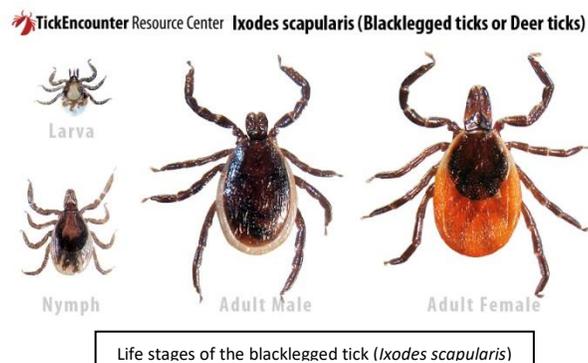


Seasonal Surveillance (Lyme disease)

What is Lyme disease?

- Lyme disease is caused by an infection with a bacterium called *Borrelia burgdorferi*, which is transmitted to humans through the bite of an infected blacklegged tick, or *Ixodes scapularis*.
- Lyme disease cases are **increasing** in Ohio as the range of blacklegged tick populations continues to expand in the state and encounters with this tick occur more frequently, particularly in forest habitats.
- Most humans are infected through the bites of immature ticks called nymphs. Nymphs are tiny (less than 2 mm) and difficult to see; they feed during the spring and summer months. Adult ticks can also transmit Lyme disease, but they are much larger and are more likely to be discovered and removed before they have had time to transmit the bacteria.



What are the symptoms of Lyme disease?

Early symptoms of Lyme disease typically begin three to 30 days after a tick bite and can include:

- Erythema migrans rash ("bull's eye rash")
- Headache
- Fever
- Chills
- Muscle pain
- Joint pain
- Fatigue



Can Lyme disease be diagnosed and treated?

- Lyme disease can be diagnosed by a healthcare provider, usually through a blood specimen. Lyme disease is curable. Early diagnosis and treatment are important in order to avoid further health problems related to Lyme disease.

Who is at risk in Ohio?

- Anyone who spends time outdoors can be at risk for Lyme disease. The blacklegged tick is often found in wooded, brushy areas. People who frequent these settings (hikers, campers, hunters, farmers, gardeners, landscapers, other outdoor workers) may be at increased risk of contracting Lyme disease.
- The property around many homes can also provide a suitable habitat for ticks, particularly those yards that are next to woods or brushy areas or those with tall grass or leaf litter.
- For Butler County residents between the years 2016 and 2017, there has been an observed **91% increase** in suspected, probable, or confirmed Lyme disease case diagnoses. See Figure 2.

How can I reduce my risk of Lyme disease?

- The best way to prevent Lyme disease is to prevent tick bites. If you find a tick on your body, remove it quickly to reduce the risk of contracting Lyme disease.
- Use insect repellent, remove ticks promptly, applying pesticides and reducing tick habitat. The tick that transmits Lyme disease can occasionally transmit other tick-borne diseases as well.

Information source: <http://www.odh.ohio.gov/lyme> (Ohio Department of Health)

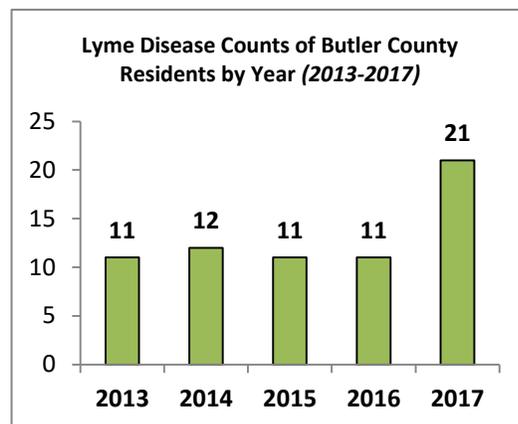


Figure 2.* Butler County Lyme disease Counts by Year (2013-2017)

*Data is provisional – suspected, probable, & confirmed cases are included in counts except for cases of arboviral encephalitis such as Zika virus disease of which only probable and confirmed cases are reported and Novel Influenza A of which only confirmed cases are reported. Report reflects time period of May 1-31, 2018 unless otherwise noted. Data accessed from the Ohio Disease Reporting System (ODRS) on 6/11/2018.

**Data accessed from the EpiCenter Syndromic Surveillance System (maintained by Health Monitoring Systems, Inc.) on 6/11/2018.

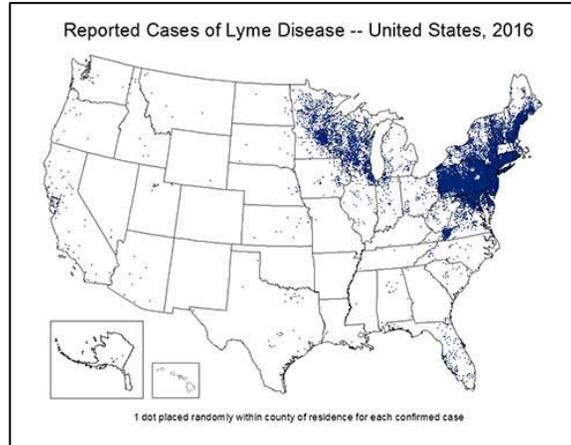
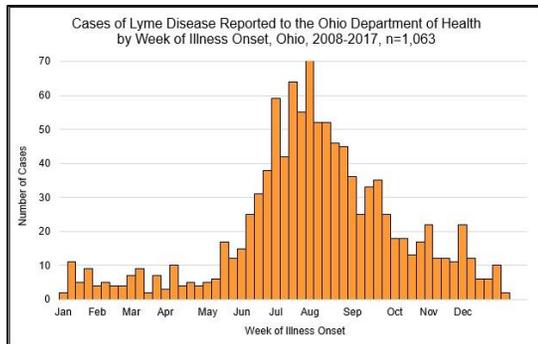
Seasonal Surveillance (Lyme disease), continued

