

Natural Resources Commission Minutes
December 21, 2017
7:00 P.M.

Call to Order:

Chair Bob Larson called the meeting to order at 7:02 p.m.

Roll Call:

Present: Chair Bob Larson, Vice Chair Kate Winsor, Commissioners John Murphy, Dan McDermott, Commissioner David White, NOHOA Liaison Diane Gorder, and City Council Liaison Marty Long

Staff: Recording Secretary Gretchen Needham

Absent: City Administrator Mike Robertson

Approval of Agenda:

Commissioner Murphy moved to approve the agenda. Commissioner White seconded. Motion approved unanimously.

Approval of Minutes:

Vice Chair Winsor moved to approve the November 2017 minutes. Commissioner Murphy seconded. Motion approved unanimously.

Tick Task Force Report

Commissioner McDermott spoke about the underreporting that may happen with Lyme Disease. More on this will be discussed at the next Tick Task Force meeting on Jan. 16.

Kate Winsor's Report

Two articles were submitted to for the January issue of North Oaks News: one about the Conservation Award program, highlighting the first category, Wetlands and Shorelands; and one about living with coyotes.

City Update/Operation Clearview

Commissioner Long talked about Operation Clearview going into effect once City Council grants approval; brush and branches will be cut back 5' from the roads and 13' overhead.

NOHOA and NEST Update

Commissioner Gorder stated that the Garden Club will host a Pollinators Workshop on Jan. 15.

Other Business:

The DNR will be on Pleasant Lake to take toxicology reports on fish in the spring.

Vadnais Lakes Area Water Management Organization (VLAWMO) will be super-oxygenating Pleasant Lake to reduce the population of zebra mussels in the spring as well.

The DNR will announce grants for forestry work sometime in January and hopefully North Oaks will qualify.

Unofficial trails are being cut in the conservancy area by Red Forest Way and Black Lake.

Candidates are being interviewed to fill the vacant spots on the NRC.

Adjournment:

Commissioner Chair Larson made a motion to adjourn. Commissioner McDermott seconded. The motion was approved unanimously. The meeting ended at 7:53 p.m.

Next Meeting: January 18, 2017

Surveillance for Lyme Disease — United States, 2008–2015

Amy M. Schwartz, MPH¹
 Alison F. Hinckley, PhD¹
 Paul S. Mead, MD¹
 Sarah A. Hook, MA¹
 Kiersten J. Kugeler, PhD¹

¹Division of Vector-Borne Diseases, National Center for Emerging and Zoonotic Infectious Diseases, CDC

Abstract

Problem/Condition: Lyme disease is the most commonly reported vectorborne disease in the United States but is geographically focal. The majority of Lyme disease cases occur in the Northeast, mid-Atlantic, and upper Midwest regions. Lyme disease can cause varied clinical manifestations, including erythema migrans, arthritis, facial palsy, and carditis. Lyme disease occurs most commonly among children and older adults, with a slight predominance among males.

Reporting Period: 2008–2015.

Description of System: Lyme disease has been a nationally notifiable condition in the United States since 1991. Possible Lyme disease cases are reported to local and state health departments by clinicians and laboratories. Health department staff conduct case investigations to classify cases according to the national surveillance case definition. Those that qualify as confirmed or probable cases of Lyme disease are reported to CDC through the National Notifiable Diseases Surveillance System. States with an average annual incidence during this reporting period of ≥ 10 confirmed Lyme disease cases per 100,000 population were classified as high incidence. States that share a border with those states or that are located between areas of high incidence were classified as neighboring states. All other states were classified as low incidence.

Results: During 2008–2015, a total of 275,589 cases of Lyme disease were reported to CDC (208,834 confirmed and 66,755 probable). Although most cases continue to be reported from states with high incidence in the Northeast, mid-Atlantic, and upper Midwest regions, case counts in most of these states have remained stable or decreased during the reporting period. In contrast, case counts have increased in states that neighbor those with high incidence. Overall, demographic characteristics associated with confirmed cases were similar to those described previously, with a slight predominance among males and a bimodal age distribution with peaks among young children and older adults. Yet, among the subset of cases reported from states with low incidence, infection occurred more commonly among females and older adults. In addition, probable cases occurred more commonly among females and with a higher modal age than confirmed cases.

