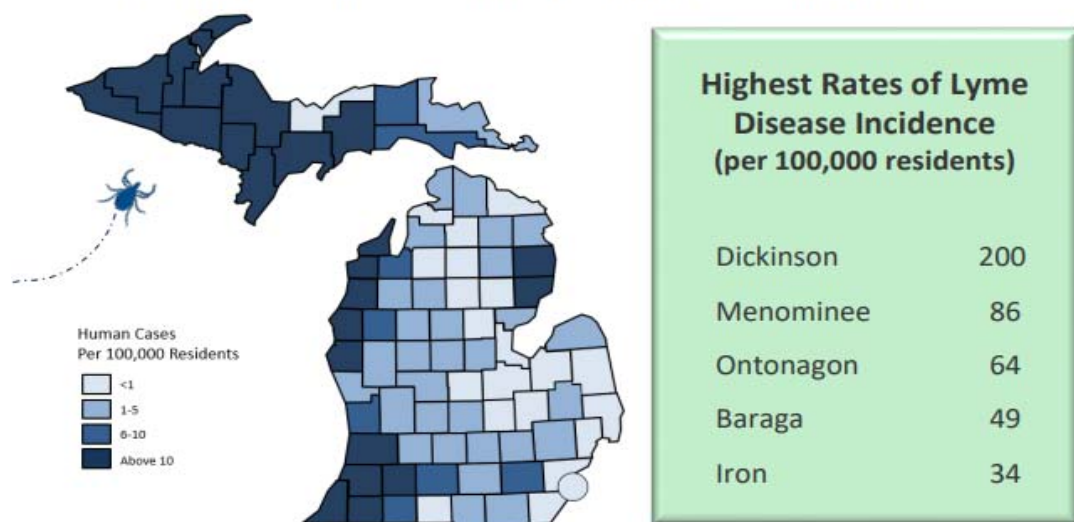


Figure Source: MI EZID Surveillance Summary 2021, www.michigan.gov/emergingdiseases

2021 Michigan Lyme Disease Risk Map

The tick vector *Ixodes scapularis* (blacklegged tick), is endemic in Michigan in portions of the Upper Peninsula and in the Western Lower Peninsula. However, the blacklegged tick is now expanding into new areas in the state. During 2022, forty-three percent of cases reported in Kalamazoo County residents **did not** recall receiving a recent tick bite prior to symptom onset.

