Report to Maine Legislature

Lyme and other Tickborne Illnesses

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Submitted by
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Report to Maine Legislature – Lyme Disease

During the first special session of the 123rd Legislature in 2008, hearings and discussion over proposed legislation regarding the reporting of Lyme disease led to Chapter 561 of the Session Laws. This law, An Act to Implement the Recommendations of the Joint Standing Committee on Insurance and Financial Services Regarding Reporting on Lyme Disease and Other Tickborne Illnesses, directed Maine Center for Disease Control and Prevention to submit an annual report to the joint standing committee of the Legislature having jurisdiction over health and human services matters and the joint standing committee of the Legislature having jurisdiction over health insurance matters. This report was to include recommendations for legislation to address public health programs for the prevention and treatment of Lyme disease and other tickborne illnesses in the state, as well as to address a review and evaluation of Lyme disease and other tickborne illnesses in Maine.

A bill in the second session of the 124th Legislature in 2010 amended these laws to include information on diagnosis of Lyme disease.

Title 22, Chapter 266-B, Subsection 1645 in Maine statutes, directs Maine CDC to report on:

I. The incidence of Lyme disease and other tickborne illness in Maine

II. The diagnosis and treatment guidelines for Lyme disease recommended by Maine Center for Disease Control and Prevention and the United States Department of Health and Human Services, Centers for Disease Control and Prevention

III. A summary or bibliography of peer-reviewed medical literature and studies related to the diagnosis, medical management, and treatment of Lyme disease and other tickborne illnesses, including, but not limited to, the recognition of chronic Lyme disease and the use of long-term antibiotic treatment

IV. The education, training, and guidance provided by Maine Center for Disease Control and Prevention to health care professionals on the current methods of diagnosing and treating Lyme disease and other tickborne illnesses

V. The education and public awareness activities conducted by Maine Center for Disease Control and Prevention for the prevention of Lyme disease and other tickborne illnesses; and

VI. A summary of the laws of other states enacted during the last year related to the diagnosis, treatment, and insurance coverage for Lyme disease and other tickborne illnesses based on resources made available by the federal Centers for Disease Control and Prevention or other organizations.

This is the twelfth annual report to the Legislature and includes an update on activities conducted during 2019.

Executive Summary

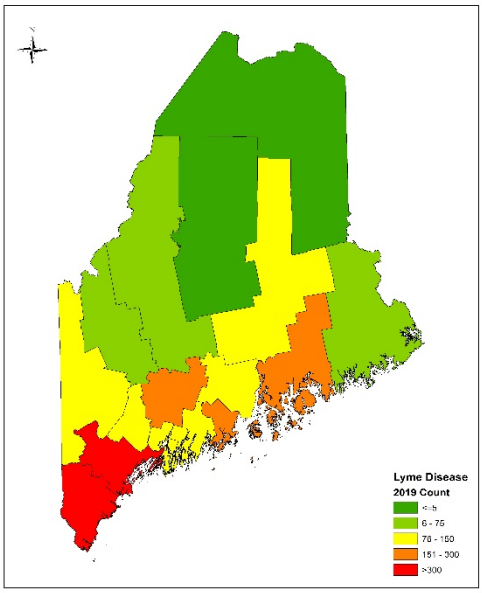
Lyme disease is a notifiable condition in the State of Maine. The goal of Lyme disease surveillance is to help define demographic, geographic, and seasonal distribution; monitor disease trends; identify risk factors for transmission; and promote prevention and education efforts among the public and medical communities. An epidemiologist classifies reported cases as confirmed, probable, suspect, and not a case based on clinical symptoms and laboratory testing interpreted using criteria established by the Council of State and Territorial Epidemiologists. The surveillance case definition is not intended to be used in clinical diagnosis. Lyme disease surveillance is passive, dependent upon reporting, and therefore likely to be an under-representation of the true burden of Lyme disease in Maine. Federal CDC released a statement in 2013 that the true burden of Lyme disease may be up to ten times the number of reported cases.

Maine Lyme Disease Summary, 2019 (Preliminary data as of January 15, 2020)

- 2,079 confirmed and probable cases
- Most common symptoms of reported cases[1] of Lyme disease in Maine included:
  - Erythema Migrans (characteristic expanding rash): 986 cases (47%)
  - Arthritis (joint swelling): 644 cases (31%)
  - Neurological (Bell's Palsy or other cranial neuritis): 175 cases (8%)

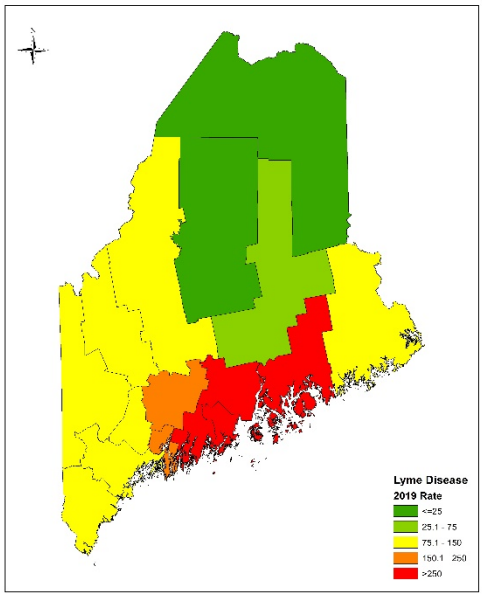
  [1]Cases could report more than one symptom
- Hospitalization occurred in 63 cases (3%).
- Among case patients with a reported date of symptom onset, 68% began experiencing symptoms during June, July, or August. Date of symptom onset is missing for 15% of cases.

Confirmed and Probable Cases of Lyme Disease – Maine 2019*



* 2019 data are preliminary as of 01/15/2020

Lyme Disease Cases per 100,000 persons (Rate) – Maine 2019*



* 2019 data are preliminary as of 01/15/2020

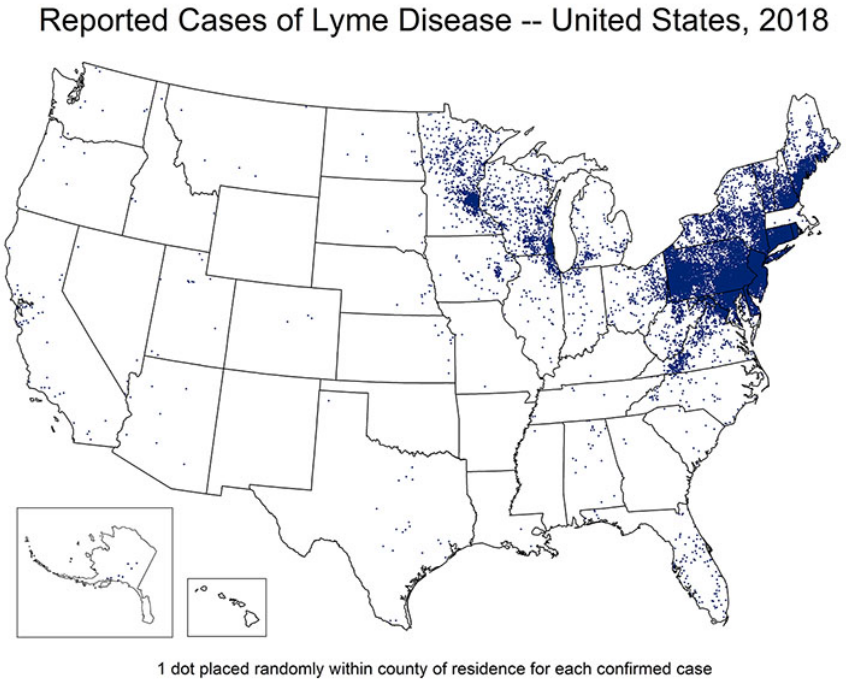
I. The incidence of Lyme disease and other tickborne illness in Maine

A. Lyme disease

Lyme disease is caused by the bacteria *Borrelia burgdorferi* which is transmitted to a person through the bite of an infected deer tick *(Ixodes scapularis*). Symptoms of Lyme disease include the formation of a characteristic expanding rash (erythema migrans) that usually appears 3 to 30 days after exposure and may appear on any area of the body. Fever, headache, joint and muscle pains, and fatigue are also common during the first several weeks. Later features of Lyme disease can include arthritis in one or more joints (often the knee), facial palsy, meningitis, and carditis (AV block). Lyme disease is rarely fatal. The great majority of Lyme disease cases can be treated very effectively with oral antibiotics for ten days to a few weeks. Some cases of Lyme disease which affect the nervous system, joints, or heart may need intravenous antibiotics for up to 28 days.

In the United States, the highest rates of Lyme disease occur across the eastern seaboard (Maryland to Maine) and in the upper Midwest (northern Wisconsin and southern Minnesota), with the onset of most cases occurring during the summer months. Where they are endemic, deer ticks are most abundant in wooded, grassy, and brushy areas ("tick habitat"), especially where deer populations are large.

Many endemic states are no longer counting cases of Lyme disease as the burden is too high on the health department. This affects the national and regional rates as the number of cases appears to drop, but in reality this is because these health departments are using a system to estimate the number of cases rather than trying to count each individual case. As of 2019, Maine is still counting individual cases but as the burden continues to increase and funding remains limited, Maine will likely transition to a different system in the future.



Source: federal CDC (https://www.cdc.gov/lyme/datasurveillance/index.html)

The first documented case of Maine-acquired Lyme disease was diagnosed in 1986. In the 1990s the great majority of Lyme disease cases occurred among residents of south coastal Maine, principally in York County. Currently the Mid Coast area has the highest incidence of Lyme disease in the state. Based on 2019 data, six counties have rates of Lyme disease higher than the State rate (Hancock, Kennebec, Knox, Lincoln, Sagadahoc, and Waldo).

In 2019, (preliminary data as of January 15, 2020) providers reported 2,079 confirmed and probable cases of Lyme disease among Maine residents, which is a rate of 154.7 cases of Lyme disease per 100,000 persons in Maine. This is a 48% increase from the 1,405 cases in 2018. Thirty-one percent (31%) of reported cases were from the southern counties (Cumberland and York), and twenty-seven (27%) of reported cases were from the Mid Coast counties (Knox, Lincoln, Sagadahoc, and Waldo).

Forty-three percent (44%) of cases were female and fifty-six percent (56%) of cases were male. The median age of cases in 2019 was 55 years of age (average age of 48 years). The age at diagnosis ranged from 1-95 years. Sixty-eight percent (68%) of the cases with a known onset date had onset during June, July, or August (date of onset is missing for 15% of cases). Providers reported 63 persons (3% of all cases) were hospitalized with Lyme disease. For further Lyme disease statistics in Maine please see Appendix 1.

B. Other Tickborne Diseases in Maine

Anaplasmosis:
Anaplasmosis is a disease caused by the bacteria *Anaplasma phagocytophilum* which infects white blood cells (neutrophils). Anaplasma was previously known as human granulocytic ehrlichiosis (HGE) or human granulocytic anaplasmosis (HGA) but was renamed in 2001 to differentiate between two different organisms that cause similar diseases (Anaplasmosis and Ehrlichiosis). Signs and symptoms of anaplasmosis include: fever, headache, malaise, and body aches. Encephalitis/ meningitis may occur but is rare. Anaplasmosis is transmitted to a person through the bite of an infected deer tick (*Ixodes scapularis*). As of January 15, 2020 preliminary data showed 685 cases of anaplasmosis reported in 2019, a 44% increase from the 477 cases in 2018. Cases occurred in every county in Maine except Piscataquis. For further anaplasmosis disease statistics in Maine please see Appendix 2.

