



Kalamazoo County Lyme Disease Summary: July 2023

Background:

Lyme disease is the most common vector-borne disease reported 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. See page 2 Lyme Disease Risk Map.

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. Although the Lyme pathogen is more prevalent in adult ticks, bites from nymphs contribute more to Lyme disease transmission because they are smaller and are go unnoticed until they attach to their human host. (Source: michigan.gov/emergingdiseases; MI EZID 2021 Surveillance Summary)

Data Notes:

The data source for this report is the Michigan Disease Surveillance System (MDSS); accessed on 7/26/23. The data from 2023 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 unless otherwise noted; Investigation Status=active, completed, completed-follow up, new, and review. Onset date is the date symptoms began or if no symptoms were present, case referral date is used.

Report Date: 7/26/23

2023 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. The adult tick is active in the spring and the fall, and the nymph stage is active throughout the summer months. Both stages can transmit diseases. Adult ticks are approximately the size of a sesame seed and the nymphal ticks are approximately the size of a poppy seed.

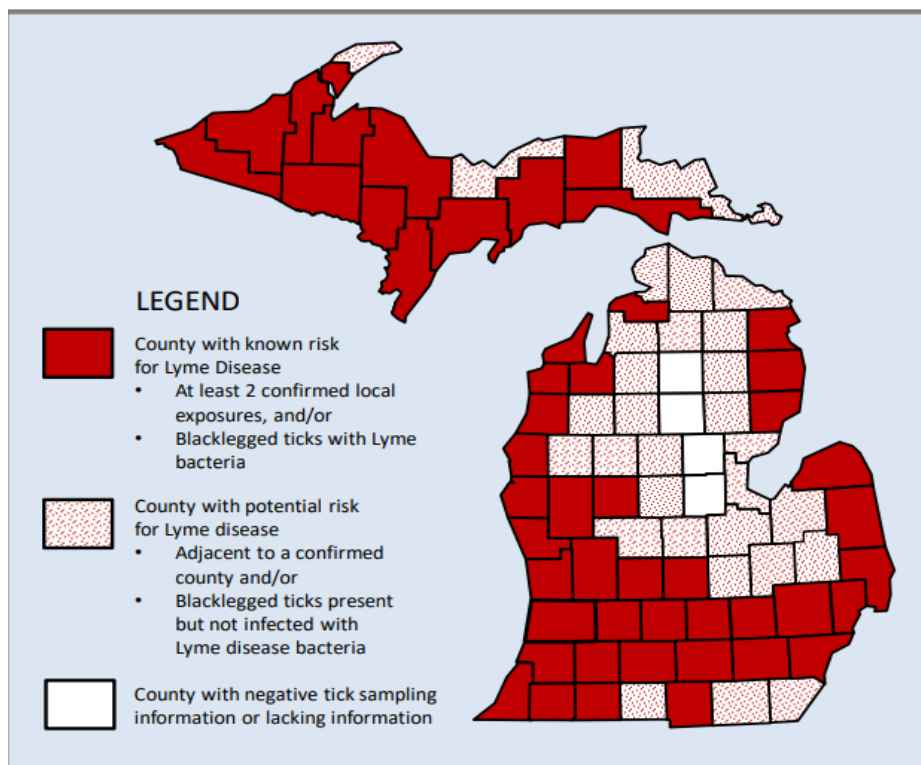
2023 Michigan Lyme Disease Risk Map

Lyme disease is an emerging disease transmitted by the blacklegged tick in Michigan. Local risk for Lyme disease varies depending on whether infected ticks are in the area. Several local and state agencies partner to conduct surveillance for Lyme disease in people and animals. The below map classifies risk based upon field collected and infected ticks and reported human cases of Lyme disease in Michigan (see the legend for specific criteria). The map is updated as new information becomes available.



Blacklegged ticks are active from March to November in Michigan. They are commonly found in wooded and brushy habitats.