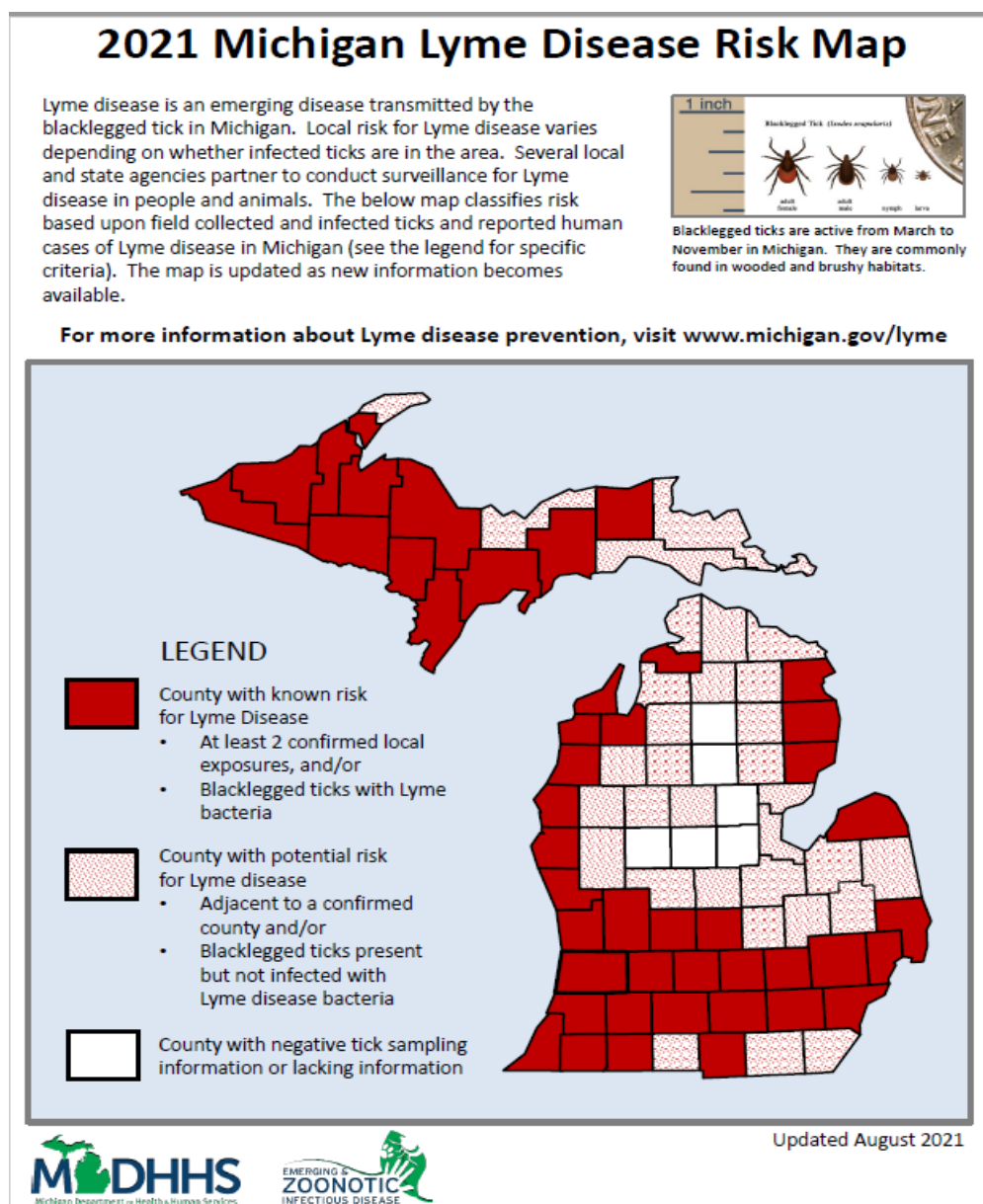
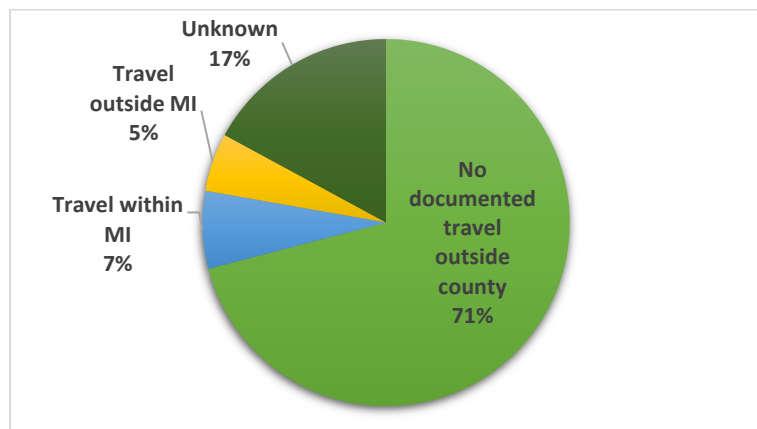