Babesiosis:
Babesiosis is a potentially severe tickborne disease transmitted through the bite of an infected deer tick (*Ixodes scapularis*). Signs of babesiosis range from no symptoms (asymptomatic) to serious disease. Common symptoms include extreme fatigue, aches, fever, chills, sweating, dark urine, and possibly anemia. People who are infected generally make a full recovery as long as they have a healthy spleen and do not have other diseases that prevent them from fighting off infections. As of January 15, 2020, preliminary data showed 138 cases of babesiosis reported in 2019, a 37% increase from the 101 cases in 2018. Cases occurred in Androscoggin, Cumberland, Franklin, Hancock, Kennebec, Knox, Lincoln, Oxford, Penobscot, Sagadahoc, Somerset, Waldo, and York counties. For further babesiosis disease statistics in Maine please see Appendix 2.

***Borrelia miyamotoi*:**
Borrelia miyamotoi is a species of spiral-shaped bacteria that is closely related to the bacteria that causes tickborne relapsing fever (TBRF). It is more distantly related to the bacteria that causes Lyme disease. First identified in 1995 in ticks from Japan, *B. miyamotoi* has now been detected in two species of North American ticks, the black-legged or "deer" tick (*Ixodes scapularis*) and the western black-legged tick (*Ixodes pacificus*). Individuals with this infection are likely to have fever, chills, and headache. Other common symptoms include joint pain and fatigue. Unlike Lyme disease, rash is uncommon. Although *Borrelia miyamotoi* is not nationally notifiable, federal CDC in association with endemic states developed a standardized case classification to help standardize reporting and understand the prevalence in the United States. As of January 15, 2020, preliminary data showed twelve probable or confirmed cases of *Borrelia miyamotoi* infections reported in 2019 in Maine. Cases occurred in Androscoggin, Cumberland, Oxford, Penobscot, Sagadahoc, and York counties. For further *borrelia miyamotoi* statistics in Maine please see Appendix 2.

Ehrlichiosis:
Ehrlichiosis is a disease caused by the bacteria *Ehrlichia chaffeensis* which infects white blood cells (monocytes). Ehrlichia was previously known as human monocytic ehrlichiosis (HME). Signs and symptoms of ehrlichiosis include: fever, headache, nausea, and body aches. Encephalitis/ meningitis may occur. Ehrlichiosis is transmitted to a person through the bite of an infected lone star tick (*Amblyomma americanum*). Ehrlichiosis is uncommon in Maine as the tick is not commonly found here. However, this may be a disease to watch for as the tick appears to be moving north. Preliminary data as of January 15, 2020 showed thirteen probable cases of *Ehrlichia chaffensis* reported in 2019 from Androscoggin, Cumberland, Kennebec, Lincoln, Penobscot, Waldo, and York counties. Maine had two probable cases of Ehrlichia/Anaplasma Undetermined in 2019, which occurs when serologies are done, but titers are the same for both Ehrlichia and Anaplasma so we cannot tell which organism was present. For further ehrlichiosis disease statistics in Maine please see Appendix 2.

Powassan:
Powassan is a disease caused by the Powassan virus or deer tick virus which is transmitted to humans through the bite of an infected woodchuck tick (*Ixodes cookei*) or deer tick (*Ixodes scapularis*). Signs and symptoms of Powassan include fever, headache, vomiting, weakness, confusion, seizures, and memory loss. Long-term neurologic problems may occur. Maine had one confirmed case of Powassan encephalitis in Maine in 2019. This case occurred in York County.

Spotted Fever Rickettsiosis:
Spotted Fever Rickettsioses (SFR) are a group of bacterial illnesses, the most common of which is Rocky Mountain Spotted Fever (RMSF). Signs and symptoms of RMSF include fever, chills, headache, gastrointestinal symptoms, and a maculopapular rash often on the palms and the soles of the feet. RMSF is transmitted to a person through the bite of an infected dog tick (*Dermacentor variabilis*). RMSF is not known to be endemic in Maine, but could become an emerging disease. As of January 15, 2020, preliminary data showed five probable cases of SFR reported in 2019. Probable cases occurred in Cumberland, Hancock, Kennebec, and Penobscot counties. For further SFR disease statistics in Maine please see Appendix 2.

Other Emerging Tickborne Diseases:
Federal CDC and other researchers are continually on the watch for new or emerging tickborne disease. Pathogens identified in the last few years include Bourbon virus, Colorado Tick Fever, and

Heartland virus. Maine has no documented cases of any of these diseases, but there is serological evidence (from either humans or wild animals) of Heartland virus in Maine, so these are diseases to watch.

II. The diagnosis and treatment guidelines for Lyme disease recommended by Maine Center for Disease Control and Prevention and the United States Department of Health and Human Services, Centers for Disease Control and Prevention

Maine Center for Disease Control and Prevention continues to adhere to the strongest science-based source of information for the diagnosis and treatment of any infectious disease of public health significance. Nationally, the Infectious Disease Society of America (IDSA) is the leader in setting the standard for clinical practice guidelines on Lyme disease and other tickborne illnesses: https://academic.oup.com/cid/article/43/9/1089/422463.

Lyme disease is diagnosed clinically with the aid of laboratory testing. An erythema migrans in an endemic area is sufficiently distinctive to allow clinical diagnosis in the absence of laboratory confirmation. Patients should be treated on the basis of clinical findings. A two-tier testing algorithm is recommended for laboratory testing. First-tier testing is most often an enzyme-linked immunosorbent assay (ELISA) test which, if positive or equivocal, should be followed by an IgM and IgG Immunoblot. IgM is only considered reliable if tested within the first 30 days after symptom onset. Acute and convalescent testing is useful to determine final diagnosis. Untreated patients who remain seronegative despite having symptoms for 6-8 weeks are unlikely to have Lyme disease, and other potential diagnoses should be actively pursued. A diagnosis of Lyme disease made by a clinician may or may not meet the federal surveillance case definition, and therefore may not always be counted as a case. Maine CDC refers physicians with questions about diagnosis to the IDSA guidelines: https://academic.oup.com/cid/article/43/9/1089/422463.

During 2009 and 2010, IDSA convened a special review of the clinical practice guidelines on Lyme disease to determine whether the 2006 guidelines should be revised and updated. A central question explored at the Review Panel hearing held during July 2009 was whether Lyme disease can persist as a chronic infection that can be successfully treated with an extended course of antibiotics.

The special panel reviewed the medical and scientific literature as well as material submitted by the 18 individuals who testified at the hearing and about 150 other comments submitted by the public. The panel also heard from several representatives of the International Lyme and Associated Diseases Society (ILADS), who argued for more extensive treatment for what ILADS identifies as chronic Lyme disease. The panel met 16 times and the review took more than a year to complete. On April 22, 2010, the special Review Panel “unanimously agreed that no changes need be made to the 2006 Lyme disease treatment guidelines developed by the Infectious Diseases Society of America (IDSA)” (https://www.idsociety.org/globalassets/idsa/topics-of-interest/lyme/idsalymediseasefinalreport.pdf).

“The Review Panel concurred that all of the recommendations from the 2006 guidelines are medically and scientifically justified in light of the evidence and information provided, including the recommendations that are most contentious: that there is no convincing evidence for the existence of chronic Lyme infection; and that long-term antibiotic treatment of “chronic Lyme disease” is unproven

and unwarranted. This recommendation is also supported by federal CDC. Inappropriate use of antibiotics (especially given intravenously) is shown to lead to deadly blood infections, serious drug reactions and *C. difficile* diarrhea, as well as the creation of antibiotic-resistant bacteria or 'superbugs'" (https://www.idsociety.org/globalassets/idsa/topics-of-interest/lyme/idsalymediseasefinalreport.pdf).

Another Panel convened in 2015 to again assess and update guidelines for the treatment and prevention of Lyme disease and other tickborne diseases. Results from this panel have yet to be published (https://www.idsociety.org/globalassets/idsa/topics-of-interest/lyme/project-plan-march-2015.pdf).

III. A Summary or bibliography of peer reviewed medical literature and studies related to the diagnosis, medical management and the treatment of Lyme disease and other tickborne illnesses, including, but not limited to, the recognition of chronic Lyme disease and the use of long-term antibiotic treatment

A bibliography of peer reviewed journal articles published in 2019, as related to Lyme and other tickborne illnesses is included in Appendix 3. Maine CDC reviews these journal articles to maintain an understanding of the current research and literature available on Lyme and other tickborne diseases.

IV. The education, training, and guidance provided by Maine Center for Disease Control and Prevention to health care professionals on the current methods of diagnosing and treating Lyme disease and other tickborne illnesses

Maine CDC continues to emphasize prevention and control of Lyme disease and other tickborne diseases. Surveillance for tickborne diseases, including Lyme disease, is performed by the Division of Disease Surveillance, Infectious Disease Epidemiology Program, as Lyme disease, Anaplasmosis, Babesiosis, Ehrlichiosis, Spotted Fever Rickettsiosis, and Powassan are notifiable diseases by both medical practitioners and clinical laboratories. Reporting clinicians must submit subsequent clinical and laboratory information following the initial report. Maine CDC also monitors tickborne diseases through syndromic surveillance. By querying participating hospital emergency department (ED) patient visit data, patients that complain of a tick bite are identified. An increase in ED visits for tick bites is usually a precursor for the typical seasonal increase in incidences of Lyme and other tickborne diseases. A comparison of 2017, 2018, and 2019 syndromic data is included as Appendix 4.

Maine CDC performed a spatial analysis of 2019 Lyme disease surveillance data at the county level, showing the continual disease progression (Appendix 5). Outreach and education to clinicians and other healthcare providers to increase provider response to required supplemental clinical and laboratory information is ongoing.

Maine CDC epidemiologists provide consultation to the medical community on tickborne diseases, offering educational and preventive information as needed. Maine CDC epidemiologists present educational outreach activities and seminars on tickborne disease prevention targeting the medical

community at statewide meetings of school nurses and others. Ongoing educational initiatives are featured on the Maine CDC website: https://www.maine.gov/lyme.

During 2019, Maine CDC Infectious Disease Epidemiology Program mailed **clinical management guides**, "Tickborne Diseases of the United States: A Reference Manual for Healthcare Providers" to hospitals, urgent care providers, neurologists, and federally qualified health centers. This guide includes information on ticks found in the US and signs/symptoms, laboratory services, diagnosis, and treatment of twelve tickborne diseases, including Lyme disease.