For more information about Lyme disease prevention, visit www.michigan.gov/lyme



Updated May 2023

Image Source: https://www.michigan.gov/mdhhs/-/media/Project/Websites/emergingdiseases/Folder3/Ticks_and_Your_Health_05_19.pdf

MDHHS Tick Identification and Tick Seasonal Activity

Tick identification is available free of charge for Michigan residents through the Michigan Department of Health and Human Services (MDHHS). You can either email a picture of the tick to MDHHS-Bugs@michigan.gov, or you can mail the tick to the MDHHS for identification. The most common ticks submitted by MI residents are: American dog tick 70%, Blacklegged tick (deer tick) 20%, Lone star tick 5%, Woodchuck tick 3%, and the Brown dog tick 1%.

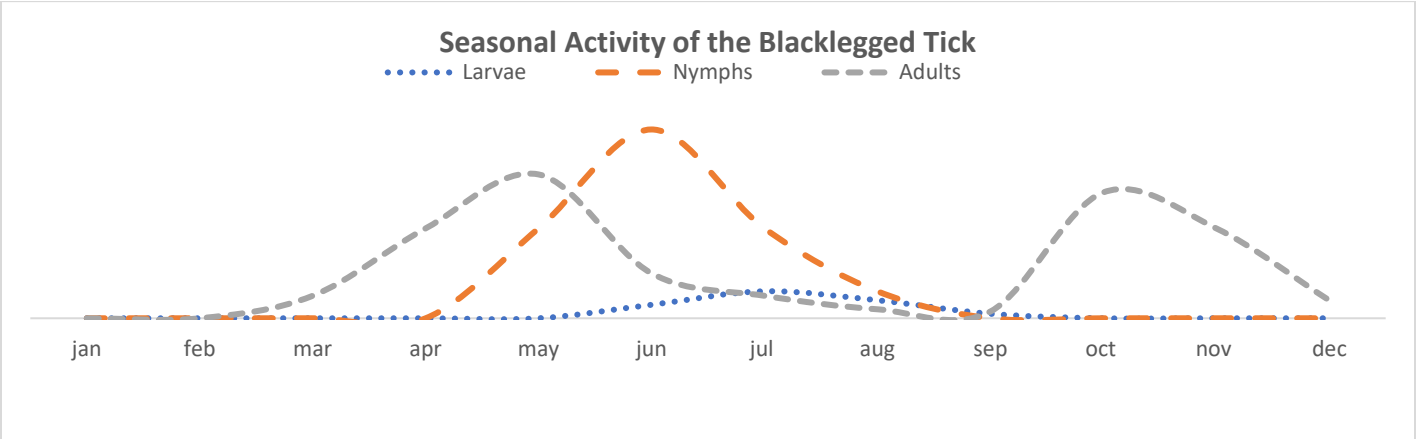
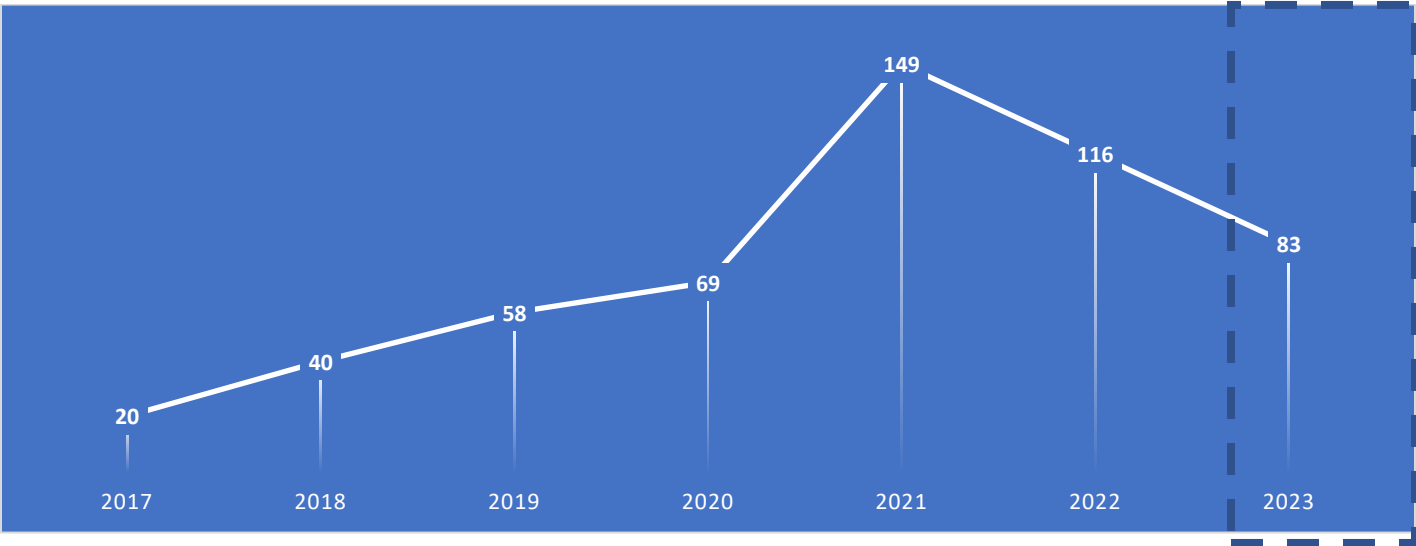