Figure Source: www.michigan.gov/emergingdiseases

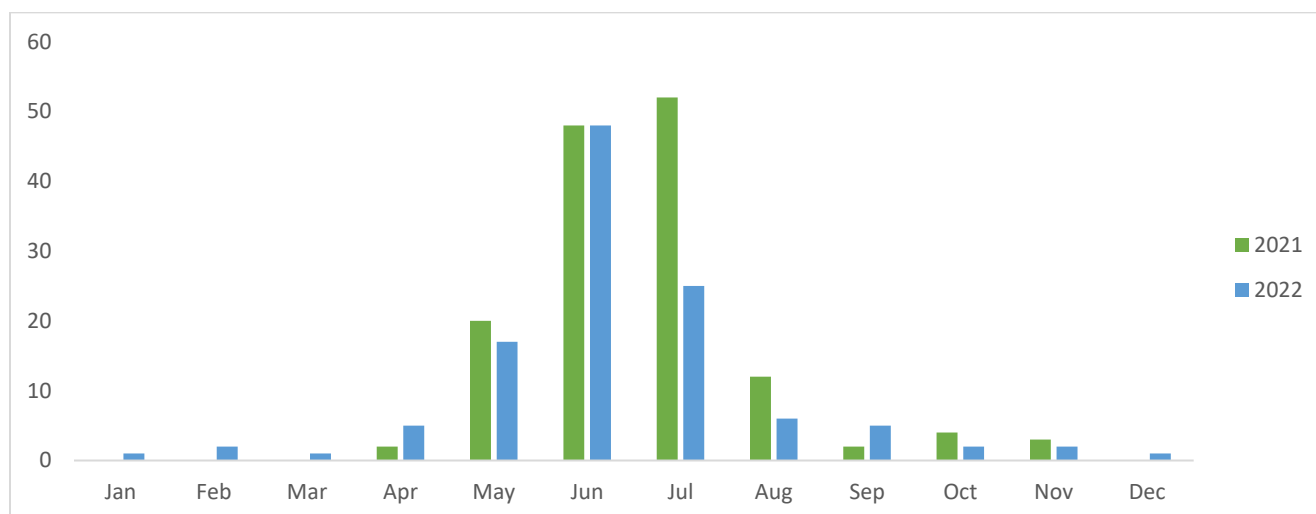
Travel History

Using 2022 case data, travel histories in county residents were reviewed to determine possible geographic location of exposure to the tick vector. Of the total cases, 71% did not report any travel outside of Kalamazoo County and an additional seven percent reported travel within MI during the 30 days prior to symptom onset. Only five percent reported traveling to an area outside of MI.