- Maine CDC distributed 325 copies of this guide in 2019

Maine CDC continues to contribute to **national surveillance and prevention activities**. During 2019, Maine CDC epidemiologists represented the State at both local and national meetings including:

- Lyme and Other Tickborne Diseases Meeting for High Incidence States held in Portsmouth, NH in March 2019
- 2019 NAVCO Annual Meeting in Fort Collins, CO in May 2019
- Council of State and Territorial Epidemiologist (CSTE) annual conference held in Raleigh, NC in June 2019
- Ticks and Tickborne Diseases Workshop held in Raleigh, NC in June 2019
- Northeast Epidemiology annual conference held in Portland, ME in the November 2019

Maine Epidemiologists are active contributors to a Lyme surveillance definition group and participate in federal working groups on:

- Alpha-gal allergy
- Anaplasmosis
- *Borrelia miyamotoi*
- Vectorborne diseases

V. The education and public awareness activities conducted by Maine Center for Disease Control and Prevention for the prevention of Lyme disease and other tickborne illnesses

Maine CDC promotes ongoing **educational outreach activities** targeting the public and Maine municipalities. During 2019, Maine CDC epidemiologists provided consultation to the public on tickborne diseases, offering educational and preventive information as needed. Maine CDC epidemiologists presented educational outreach activities and seminars on tickborne disease prevention to the general public including:

- 32 presentations or displays held for: students in 3rd-8th grade, school nurses, gardeners, runners, and community members
- Numerous media interviews given by Maine CDC employees (Maine CDC Director, Infectious Disease Epidemiology Program Director and State Epidemiologist).

Maine CDC's Infectious Disease Epidemiology Program Director chairs the State **Vectorborne Disease Work Group**; a group comprising both state agencies and private entities, which meets on a bimonthly basis to proactively address surveillance, prevention and control strategies. Members of this group include: Maine Department of Health and Human Services, Maine Department of Agriculture, Conservation, and Forestry, Maine Department of Inland Fisheries and Wildlife, Maine

Department of Education, Maine Department of Environmental Protection, Maine Forest Service, University of Maine Cooperative Extension Services, and the United States Department of Agriculture. A full list of members can be found in Appendix 6. **Educational efforts** by the Vectorborne Work Group in 2019 included:

- Presentations given on ticks and tickborne diseases
- Presence at vendor shows, television, and radio interviews
- Distribution of educational materials including Lyme brochures, tick spoons, fact sheets, etc.

In 2019, Maine CDC continued an educational program started in 2014 aimed at **teaching students in 3rd to 8th grade about tick biology and ecology**, **tickborne diseases, and tick prevention**. The program consists of a twenty-minute PowerPoint presentation on tick biology and ecology, and disease information; four ten-minute interactive activities; and a take-home packet with games, activities, and information for parents. Maine CDC changed the format of this program from presenting in-person to a train-the-trainer style where school nurses or other school representatives attend a half day training and then present the materials in their respective schools. This change in format expands access to the curriculum to include schools that Maine CDC would otherwise not be able to go to in-person and increases the number of schools that the curriculum is implemented in each year. Schools or districts receive compensation for attending the half-day training as well as additional compensation after showing proof of curriculum implementation in their respective school(s). This endeavor is being undertaken in close partnership with Maine's Department of Education. In 2019, Maine CDC trained ten educators who then presented the information in their schools.

Prior to 2018, this program included pre and post curriculum evaluations distributed to all participating students, administered shortly before and two weeks after presentation of the material. Since Maine CDC demonstrated knowledge retention after two weeks with this method, in 2018 and 2019 Maine CDC administered the test to students across 3rd, 4th, and 5th grade at a single school where Maine CDC conducted the educational program in-person. Though Maine CDC presented the curriculum only to the 4th grade classes, students in the grades above and below the participating students also took the test. The goal of implementing this annual competency is to better gauge long-term knowledge retention among students who participated in the tickborne disease curriculum. In general, 5th graders scored higher than 3rd graders, but lower than 4th graders.

Educational materials for the 3rd-5th and 6th-8th graders are available online, including our educator's guide, group activities, and activity book for both ticks and mosquitoes. Maine CDC continues to review and update the education materials. Educational materials are available at the following link: http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/school-curriculum/index.shtml.

- The web resource for educators recorded 298 visits in 2019.

In 2019, Maine CDC ran a **Social Media Campaign** aimed at adults age 45 and older. The campaign consisted of short, targeted advertisements on YouTube and Facebook with relevant tickborne disease prevention information. This included five Facebook boosted posts (one static advertisement and four video advertisements) and four YouTube paid instream ads. YouTube changed the way advertisements are set up and run, which led to some trial and error with the first two videos. Advertisements and subsequent views during the campaign include:

- Facebook Boosted Posts
    - Do You Know Who's Most at Risk for Lyme Disease – viewed 61,526 times

    - Know How to Prevent Tick Bites – viewed 56,563 times
    - Know How to do Tick Checks - viewed 49,676 times
    - Know How to Remove Ticks - viewed 37,147 times
- YouTube Paid Instream Ads
    - Do You Know Who's Most at Risk for Lyme Disease – viewed 1 time
    - Know How to Prevent Tick Bites – viewed 7 times
    - Know How to do Tick Checks – viewed 667 times
    - Know How to Remove Ticks - viewed 33,809 times

Maine CDC maintains a series of **short instructional videos** to educate the Maine community in tick prevention and tickborne diseases. These videos include:

- Choosing and Applying Personal Repellents – viewed 19 times in 2019
- How to Choose a Residential Pesticide Applicator – viewed 17 times in 2019
- How to Perform a Tick Check – viewed 821 times in 2019
- Tick Identification – viewed 3,100 times in 2019
- Tickborne Diseases in Maine: Anaplasmosis – viewed 213 times in 2019
- Tickborne Diseases in Maine: Babesiosis – viewed 226 times in 2019
- Tickborne Diseases in Maine: Lyme Disease-viewed 41 times in 2019
- Tickborne Diseases: Powassan Encephalitis– viewed 76 times in 2019
- Reducing Tick Habitat Around Your Home- viewed 128 times in 2019

Maine CDC's Infectious Disease Epidemiology Program conducted tick and mosquito **"Train the Trainer"** events to help educate individuals on these topics and empower them to be a resource in their local community. During 2019 Maine CDC held five workshops in Augusta, Bowdoinham, Warren, Portland, and Lewiston.

Maine CDC's Lyme disease website is continually updated to provide information to the public and to health professionals about Lyme disease in Maine. In 2019:

- The Lyme disease homepage (www.maine.gov/lyme) was visited 5,844 times
- The tick frequently asked questions homepage (www.maine.gov/dhhs/tickfaq) was visited 2,837 times

Ongoing educational initiatives featured on Maine CDC's website include:

- Lyme, Anaplasmosis, Babesiosis, *Borrelia miyamotoi*, Ehrlichiosis, and Powassan disease fact sheets
- Tickborne frequently asked questions with peer-reviewed citations
- Tick identification
- Prevention of tickborne diseases
- Lyme, Anaplasmosis, Ehrlichiosis, Babesiosis, and Powassan Surveillance Reports from 2008-2018
- School curricula
- Maine Tracking Network: Tickborne Diseases

During 2019, Maine CDC distributed **Lyme disease educational materials** to partners and members of the public. Approximate numbers of materials distributed include:

- 11,810 Wallet-sized laminated tick identification cards

- 10,666 Tick remover spoons
- 1,960 Lyme disease brochures
- 2,062 Tick ID posters
- 2,115 What to do After a Tick Bite brochures
- 697 Lyme disease awareness month 2018 posters
- 300 Lyme disease awareness month 2019 posters
- 325 Tickborne diseases in the United States: A reference manual for healthcare providers
- 738 Prevent tickborne diseases bookmark
- 170 Prevent tickborne diseases in people and pets bookmark
- 20 Prevent tick bites trail sign

Members of the Vectorborne Disease Working Group assist Maine CDC in distributing educational materials as widely as possible throughout the State.

Maine CDC releases **Health Alerts** (https://www.maine.gov/dhhs/mecdc/all-health-advisories.shtml)**, press releases,** and other information on disease concerns of public health significance, including tickborne diseases. Maine CDC also responds to numerous press inquiries and releases press statements as appropriate. Official releases in 2019 included:

- 2019 Lyme and other Tickborne Disease Information (Health Alert) – May 7th
- Maine CDC Promotes Awareness of Tickborne Diseases (Press Release) – May 7th
- Maine CDC Congratulates Winners of the 2019 Lyme Disease Awareness Poster contest (Press Release) – June 28th
- Human Arbovirus Information for Healthcare Providers (Health Alert) – July 2nd
- Human Powassan Case (Health Alert) – July 24th
- Maine CDC Confirms Case of Powassan Virus (Press Release) – July 24th
- Tickborne Activity Fall Update for Healthcare Providers (Health Alert) – October 4th
- Maine CDC Sees Steep Increases in Two Tickborne Diseases (Press Release) – October 24th

Pursuant to legislation enacted in the second regular session of the 126th Legislature, May 2019 was declared to be **Lyme Disease Awareness Month** (PL 494). Educational activities took place the entire month including:

- Governor's Proclamation of Lyme Disease Awareness Month (Appendix 7)
- Information distributed through social media (Facebook and Twitter)
- Information distributed through multiple newsletters throughout the state
- Lyme disease public awareness events held in Freeport, New Gloucester, Kennebunk, and Portland

Another major Lyme Disease Awareness Month activity was the **statewide poster contest** for students in grades K-8. Maine CDC asked students to create a poster with the theme "**Tick Aware and Tick Alert"** demonstrating at least one of the four Lyme disease prevention methods (wear protective clothing, use repellent, use caution in tick infested areas, and perform daily tick checks). The four winning posters are available for viewing at the Lyme disease website: www.maine.gov/lyme. Maine CDC used one of the winning posters for our 2019 statewide educational campaign (Appendix 8). Maine CDC distributed this poster to schools, state parks, the board of tourism, and historical sites.

The 2019 poster contest also marked the 10th year of the poster contest. Maine CDC celebrated this milestone by displaying a variety of posters submitted during the last ten years at the Children's Museum & Theatre of Maine during the month of May. Maine CDC also created an online poster gallery of all artwork submitted over the past ten years. This is available for viewing on Maine CDC's Lyme Disease Awareness Month website: https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/vector-borne/lyme/month/index.shtml.

In 2012, Maine CDC launched Lyme disease data on the **Maine Tracking Network (MTN) Portal**, a web-based portal that allows users to access environmental and health data. In 2018, the Maine Tracking Network added Anaplasmosis and Babesiosis data to the Lyme disease portion of the portal. This data portal allows users to customize their data inquiries from 2001-2018 at the town, county, and state level. The Tickborne Disease portion of the portal was accessed 13,178 times during 2019. MTN Tickborne Disease Data is available on Maine CDC's website at www.maine.gov/idepi. Please see Appendix 9 for a sample table and Appendix 10 for sample maps. Data can be broken down by:

- Town
- County
- Gender
- Age Group

In 2018, Maine CDC also launched a **Near Real-Time (NRT)** data dashboard for tickborne diseases on the MTN. This NRT data dashboard is updated daily with the rates (per 100,000) and number of cases of Lyme disease, anaplasmosis, and babesiosis at both the state and county level. This is available as tables, charts, and maps. Case counts include confirmed and probable cases and data updates occur daily as Maine CDC classifies new cases. The NRT data dashboard also includes a trend chart of suspected tick-related emergency department visits by week and compares the counts to the previous year. Maine CDC obtains suspected tick-related emergency department visits from hospitals in Maine. The NRT section of the portal received 2,124 visits in 2019. Please see Appendix 11 for a sample trend chart.