Interpretation: Lyme disease continues to be the most commonly reported vectorborne disease in the United States. Although concentrated in historically high-incidence areas, the geographic distribution is expanding into neighboring states. The trend of stable to decreasing case counts in many states with high incidence could be a result of multiple factors, including actual stabilization of disease incidence or artifact due to modifications in reporting practices employed by some states to curtail the resource burden associated with Lyme disease surveillance.

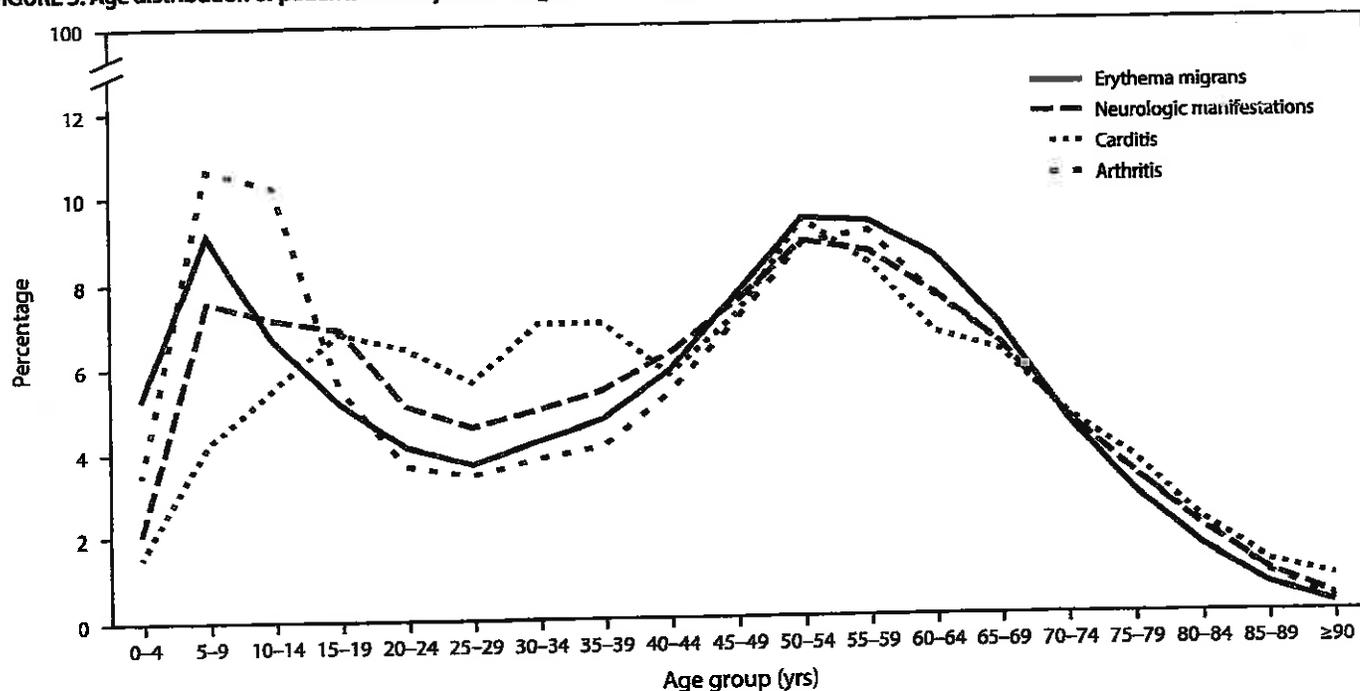
Public Health Action: This report highlights the continuing public health challenge of Lyme disease in states with high incidence and demonstrates its emergence in neighboring states that previously experienced few cases. Educational efforts should be directed accordingly to facilitate prevention, early diagnosis, and appropriate treatment. As Lyme disease emerges in neighboring states, clinical suspicion of Lyme disease in a patient should be based on local experience rather than incidence cutoffs used for surveillance purposes. A diagnosis of Lyme disease should be considered in patients with compatible clinical signs and a history of potential exposure to infected ticks, not only in states with high incidence but also in areas where Lyme disease is known to be emerging. These findings underscore the ongoing need to implement personal prevention practices routinely (e.g., application of insect repellent and inspection for and removal of ticks) and to develop other effective interventions.