All tables and graphs on this page are courtesy of the Ohio Department of Health and the CDC. // Sources: <http://www.odh.ohio.gov/lyme> (ODH), <https://www.cdc.gov/lyme/stats/index.html> (CDC)

Ohio Lyme Disease Case Statistics					
Year	Human Cases	Deaths	Median Age (Years)	Age Range of Cases (Years)	Counties with Reported Lyme Cases
2008	45	0	30	5 - 74	28
2009	58	0	36.5	2 - 77	27
2010	44	0	34.5	3 - 62	24
2011	53	0	34	5 - 84	25
2012	67	0	33	3 - 86	30
2013	93	0	43	2 - 84	34
2014	119	0	35	1 - 78	32
2015	154	0	41	1 - 85	45
2016	160	0	37	3 - 85	40
2017	270	0	40	3-86	44
AVERAGE	106	0	36.3	n/a	33
TOTAL	1,063	0	n/a	n/a	n/a

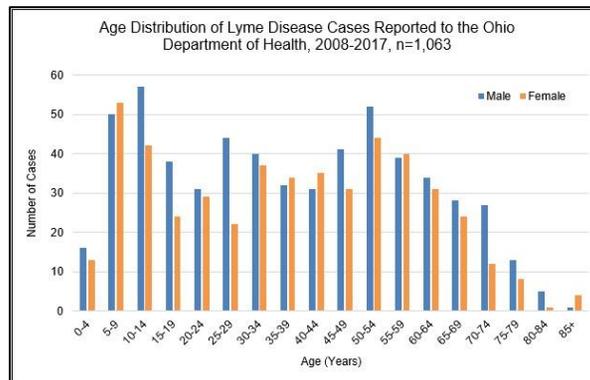
- Ohio has observed a steady increase in Lyme disease cases from 2008 to 2017. However, this observed increase can be due in part to multiple factors, including increasing physician awareness of the disease.
- Lyme disease very commonly misdiagnosed, due in part to the information and current knowledge surrounding the disease.

- Historically in Ohio, we observe Lyme disease cases most frequently during summer months leading into fall (June-September) and observe those numbers subsiding as the winter months approach.

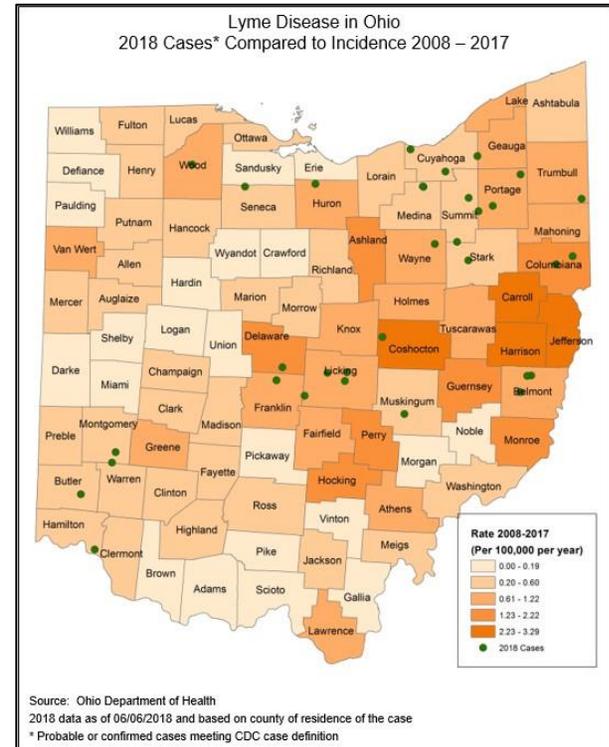


- According to the CDC, in 2016, 95% of confirmed Lyme disease cases were reported from 14 states: Connecticut, Delaware, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and Wisconsin.

- Historically in Ohio, there has been no specific age or gender demographic that is necessarily more prone to be found with Lyme disease.



- Lyme disease is transmitted to humans through the bite of an infected black-legged tick, or *Ixodes scapularis*.
- From 2008-2017, Ohio observed a higher incidence of Lyme disease in its eastern and southern areas of the state.



Source: Ohio Department of Health
 2018 data as of 06/06/2018 and based on county of residence of the case
 * Probable or confirmed cases meeting CDC case definition

*Data is provisional – suspected, probable, & confirmed cases are included in counts except for cases of arboviral encephalitis such as Zika virus disease of which only probable and confirmed cases are reported and Novel Influenza A of which only confirmed cases are reported. Report reflects time period of May 1-31, 2018 unless otherwise noted. Data accessed from the Ohio Disease Reporting System (ODRS) on 6/11/2018.
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