Maine CDC's main **prevention message** is encouraging Maine residents and visitors to use personal protective measures to prevent tick exposures. Personal protective measures include avoiding tick habitat, use of EPA approved repellents, wearing long sleeves and pants, and daily tick checks and tick removal after being in tick habitats (ticks must be attached >24 hours to transmit Lyme disease). Persons who spent time in tick habitats should consult a medical provider if they have unexplained rashes, fever, or other unusual illnesses during the first several months after exposure. Possible community approaches to prevent Lyme disease include landscape management and control of deer herd populations.

Maine CDC partners with the University of Maine Cooperative Extension Office to monitor the identification of deer ticks (*Ixodes scapularis*) in Maine through a passive submission system. Beginning in April 2019, the University of Maine Cooperative Extension Office offers the testing of deer ticks for the pathogens that cause Lyme disease, anaplasmosis, and babesiosis. While the testing of ticks should be used for clinical diagnosis or medical treatment decisions, this service provides surveillance information on ticks and tickborne diseases in Maine. For more information on this service, please visit https://extension.umaine.edu/ticks/. Data on the tick submission and tick testing results for 2019 can be found in Appendix 12.

VI. A summary of laws of other states enacted during the past year related to the diagnosis, treatment, and insurance coverage for Lyme disease and other tickborne illnesses based on resources made available by federal Centers for Disease Control and Prevention or other organizations

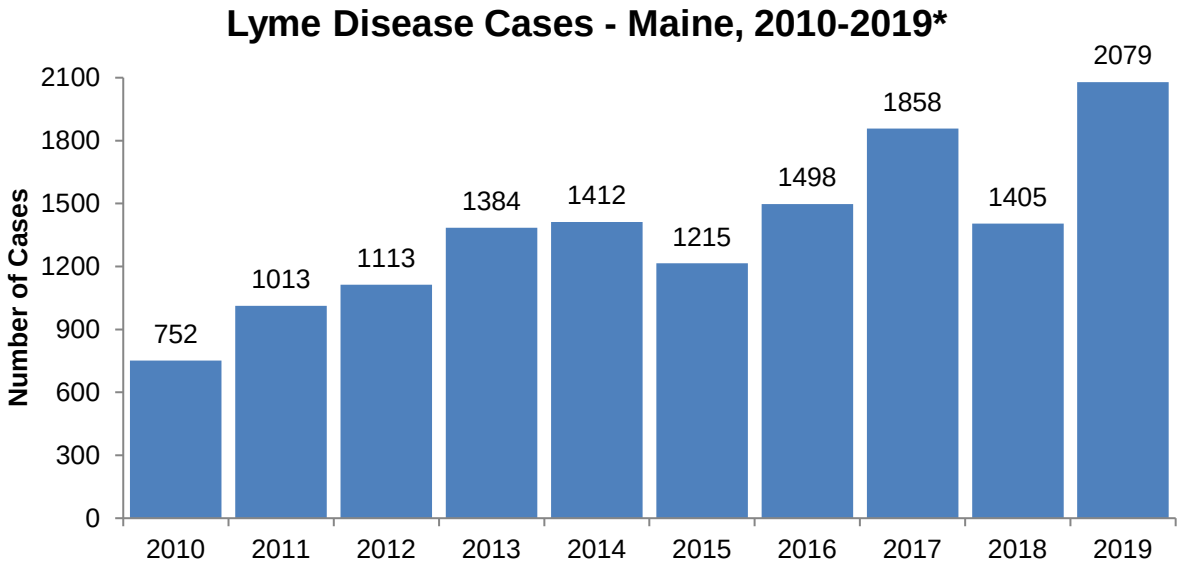
Maine CDC performed a search of state and federal legislation. A state-by-state listing of legislation relating to Lyme and other tickborne diseases can be found in Appendix 13.

Appendix 1
Maine Lyme disease statistics

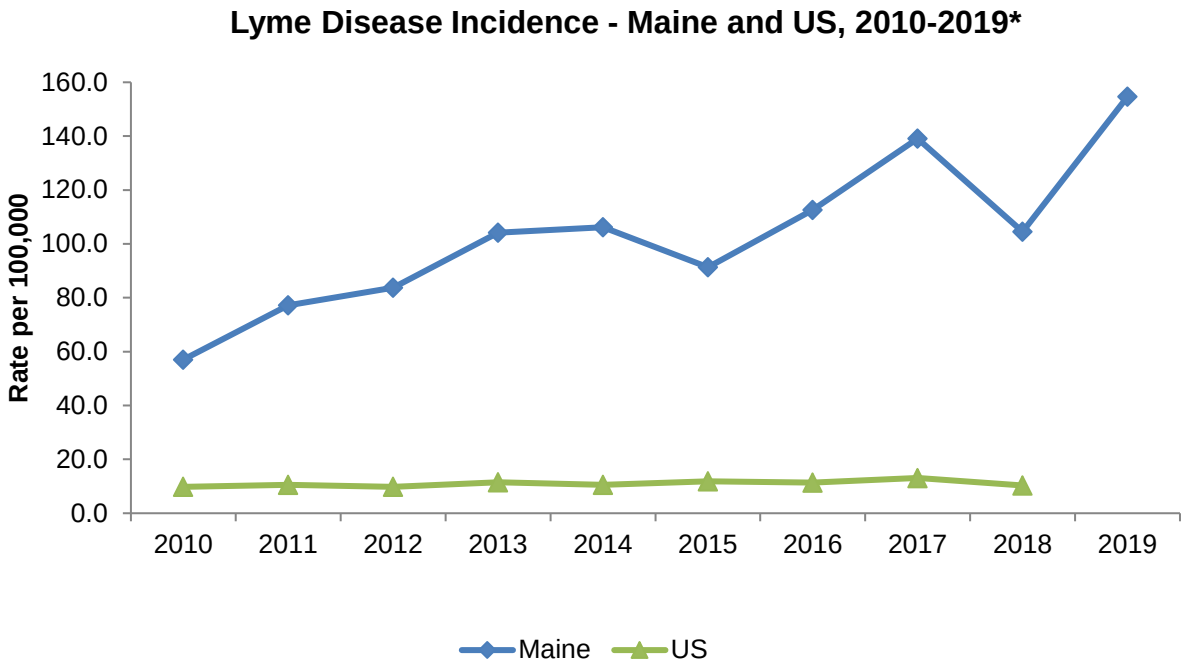
Number and Rate per 100,000 persons of Lyme Disease Cases by County of Residence – Maine, 2015-2019*

County	2015 Count	2015 Rate	2016 Count	2016 Rate	2017 Count	2017 Rate	2018 Count	2018 Rate	2019* Count	2019* Rate
Androscoggin	50	46.6	93	86.7	97	90.4	68	63.2	96	89.2
Aroostook	2	2.9	1	1.5	8	11.8	4	6.0	2	3.0
Cumberland	260	89.7	311	107.2	320	109.6	284	96.7	336	114.5
Franklin	10	33.3	3	10.0	24	80.0	13	43.5	39	130.4
Hancock	122	223.2	152	278.1	206	378.5	174	317.5	182	332.1
Kennebec	154	128.4	206	171.7	267	221.4	182	149.1	274	224.4
Knox	121	303.6	107	268.5	146	367.4	105	264.0	211	530.5
Lincoln	74	217.8	99	291.4	74	216.3	62	180.5	125	364.0
Oxford	26	45.5	43	75.2	58	101.4	48	83.3	84	145.8
Penobscot	51	33.4	90	58.9	129	85.0	77	51.0	108	71.5
Piscataquis	1	5.9	3	17.7	8	47.5	3	17.9	4	23.8
Sagadahoc	49	139.4	91	258.9	61	172.9	47	131.9	80	224.5
Somerset	28	54.8	21	41.1	90	176.8	45	88.9	68	134.4
Waldo	63	160.9	70	178.8	143	363.3	78	196.5	138	347.7
Washington	20	63.2	20	63.2	32	101.7	15	47.6	31	98.4
York	184	91.5	188	93.5	195	96.4	200	97.0	301	146.0
State	**1215**	**91.3**	**1498**	**112.6**	**1858**	**139.1**	**1405**	**104.5**	**2079**	**154.7**

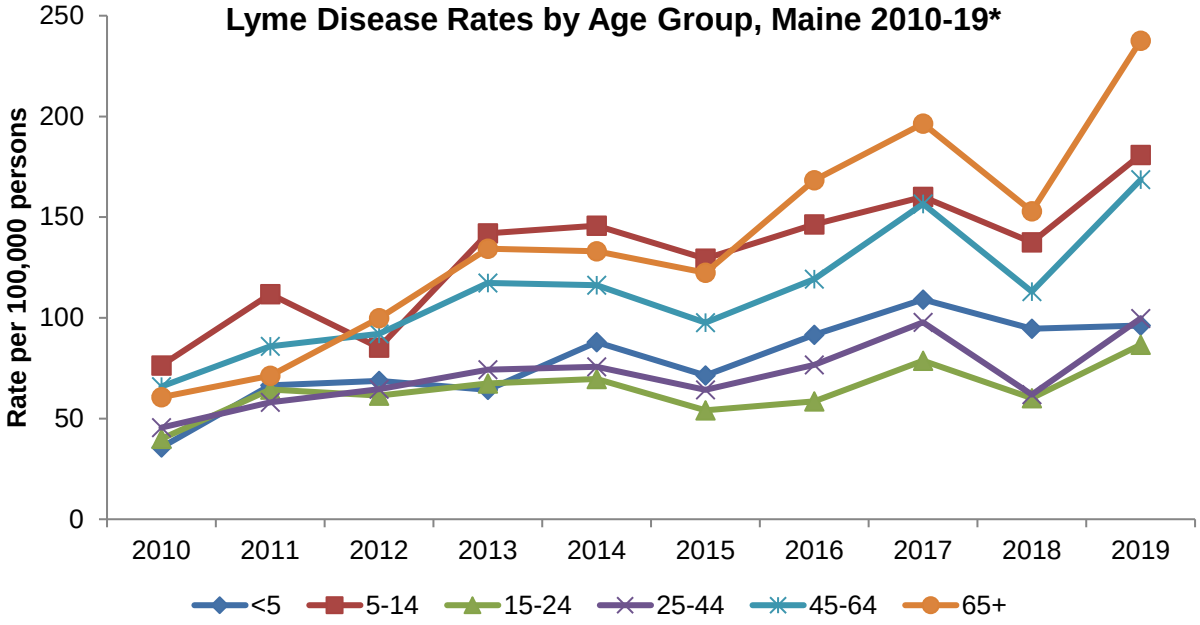
All data include both confirmed and probable cases