Image Source: <https://mcevd.wisc.edu/ticks/deer-tick>

Kalamazoo County Total Number of Cases Reported by Year*

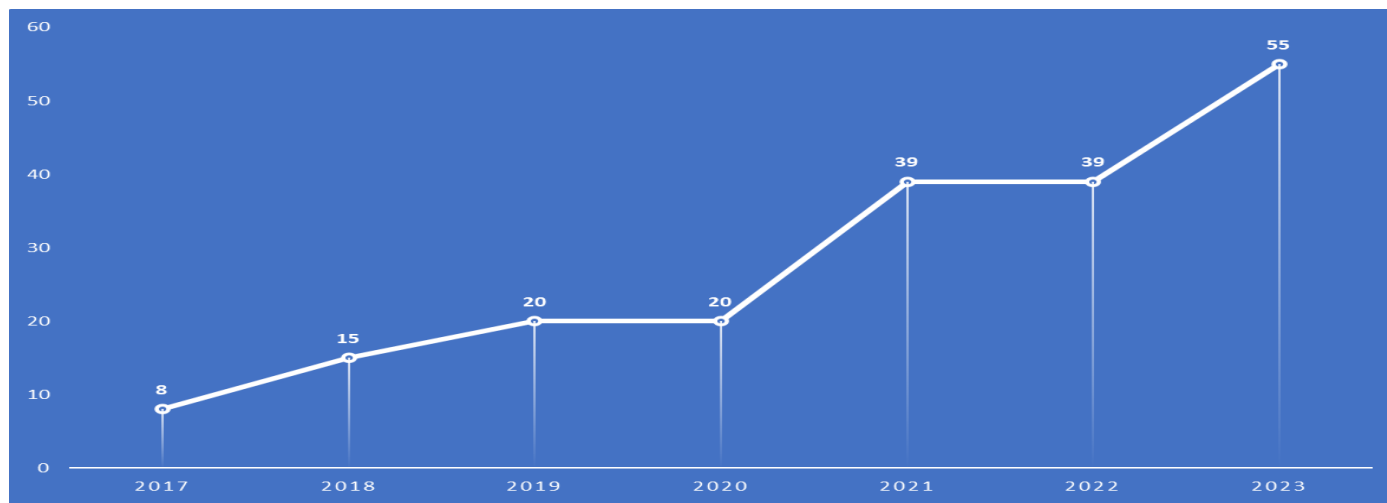
From 2017-2021, there was a steady annual increase in the number of Lyme Disease cases reported in the county. Case counts peaked in 2021 followed by a 22% decrease in the number of cases reported in 2022. Data for 2023 is incomplete at the time of report publication.