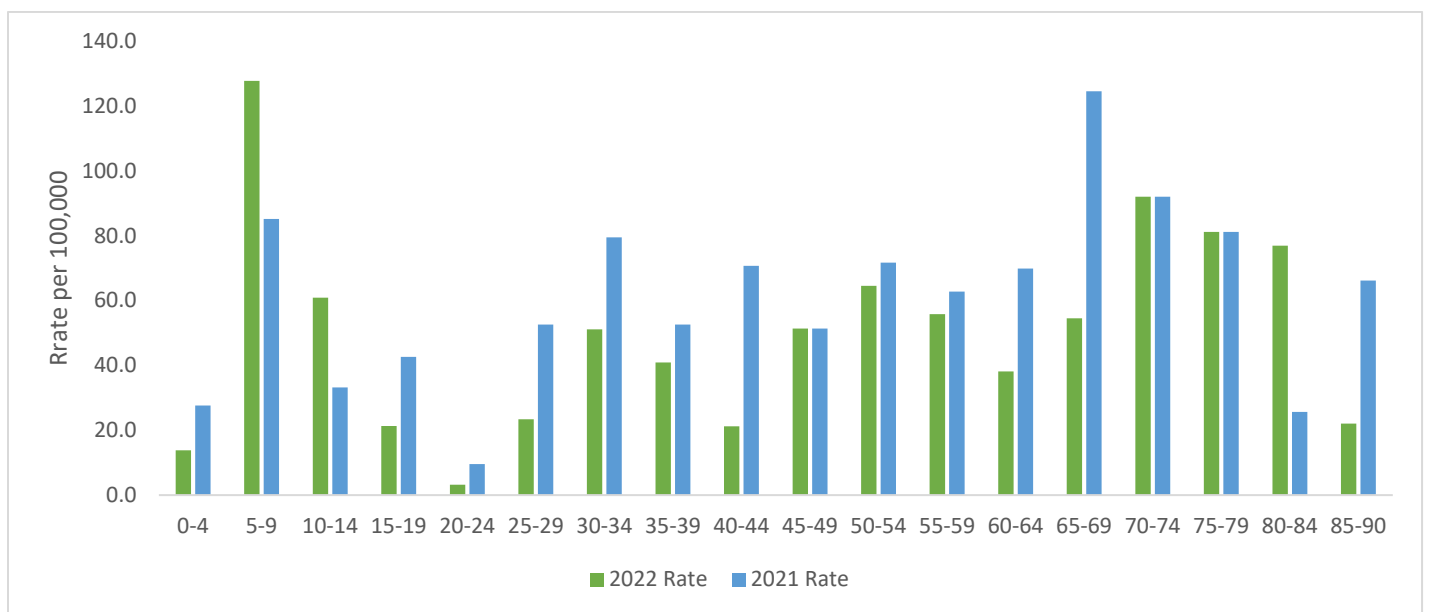
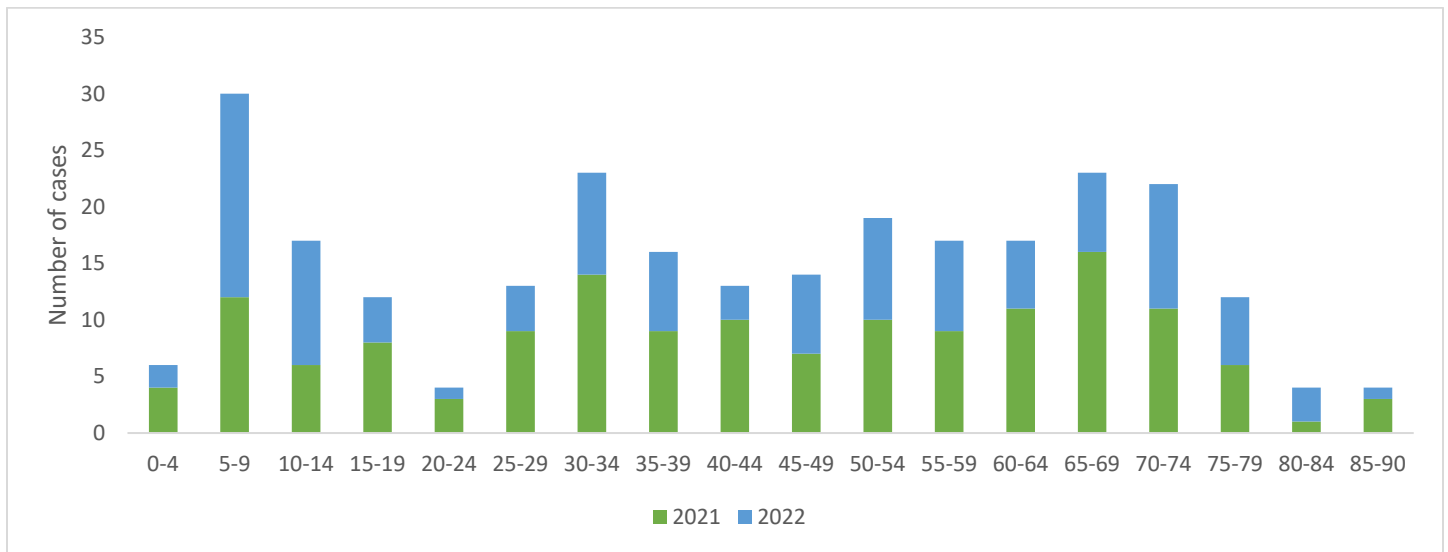
Symptom Onset by Month

In 2022, the most commonly reported symptoms by cases included fatigue, fever and headache. Sixty-eight percent reported an erythema migrans (EM) rash. In 2021 and 2022, 86% of cases had onset dates from May through August (the peak transmission period in MI). During this time period, June was the most frequently reported month of symptom onset. Onsets during the winter months were typically associated with an out of state travel history.