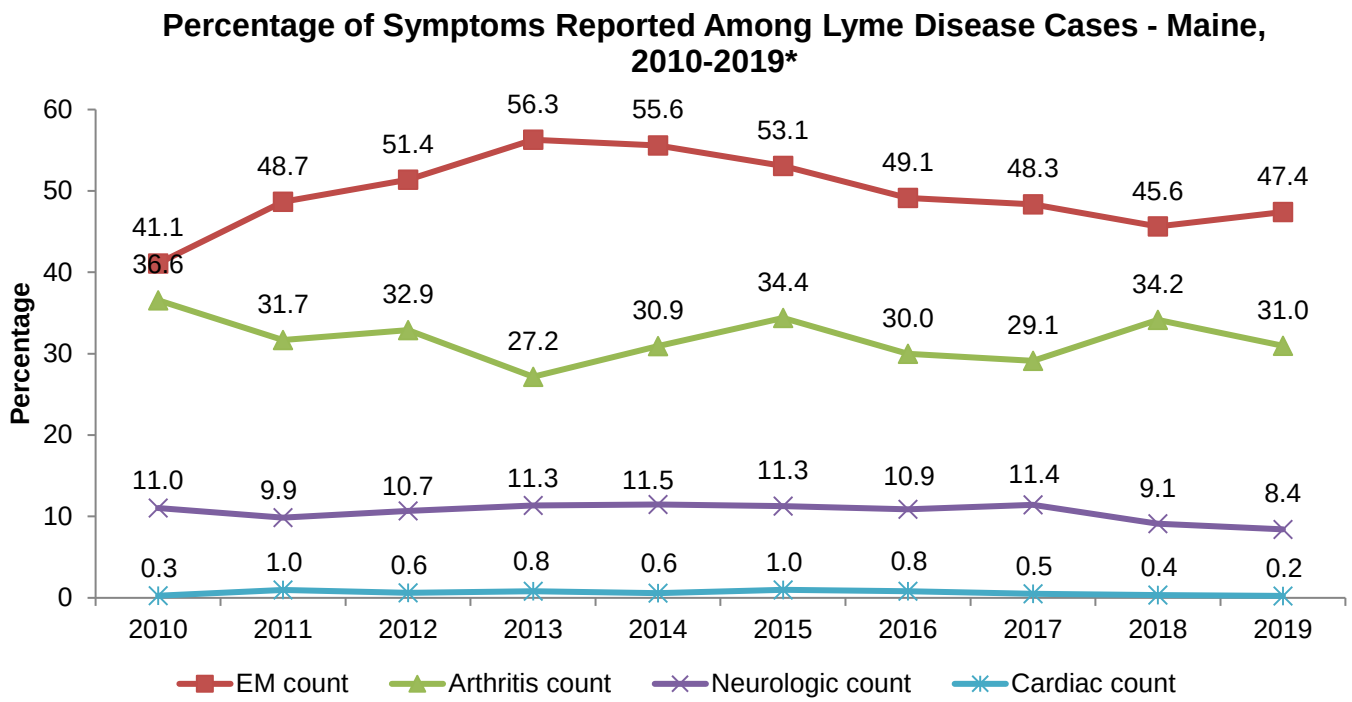
* 2019 data are preliminary as of 01/15/2020



* 2019 data are preliminary as of 01/15/2020



* 2019 data are preliminary as of 01/15/2020



* 2019 data are preliminary as of 01/15/2020

Appendix 2
Maine tickborne disease statistics (excluding Lyme disease)

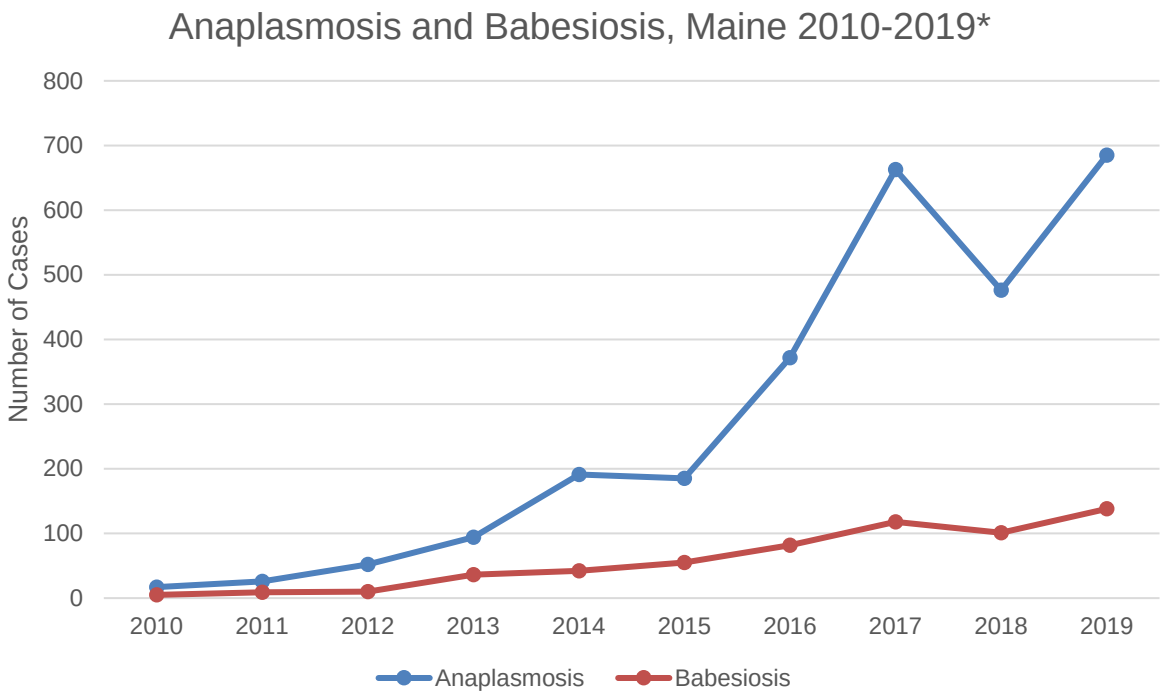
Number of Selected Tickborne Disease Cases by County of Residence – Maine, 2019*

County	Anaplasmosis	Babesiosis	*Borrelia miyamotoi*	Ehrlichiosis	Ehrlichiosis/ Anaplasmosis Undetermined	Powassan	Spotted Fever Rickettsiosis
Androscoggin	66	7	4	2	0	0	0
Aroostook	1	0	0	0	0	0	0
Cumberland	118	28	4	1	0	0	1
Franklin	4	2	0	0	0	0	0
Hancock	43	7	0	0	0	0	2
Kennebec	61	18	0	4	2	0	1
Knox	91	17	0	0	0	0	0
Lincoln	60	8	0	2	0	0	0
Oxford	36	8	1	0	0	0	0
Penobscot	15	4	1	1	0	0	1
Piscataquis	0	0	0	0	0	0	0
Sagadahoc	30	9	1	0	0	0	0
Somerset	9	2	0	0	0	0	0
Waldo	40	4	0	2	0	0	0
Washington	5	0	0	0	0	0	0
York	106	24	1	1	0	1	0
Total	**685**	**138**	**12**	**13**	**2**	**1**	**5**

Number of Selected Tickborne Disease Cases– Maine, 2010 - 2019*

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*
Anaplasmosis	17	26	52	94	191	185	372	663	476	685
Babesiosis	5	9	10	36	42	55	82	118	101	138
Borrelia miyamotoi	0	0	0	0	0	0	0	6	8	12
Ehrlichia chaffeensis	4	1	3	3	8	5	7	10	19	13
Ehr/Ana undetermined	0	0	0	2	6	1	4	10	9	2
Powassan	0	0	0	1	0	1	1	3	0	1
SFR	2	1	3	2	3	1	4	3	10	5

* 2019 data are preliminary as of 01/15/2020



* 2019 data are preliminary as of 01/15/2020

Appendix 3

Peer-reviewed medical literature related to medical management and treatment of Lyme disease – bibliography: 2019

- Arumugam, S., Nayak, S., Williams, T., Serra di Santa Maria, F., Guedes, M.S., Chaves, R.C.,…Gomes-Solecki, M. (2019). A multiplexed serologic test for diagnosis of Lyme disease for point-of-care use. *Journal of Clinical Microbiology, 10*(3). doi:10.1128/JCM.01142-19

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- Mojtahed, A., Bates, D.D.B., & Hahn, P.F. (2019). Splenic findings in patients with acute babesiosis. *Abdominal Radiology. Advance online publication.* doi: 10.1007/s00261-019-02362-z

- Moon, K.A., Pollak, J., Poulsen, M.N., Hirsch, A.G., DeWalle, J., Heaney, C.D.,,,,Schwartz, B.S. (2019). Peridomestic and community-wide landscape risk factors for Lyme disease across a range of community contexts in Pennsylvania. *Environmental Research, 178*. doi:10.1016/j.envres.2019.108649

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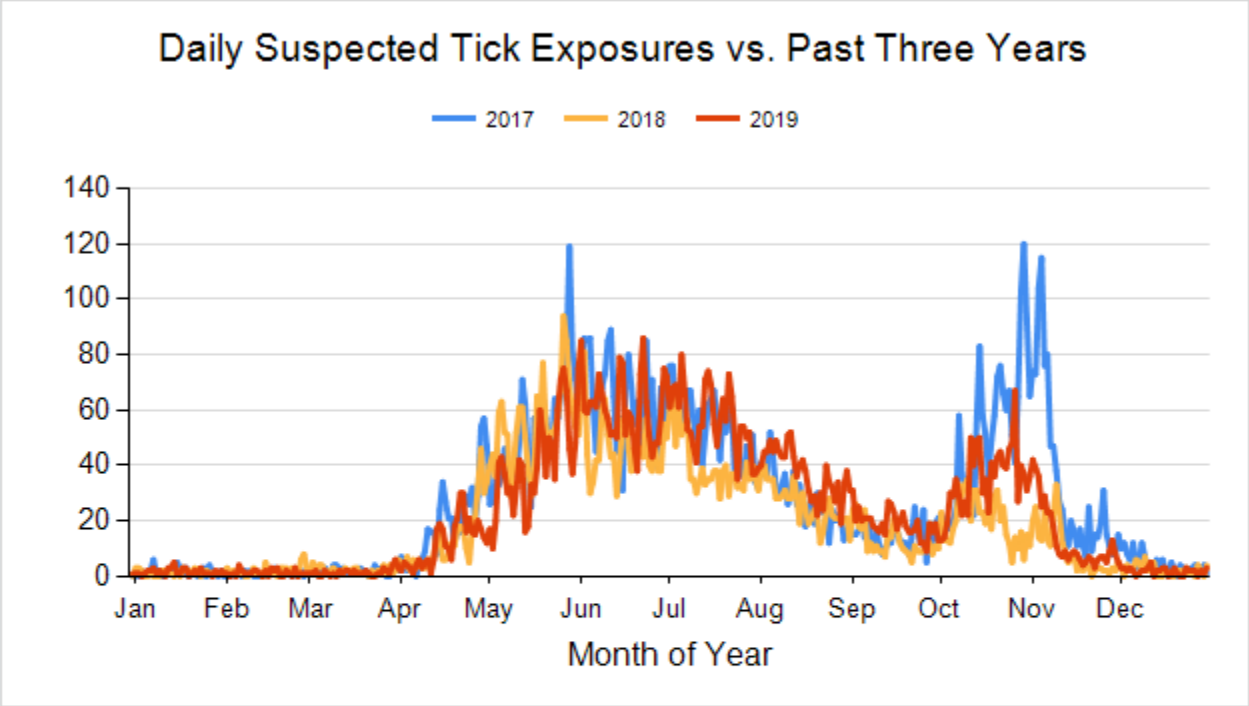
- Webber, B.J., Burganowski, R.P., Colton, L., Escobar, J.D., Pathak, S.R., & Gambino-Shirley, K.J. (2019). Lyme disease overdiagnosis in a large healthcare system: a population-based, retrospective study. *Clinical Microbiology and Infection, 25*(10), 1233-1238.