*Data for 2023 through July 20, includes confirmed and probable cases only

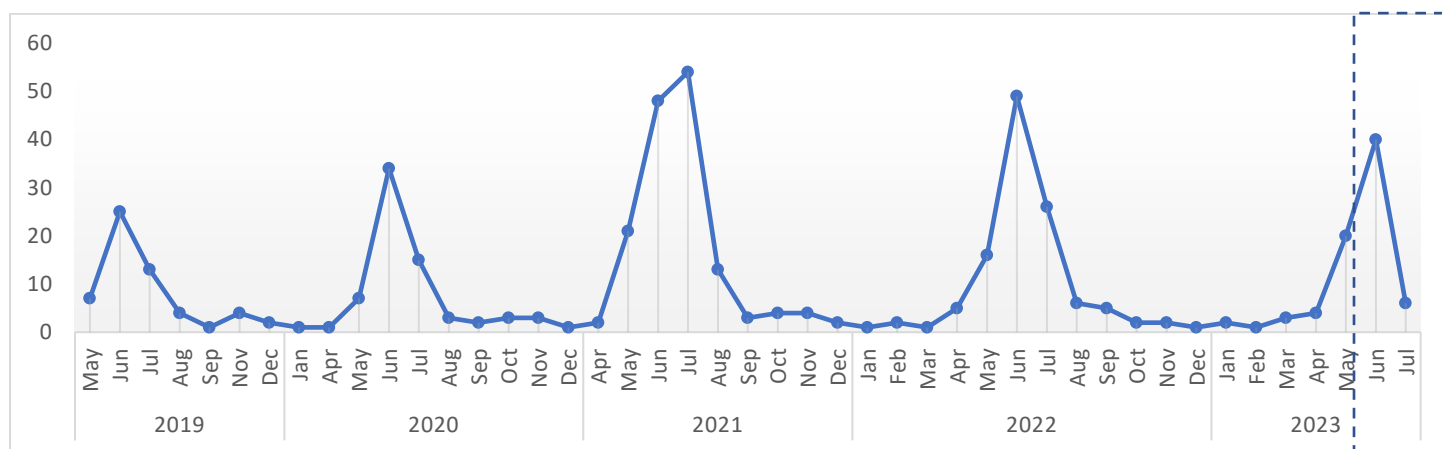
Kalamazoo County Number of Cases by Year (January-June)

Focusing on the first half of the calendar year, from 2018-2021, there was a steady increase in the number of cases reported through June of each year. In 2022, the number of cases reported was similar to 2021. However, in 2023, the number of reported cases in county residents during this time period increased by 41% compared to the previous two years.