Number of Cases by Age and Age-Specific Rates

The top graph shows the number of cases reported during 2021 and 2022 by age group. During this time period the majority of cases occurred in the 5-9 year old age group followed by those age 30-34 and 65-74 years. The number of cases decreased between 2021 and 2022 for most age groups; however, the number of reports increased in those age 5-14 yrs and 80-84 yrs. In 2022, 30% of cases were in those age 19 and younger and 24% were in those age 65+ yrs. The second graph shows the age-specific case rates per 100,000 for 2021 and 2022. In 2022, the highest case rate was in those age 5-9 years; in 2021, the highest case rate was in those 65-69 yrs.

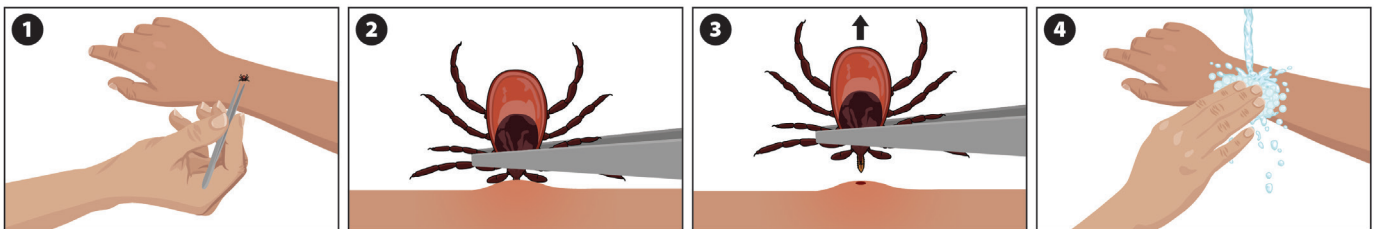


Tick Bite: What to Do

Ticks bites can make people sick. Below are some steps that you can take after a tick bite to reduce your chances of getting sick and how to get treatment promptly if you do get sick.

Remove the tick as soon as possible

1. Use fine-tipped tweezers to grasp the tick as close to the skin as you can.
2. Pull upward with steady, even pressure. Don't twist or jerk the tick.
3. After removing the tick, clean the bite area and your hands with rubbing alcohol or soap and water.
4. Dispose of the tick by flushing it down the toilet. If you would like to bring the tick to your healthcare provider for identification, put it in rubbing alcohol or place it in a sealed bag/container.



Consider calling your healthcare provider

In general, CDC does not recommend taking antibiotics after tick bites to prevent tickborne diseases. However, in certain circumstances, a single dose of doxycycline after a tick bite may lower your risk of Lyme disease. Consider talking to your healthcare provider if you live in an area where Lyme disease is common.

Watch for symptoms for 30 days

Call your healthcare provider if you get any of the following:

- Rash
- Headache
- Fever
- Muscle pain
- Fatigue
- Joint swelling and pain

Treatment for tickborne diseases should be based on symptoms, history of exposure to ticks, and in some cases, blood test results. Most tickborne diseases can be treated with a short course of antibiotics.



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

Common questions after a tick bite

Should I get my tick tested for germs?

Some companies offer to test ticks for specific germs. CDC strongly discourages using results from these tests when deciding whether to use antibiotics after a tick bite.

- Results may not be reliable. Laboratories that test ticks are not required to meet the same quality standards as laboratories used by clinics or hospitals for patient care.
- Positive results can be misleading. Even if a tick contains a germ, it does not mean that you have been infected by that germ.
- Negative results can also be misleading. You might have been bitten unknowingly by a different infected tick.

Can I get sick from a tick that is crawling on me but has not yet attached?

Ticks must bite you to spread their germs. Once they attach to you, they will feed on your blood and can spread germs. A tick that is crawling on you but not attached could not have spread germs. However, if you have found a tick crawling on you, it's a sign there may be others: do a careful tick check.

How long does a tick need to be attached before it can spread infection?

Depending on the type of tick and germ, a tick needs to be attached to you for different amounts of time (minutes to days) to infect you with that germ.

Your risk for Lyme disease is very low if a tick has been attached for fewer than 24 hours. Check for ticks daily and remove them as soon as possible.