Appendix 4

Maine CDC *Syndromic Surveillance Report*

Report run: 1/17/2020 9:30:43 AM

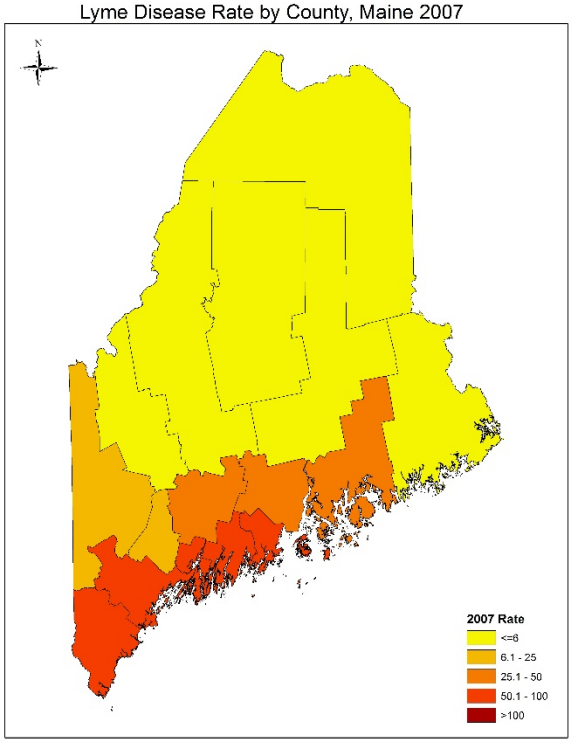


Data Notes:

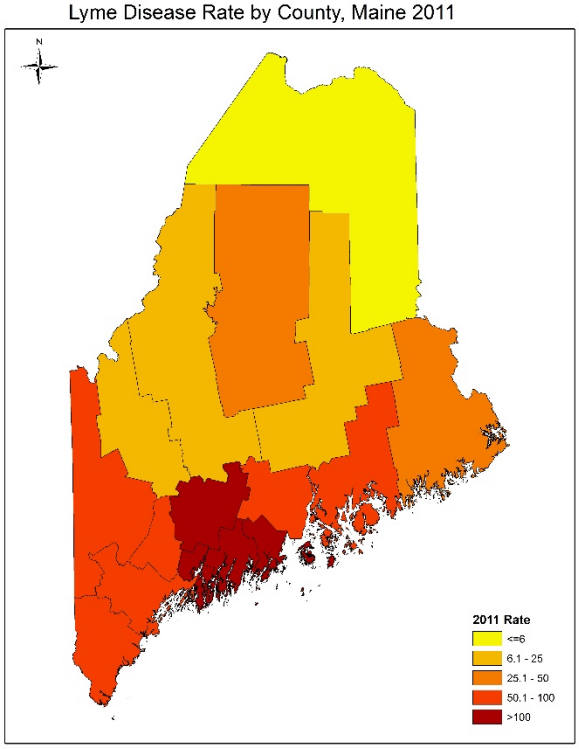
The number of suspected tick exposures is based on automated processing of chief complaint text and diagnosis codes from patient encounters at Maine emergency departments and affiliated urgent care facilities. For more information about Maine's syndromic surveillance data and methods, please contact syndromic@maine.gov.

Appendix 5
Lyme Disease Cases per 100,000 people (Rate) – Maine, Selected years 2007-2019*

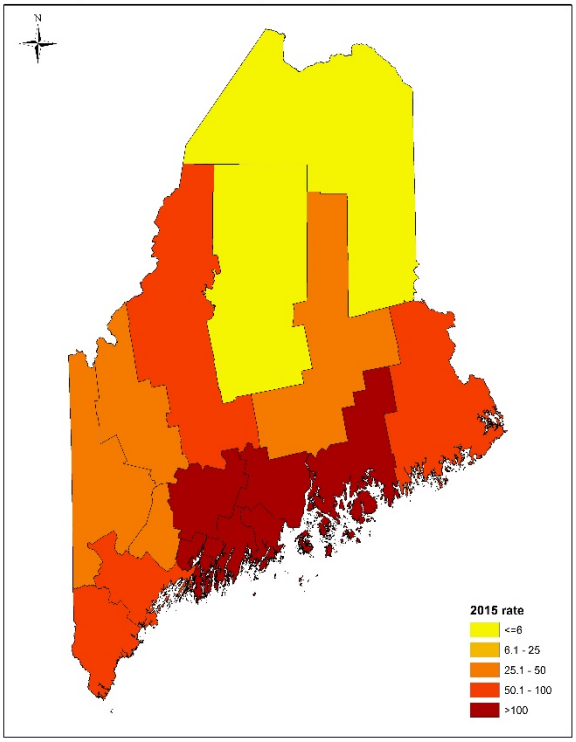
Lyme Disease Rate by County, Maine 2007



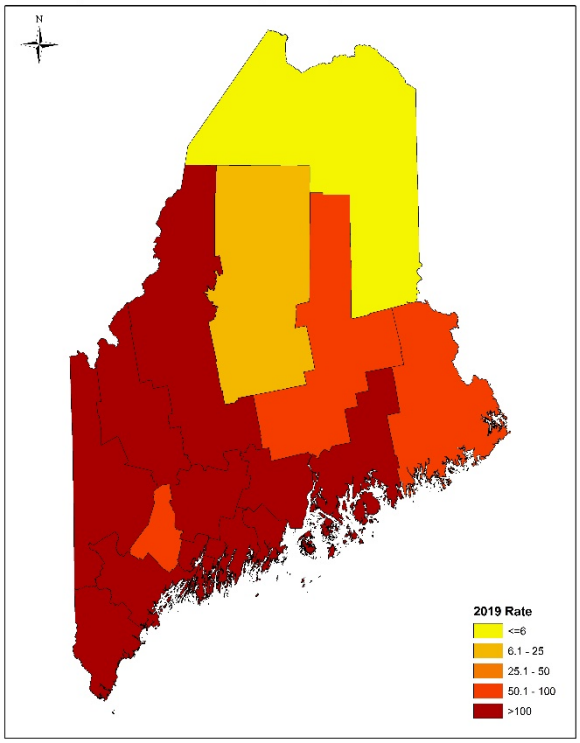
Lyme Disease Rate by County, Maine 2011



Lyme Disease Rate by County, Maine 2015



Lyme Disease Rate by County, Maine 2019



* 2019 data are preliminary as of 01/15/2020

Appendix 6

Maine Vectorborne Work Group

Chair: Sara Robinson, Maine Center for Disease Control and Prevention (Maine CDC)

Adams, Justin	Municipal Pest Management
Bennett, Siiri	Maine CDC
Bonthius, Jessica	Maine CDC
Bryer, Pam	Maine Board of Pesticide Control
Camuso, Judy	Maine Department of Inland Fisheries and Wildlife
Chamberlain, Anne	Maine Board of Pesticide Control
Colby, Kate	Maine CDC
Dill, Griffin	Maine Cooperative Extension
Dill, Jim	Maine Cooperative Extension
Elias, Susan	Maine Medical Center Research Institute, University of Maine Orono
Fish, Gary	Maine Department of Agriculture, Conservation, and Forestry
Fiske, Rachael	Maine Department of Agriculture, Conservation, and Forestry
Gardner, Allison	University of Maine, School of Biology and Ecology
Groden, Ellie	University of Maine
Hicks, Lebelle	Private citizen, toxicologist
Jackson-Jones, Paula	Midcoast Lyme Disease Support Group
Kanoti, Allison	Maine Forest Service
Lacombe, Eleanor	Maine Medical Center Research Institute
Lichtenwalner, Anne	University of Maine, Animal Health Laboratory
Lubelczyk, Charles	Maine Medical Center Research Institute
Matluk, Nick	Maine CDC
Mealey, Hailey	Maine Department of Agriculture, Conservation, and Forestry
Morris, Jesse	US Department of Agriculture
Murray, Kathy	Maine Department of Agriculture, Conservation, and Forestry
Patterson, Megan	Maine Board of Pesticides Control
Peranzi, Catie	Maine CDC
Poland, Emily	Maine Department of Education
Rand, Peter	Maine Medical Center Research Institute
Robich, Rebecca	Maine Medical Center Research Institute
Schmeelk, Thomas	Maine Forest Service
Smith, Rob	Maine Medical Center Research Institute
Sohail, Haris	Maine CDC
Staples, Joe	University of Maine, Department of Environmental Science and Policy
Szantyr, Beatrice	Physician, Lincoln Maine
Walsh, Michele	Maine Department of Agriculture, Conservation, and Forestry
Webber, Lori	Maine CDC
Welch, Maggie	Maine Medical Center Research Institute

To reach a member of the VBWG or to express interest in joining this workgroup, contact disease.reporting@maine.gov.

Appendix 7
2019 Governor's Proclamation

State of Maine

Proclamation

WHEREAS, the Maine Center for Disease Control and Prevention reported nearly 1,400 confirmed and probable cases of Lyme disease in 2018; and

WHEREAS, the actual incidence of Lyme disease is likely much higher than reported and disproportionately affects children between five and fifteen years and mature adults over sixty-five years; and

WHEREAS, Lyme disease is treatable and most individuals recover completely with proper medication; and

WHEREAS, tick bites can be prevented by staying in the center of wooded paths, wearing light colored, long-sleeved clothing, using an EPA approved bug spray, performing daily tick checks, and safely removing ticks; and

WHEREAS, raising public awareness of the risks, prevention methods, removal, and symptoms are essential to ensuring fewer incidences of tickborne illnesses in Maine, as illustrated by the theme "Tick Aware and Tick Alert"; and

WHEREAS, the 124th Maine Legislature enacted Public Law Chapter 494, L.D. 1709, Item 1, *An Act to Enhance Public Awareness of Lyme Disease*;

NOW, THEREFORE, be it resolved that I, Janet T. Mills, Governor of the State of Maine, do hereby proclaim the month of May as

Lyme Disease Awareness Month

in Maine, and I urge all the citizens of Maine to become aware of the steps that can be taken to reduce the risk of tickborne illnesses.