Kalamazoo County Number of Cases by Month of Onset

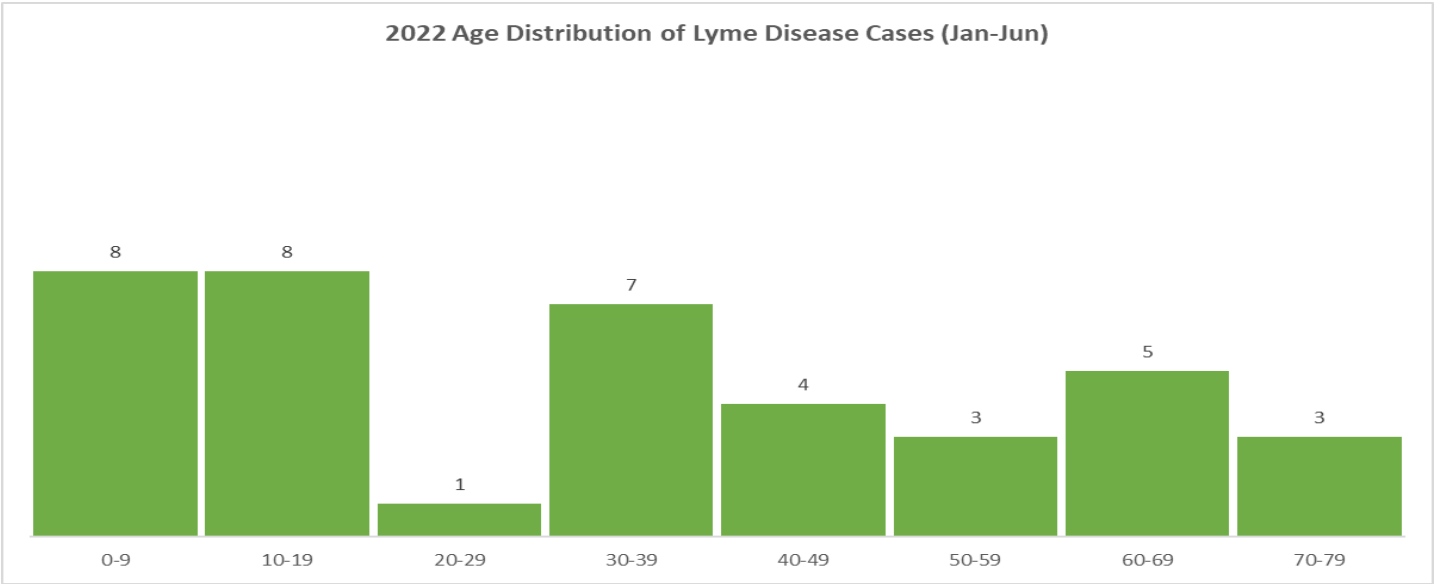
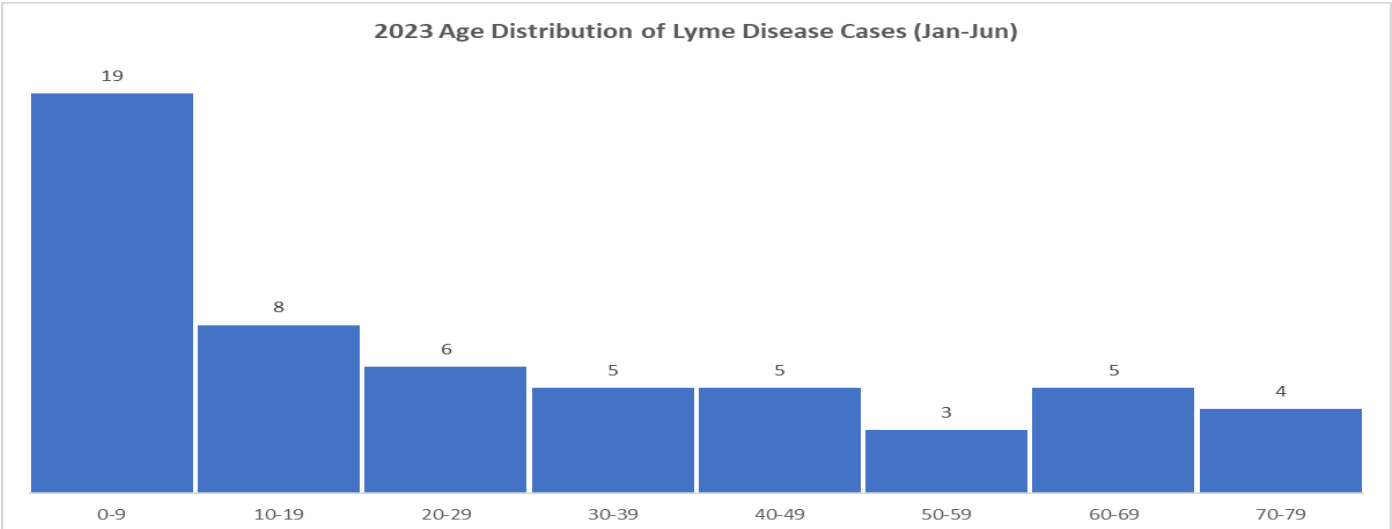
For the past several years, the most common month of illness onset was in June for Kalamazoo County cases. However, in 2021 peak onset occurred in July followed by June. Data for 2023 is preliminary and should be interpreted with caution until the end of the year.



* Includes confirmed and probable cases by date of onset, if onset missing referral is used. Data for the last two months of the curve should be interpreted with caution, counts will change based on case investigation and as additional cases are reported. Time between referral and onset dates can be lengthy.