In testimony whereof, I have caused the Great Seal of the State to be hereunto affixed GIVEN under my hand at Augusta this twenty-fifth day of March Two Thousand Nineteen

Janet T. Mills
Governor

Matthew Dunlap
Secretary of State
TRUE ATTESTED COPY

Appendix 8
Maine CDC Lyme Disease Awareness Month Poster 2019

Artwork submitted by Alaina Kachnovich from Spruce Mountain Elementary School

Appendix 9
Maine Tracking Network

Number of Tickborne Disease Cases by Town, Maine 2014-2018 Showing: First 20 Towns

Location	Number			Population
	Anaplasmosis	Babesiosis	Lyme	
Windham	30	6	151	89,854
Portland	26	8	150	339,884
Augusta	19	5	120	92,166
Gorham	20	5	117	86,446
Brunswick	36	9	106	103,782
Freeport	25	3	93	40,300
Islesboro	<6	0	92	2,735
Bar Harbor	11	4	83	25,765
Gray	15	7	80	40,480
York	19	13	78	62,917
Deer Isle	<6	0	76	9,655
Falmouth	11	1	75	57,165
Auburn	25	6	73	113,574
Sanford	48	4	72	105,664
Winthrop	10	2	71	29,575
Kittery	17	21	70	47,641
Ellsworth	1	0	69	39,333
Warren	65	15	69	23,895
Cumberland	11	5	68	38,328
Lewiston	11	2	66	181,821

About this table

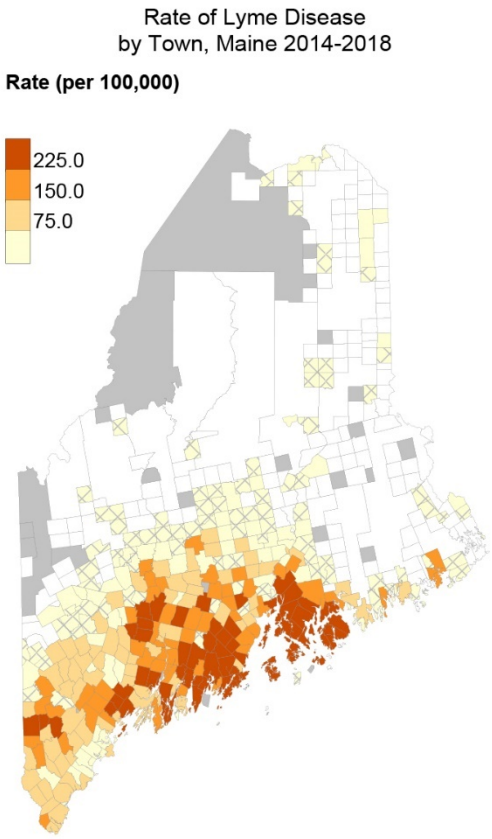
This table shows the number of confirmed and probable cases of tickborne disease in the population. Combined year population data are the sum of individual years (e.g. 2010-14 is the sum of populations in 2010, 2011, 2012, 2013, and 2014). Combined year rates are annualized across all included years. Maine CDC's Infectious Disease Program obtained these data through notifiable conditions surveillance based upon reports from healthcare providers, laboratories, and other healthcare partners.

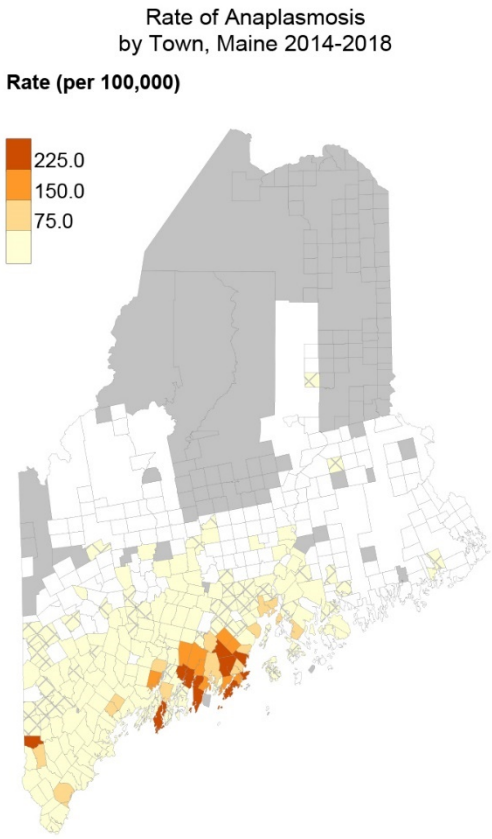
To protect privacy as per Maine CDC's Privacy Policy, data may be suppressed. For locations where data are suppressed, a range ('<6') is provided for the number of events and an asterisk (*) for the rate. Data may also be secondarily suppressed to protect against indirect identification and are displayed as a number range (such as '6-10' or '11-15') when possible, or Not Releasable (NR). Geographical locations with populations less than 50 individuals are also displayed as Not Releasable (NR).

Source of these data

Maine CDC's Infectious Disease Program collected and analyzed the data. Maine CDC used population data from the U.S. Census Bureau to calculate state and county rates of tickborne disease. Maine CDC used population data from the Maine Office of Data, Research, and Vital Statistics (ODRVS) to calculate town-level rates of tickborne disease. The Maine Environmental Public Health Tracking Program prepared the data display. Data updated: 05/2019. Display updated: 05/2019.

Appendix 10
Maine Tracking Network





Cross-hatched areas show where data were suppressed.
White indicates a value of zero (0).
Gray indicates that data are not releasable.

Figure A

Figure B

About these figures

Figure A shows the incidence rate (per 100,000 people) of confirmed and probable cases of Lyme disease in the population. Beginning in 2008, the case definition was expanded to include the classification of probable cases. Maine CDC's Infectious Disease Program obtained these data through notifiable conditions surveillance based upon reports from healthcare providers, laboratories, and other healthcare partners.

Figure B shows the incidence rate (per 100,000 people) of confirmed and probable cases of anaplasmosis in the population. Maine CDC's Infectious Disease Program obtained these data through notifiable conditions surveillance based upon reports from healthcare providers, laboratories, and other healthcare partners.

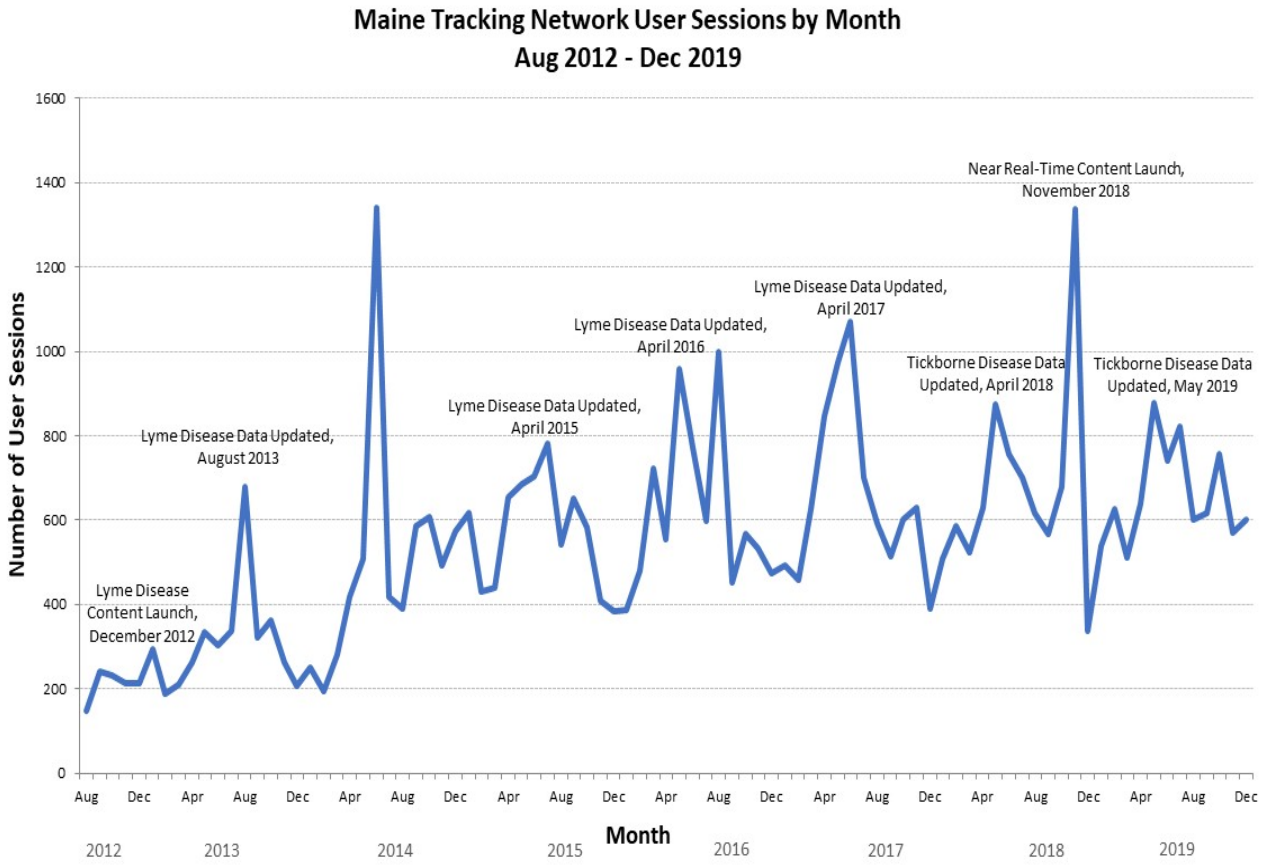
Different map colors are not based on statistical tests of difference.

To protect privacy as per Maine CDC Privacy Policy, data may be suppressed. Locations where data must be suppressed are represented by cross-hatching. Locations where data are not releasable (NR) are shaded gray.

Sources of these data

Maine CDC's Infectious Disease Program collected and analyzed the data. Maine CDC used population data from the U.S. Census Bureau to calculate state and county rates of tickborne disease. Maine CDC used population data from the Maine Office of Data, Research, and Vital Statistics (ODRVS) to calculate town-level rates of tickborne disease. The Maine Environmental Public Health Tracking Program prepared the data display. Data updated: 05/2019. Display updated: 05/2019.

Appendix 11


Maine Tracking Network User Sessions by Month
Aug 2012 - Dec 2019
Number of User Sessions
1600
1400
1200
1000
800
600
400
200
0
Lyme Disease Content Launch, December 2012
Lyme Disease Data Updated, August 2013
Lyme Disease Data Updated, April 2015
Lyme Disease Data Updated, April 2016
Lyme Disease Data Updated, April 2017
Tickborne Disease Data Updated, April 2018
Near Real-Time Content Launch, November 2018
Tickborne Disease Data Updated, May 2019
Aug Dec Apr Aug Dec Apr Aug Dec Apr Aug Dec Apr Aug Dec Apr Aug Dec Apr Aug Dec Apr Aug Dec Apr Aug Dec
2012 2013 2014 2015 2016 2017 2018 2019
Month

Appendix 12
University of Maine Tick Submission and Tick Testing Data for 2019

Tick Species	Common Name	Total
Ixodes scapularis	Deer tick or blacklegged tick	2056
Dermacentor variabilis	American dog tick	585
Ixodes cookei	Woodchuck tick	37
Amblyomma americanum	Lone star tick	10
Ixodes marxi	Squirrel tick	1
Ixodes muris	Mouse tick	1
Unknown	Specimens damaged during removal/delivery	7

Pathogen	% of infected nymphs	% of infected adults	% of infected ticks
Positive for at least 1 pathogen	33.9%	49.8%	44.9%
Borrelia burgdorferi	29.3%	43%	38.8%
Anaplasma phagocytophilum	6.7%	8.7%	8.1%
Babesia microti	5.3%	6.5%	6.1%
Borrelia + Anaplasma	3.1%	3.5%	3.3%
Borrelia + Babesia	2.7%	3.2%	3%
Anaplasma + Babesia	0.2%	0.4%	0.3%
Borrelia + Anaplasma + Babesia	0.7%	0.7%	0.7%

Appendix 13
2019 Tickborne Disease Legislation
Tickborne legislation and status recorded from LegiScan