Kalamazoo County Number of Cases by Age Group

In 2023, 28% of the cases reported so far in the county were in children younger than 10 years. During this same time frame in 2022, 16% of total cases reported were in this age group. The graphs below show the number of cases reported by age group from Jan.-June for 2023 and 2022. As of June 2023, the number of reported cases has increased overall compared to the previous year/s, but this increase is especially apparent in the youngest age group (138% increase).



The maps below show the Lyme Disease case rates per 100,000 by county in Michigan. Cases are based on referral date. Kalamazoo County case rates were higher compared to the majority of counties in the lower peninsula for both time periods.

2023 Lyme Disease Rates per 100,000 by County (January-July 25)

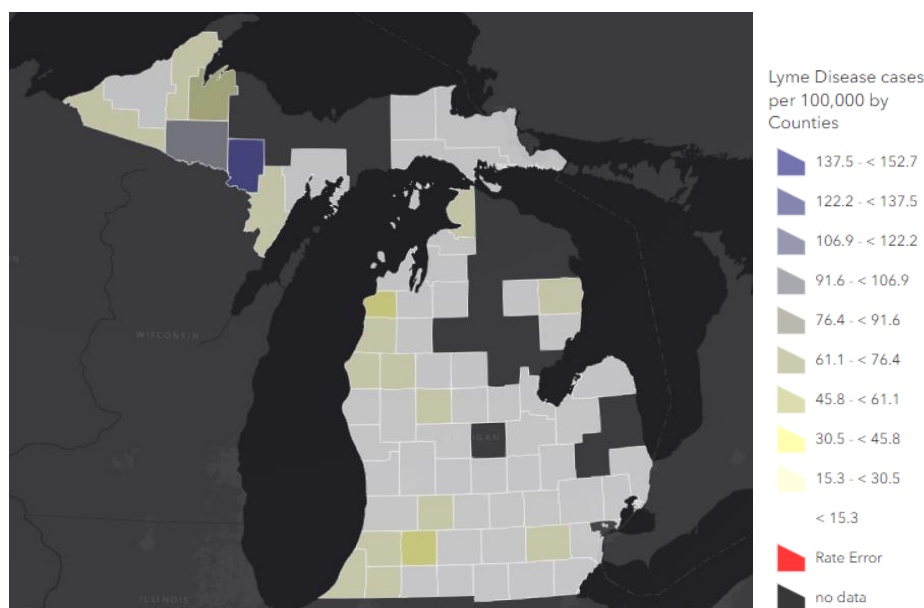


Image Source: Michigan Disease Surveillance System, GIS Map of Diseases by Geography Report, accessed 7/20/23

2022 Lyme Disease Rates per 100,000 by County

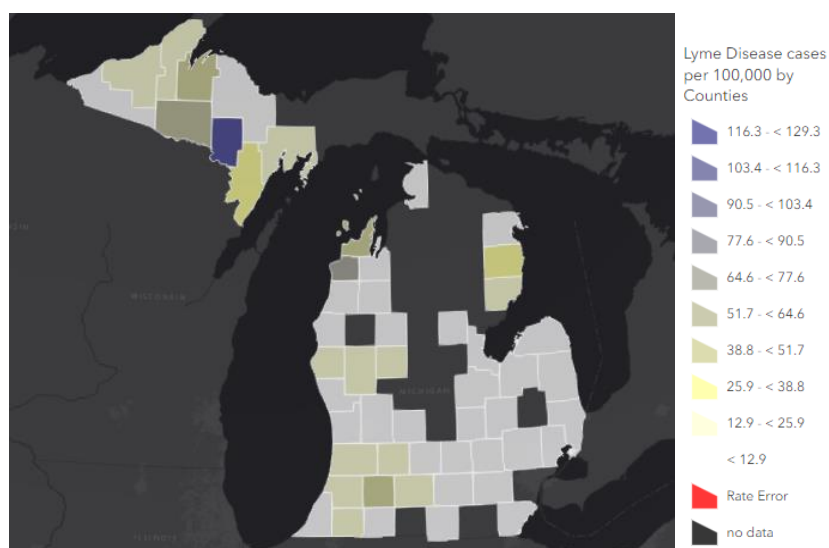


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