California
Title: Lyme Disease Awareness Month (ACR 75)
Status: Passed

Connecticut
Title: An Act Establishing a Task Force to Study Tick-Borne Illnesses (SB 65)
Status: Failed

Title: An Act Requiring a Social Marketing Campaign Regarding Tick-Borne Illnesses (HB 6514)
Status: Failed

Delaware
Title: Designating the Week of May 19-25 as "Lyme Disease Awareness Week" in the State of Delaware (SCR 43)
Status: Passed

Federal
Title: National Lyme and Tick-Borne Diseases Control and Accountability Act of 2019 (HB 220)
Status: Failed

Title: Kay Hagan Tick Act (HB 3073; SB 1657)
Status: Pending

Title: Tick Identification Pilot Program Act of 2019 (HB 3568)
Status: Failed

Title: Supporting the Designation of May as "National Lyme and Tick-Borne Disease and Conditions Awareness Month" (HR 412)
Status: Failed

Georgia
Title: A Resolution Recognizing May, 2019, as Lyme Disease Awareness Month at the State Capitol; And for Other Purposes (SR 401)
Status: Passed

Illinois
Title: Amends the Illinois Insurance Code. Requires an Individual or Group Policy of Accident and Health Insurance or Managed Care Plan to Provide Coverage for Long-Term Antibiotic Therapy for a Person with a Tick-Borne Disease (HB 889)
Status: Passed

Title: Urges the Federal Government to Allocate More Funding Toward Finding a Cure for Lyme Disease and Declares May 2019 as Lyme Disease Awareness Month in the State of Illinois (HR 296)

Status: Passed

Title: Amends the Medical Practice Act of 1987. Removes provisions prohibiting the Department of Financial and Professional Regulation from disciplining a physician for experimental treatments for Lyme disease or other tick-borne diseases (HB 225)
Status: Failed

Title: Amends the Medical Practice Act of 1987. Provides for the Licensure of Naturopathic Physicians. Makes Conforming Changes in Various Other Acts. Effective Immediately. (HB 2338; SB 1220)
Status: Failed

Indiana
Title: Treatment of Lyme Disease. Requires That, if an Individual is Diagnosed with Lyme Disease or a Related Tick Borne Disease, State Employee Health Plans, Medicaid, Policies of Accident and Sickness Insurance, and Health Maintenance Organization Contracts Must Provide Coverage for Lyme Disease or a Related Tick Borne Disease Testing and Treatment that is Prescribed by a Health Care Provider. Provides That a Health Care Provider may not be Subject to Discipline Solely Because the Health Care Provider Prescribed, Administered, or Dispensed a Long Term Antibiotic Treatment for the Treatment of Lyme Disease or a Tick Borne Disease. Requires a Health Care Provider or Health Care Provider's Designee who Ordered a Laboratory Test for the Presence of Lyme Disease to Provide the Patient or the Patient's Legal Representative with Certain Written Information Concerning Lyme Disease. (SB 166)
Status: Failed

Iowa
Title: A Bill for an Act Relating to the Practice and Licensure of Physician Assistants, and Providing Penalties (SF 592; SSB 1238.)
Status: Failed

Maine
Title: An Act to Establish a Fund for Portions of the Operations and Outreach Activities of the University of Maine Cooperative Extension Diagnostic and Research Laboratory (LD 1518)
Status: Passed

Title: An Act to Fund the Operations of the Tick Identification Laboratory in the University of Maine Cooperative Extension Diagnostic and Research Laboratory (LD 631)
Status: Failed

Title: An Act to Provide Funding to Municipalities Severely Affected by Pest Infestations (LD 643)
Status: Failed

Maryland
Title: Public Health – Tick-Borne Disease Interagency Workgroup (HB 660; SB 557)
Status: Failed

Massachusetts
Title: Relative to the Control of Tick-Borne Illness (H 766)
Status: Failed

Title: Establishing a Special Commission to Find the Best Practices to Promote Education, Awareness and Prevention of Lyme Disease (S 1324)
Status: Failed

Michigan
Title: Health; Testing; Standardized Procedure and Notification Form for Diagnosis and Treatment of Lyme Disease and Other Tick-Borne Diseases; Create. Amends 1978 PA 368 (MCL 333.1101 – 333.1101) by Adding Sec. 5147 (HB 4608)
Status: Failed

Title: Recreation; State Parks; Signs at State Parks, Campgrounds, and Trails; Require to Warn of Tick-Borne Diseases. Amends 1994 PA 451 (MCL 324.101 – 324.90106) by Adding Sec. 515 (HB 4659)
Status: Failed

Title: A Concurrent Resolution to Urge the Centers for Disease Control and Prevention and the Michigan Department of Health and Human Services to Protect the People of Michigan from Lyme Disease by Improving Efforts to Prevent, Monitor, Diagnose, and Treat the Disease (HCR 7)
Status: Failed

New Hampshire
Title: Establishing a Commission to Study the Role of Clinical Diagnosis and the Limitations of Serological Diagnostic Tests in Determining the Presence or Absence of Lyme and Other Tick-Borne Diseases and Available Treatment Protocols, and Appropriate Methods for Educating Physicians and the Public About the Inconclusive Nature of Prevailing Test Methods and Available Treatment Alternatives (HB 490)
Status: Failed

Title: Relative to serologic testing including Lyme disease (HB 200)
Status: Failed

New Jersey
Title: Adds Tick Control to Duties of State and County Mosquito Control Commissions (S 3022; A 4459)
Status: Failed

Title: Directs State Mosquito Control Commission to Establish Grant Program for Counties to Study and Develop Methods of Tick Control; Appropriates $250,000 (A 5160)
Status: Failed

New York

Title: Relates to Lyme Disease and Tick-Borne Infection Awareness and Prevention for Children's Overnight, Summer Day and Traveling Summer Day Camps; Provides Guidelines for Treatment and Notification; Provides for the Development of Materials (S 6702)
Status: Failed

Title: Requires the Preparation of Recommendations for Best Practices in Treating Livestock and Farm Property for Asian Longhorned Tick Treatment, Prevention and Management (A 8098; S 4876)
Status: Passed

Title: Includes the Asian Longhorned Tick on the Invasive Species List and Requires the Preparation of Recommendations for Best Practices in Treating Livestock and Farm Properties for Asian Longhorned Tick Treatment (A 4773)
Status: Failed

Title: Requires Health Insurers to Provide Coverage for Long Term Medical Care for Lyme Disease and Other Tick Borne Related Pathogens (S426; A 178)
Status: Failed

Title: Authorizes the Commissioner of Health to Award Grants for Graduate Medical Education in Lyme and Tick-Borne Disease and to Designate Organizations as Centers for Lyme and Tick-Borne Disease Excellence (S1247)
Status: Failed

Title: Memorializing Governor Andrew M. Cuomo to Proclaim April 2019, as Lyme Disease Awareness Month in the State of New York (J 794; K 228)
Status: Passed

Title: Directs the Department of Financial Services, in Consultation with the Commissioner of Health, to Study and Report Upon Insurance Coverage for the Treatment of Lyme Disease (A 6146; S 4571)
Status: Failed

Title: Directs the Commissioner of Health to Establish a Standard Protocol for the Diagnosis and Treatment of Lyme Disease and Other Tick Borne Diseases Identified by Such Commissioner; Such Protocol Shall Require the Provision of Written Notification to Each Patient Being Treated for Lyme Disease or Other Tick Borne Diseases Related to Symptoms, Risk Factors, Diagnosis and Other Information Relating to Such Diseases; Enacts the "Demos For Act" (A 8640)
Status: Failed

Title: Establishes a Pilot Program for Lyme and Tick-Borne Disease Testing in Children (S 1306)
Status: Failed

Title: Requires the Office of Parks, Recreation and Historic Preservation to Install Lyme and Tick-Borne Disease Warning Signs at all State-Managed Parks Including Trail Entryways and Campgrounds, as Deemed Necessary Based on an Assessment by the Office, Due to the Increased Presence of Such Diseases Within the State (A 6752; S 4355)

Status: Passed

Title: Directs the Commissioner of Agriculture and Markets to Develop and Conduct a Public Awareness Campaign Regarding Lyme Disease and Other Tick-Borne Diseases (S 5873)
Status: Failed

Title: Directs Promulgation of Rules and Regulations Concerning Removal of Ticks from Pupils and Notification to Parents (S 1297)
Status: Failed

Title: Directs the Superintendent of Financial Services, in Consultation with the Commissioner of Health, to Study the Relationship Between Patient Access to Care and Treatment of Lyme Disease and Health Insurance Coverage (S 1295)
Status: Failed

Title: Establishes That the Council on Human Blood and Transfusion Services Shall Review all Current Medical Research and Guidance Regarding the Donation of Blood by Patients with a History of Lyme or Tick-Borne Illnesses (A 3513)
Status: Failed

Title: Relates to the Reporting of Lyme and Tick-Borne Disease Infection After Death (S 1307)
Status: Failed

Title: Relates to Guidelines for Best Practices in Treating Residential Properties for Integrated Pest Management to Assist in the Prevention of Ticks (S 1248)
Status: Failed

Title: Requires the Department of Environmental Conservation to Prepare Recommendations for Best Practices in Treating Residential Properties for Tick Prevention and Management. (S 1348)
Status: Failed

Title: Requires the New York State Health Care Quality and Cost Containment Commission to Issue a Report Considering the Impact on Health Insurance Costs and Quality of Legislation Requiring Coverage of Long Term and Chronic Lyme Disease and Other Tick-Borne Diseases (S 1345)
Status: Failed

Pennsylvania
Title: Designating the Month of May 2019 as “Lyme and Tick-Borne Disease Awareness Month” in Pennsylvania (SR 74; HR 38)
Status: Passed

Title: Providing for School Entity Procedures for Tick Removal, for Notification and for Duties of the Department of Health and the Department of Education (HB 94)
Status: Failed

Title: Providing for Patient Access to Diagnostics and Treatment for Lyme Disease and Related Tick-Borne Illnesses; and Requiring Health Care Policies to Provide Certain Coverage (SB 100; HB 629)

Status: Failed

Title: Providing for Continuing Education in Lyme Disease and Related Tick-Borne Diseases for Health Care Professionals (SB 181; HB 96)
Status: Failed

Title: Urging the United States Food and Drug Administration to Promptly Consider Candidates for Lyme Disease Vaccinations Currently Seeking Approval Under the Drug Approval Process (HR 89)
Status: Failed

Texas
Title: Relating to the Eligibility of Land on Which the Texas Animal Health Commission Has Established a Temporary Quarantine for Ticks for Appraisal for Ad Valorem Tax Purposes as Agricultural or Open-Space Land (HB 3348)
Status: Passed

Wisconsin
Title: Proclaiming May 2019 as Lyme Disease Awareness Month (SJR 28)
Status: Passed

Title: Establishing a Tick-Borne Disease Study Committee (S 300; A 313)
Status: Failed

Title: Department of Natural Resources' Efforts to Raise Awareness About Lyme Disease (S 298; A 317)
Status: Failed

Title: Signs Informing About Lyme Disease in State Parks, State Trails, State Recreational Areas, and State Forests and Making an Appropriation (A 315; S 296)
Status: Failed