Introduction

Lyme disease, a tickborne zoonosis caused by spirochetes in the *Borrelia burgdorferi* sensu lato complex, can affect multiple human organ systems (1). *B. burgdorferi* sensu stricto is responsible for most infections in the United States, although

Corresponding author: Kiersten J. Kugeler, PhD, Division of Vector-Borne Diseases, CDC. Telephone: 970-221-6400; E-mail: lkugeler@cdc.gov.

FIGURE 5. Age distribution of patients with erythema migrans, neurologic manifestations, carditis, and arthritis*† — United States, 2008–2015



* N = 107,272.

† Age distribution among 90,760 patients with reported erythema migrans, 15,734 patients with reported neurologic manifestations, 1,825 patients with reported carditis, and 37,636 patients with reported arthritis.

TABLE 3. Clinical manifestations of confirmed Lyme disease cases, by patient sex and race — United States, 2008–2015

Characteristic	Arthritis	Erythema migrans	Carditis	Neurologic manifestations
	No. (%)	No. (%)	No. (%)	No. (%)
Sex*				
Male	20,800 (60.2)	50,464 (56.0)	1,279 (70.3)	9,044 (57.9)
Female	13,749 (39.8)	39,671 (44.0)	540 (29.7)	6,589 (42.1)
Race†				
Native American/ Alaska Native	209 (0.9)	226 (0.4)	9 (0.8)	52 (0.5)
Asian/Pacific Islander	340 (1.5)	645 (1.0)	15 (1.2)	137 (1.3)
Black	398 (1.7)	436 (0.7)	27 (2.3)	174 (1.7)
White	20,174 (86.6)	55,847 (90.2)	1,082 (90.0)	9,491 (90.5)
Other	2,175 (9.3)	4,754 (7.7)	69 (5.7)	634 (6.0)

* N = 125,006.

† N = 85,197.

decreasing the number of human Lyme disease infections (25). Long recommended behavioral interventions, such as wearing permethrin-treated clothing or using repellent containing DEET, have not been adequate to control Lyme disease on a population scale (26,27). In addition, adherence to recommendations aimed at preventing Lyme disease has been poor, even in areas of high risk (28,29). New approaches are needed to reduce the incidence and spread of Lyme disease, including exploration of a second-generation human vaccine (28).

Limitations

Because systematic interpretation of Lyme disease surveillance data has been and continues to be complicated by several factors, this report is subject to at least three limitations. First, recent estimates of underreporting to the public health system suggest that the actual incidence in the United States might be tenfold higher than final reported cases (30–32). At the same time, Lyme disease is subject to misdiagnosis (specifically false positive diagnosis), especially in areas where the disease is rare and false positive test results are more likely (32). Shifts in annual case counts in a state might not reflect actual changes in disease incidence but might often be linked to changes in surveillance practices within that state or to competing public health priorities, such as the H1N1 influenza epidemic or the 2014 Ebola outbreak in West Africa, that tap limited public health personnel. Because of the resources required to conduct Lyme disease surveillance, many jurisdictions with high incidence have implemented modifications to methods of case ascertainment and verification. The resulting heterogeneous nature of surveillance data limits interpretability over time and across jurisdictions. Second, the classification of neighboring state used for this report was based on administrative boundaries, and these

High Volume of Lyme Disease Laboratory Reporting in a Low-Incidence State — Arkansas, 2015–2016

Natalie A. Kwit, DVM^{1,2}; Elizabeth A. Dietrich, PhD^{2,3}; Christina Nelson, MD²; Richard Taffner⁴; Jeannine Petersen, PhD²; Martin Schriefer, PhD²; Paul Mead, MD²; Susan Weinstein, DVM⁴; Dirk Haselow, MD⁴

Although Arkansas lies within the geographic range of the principal Lyme disease tick vector, *Ixodes scapularis*, because of ecologic and entomologic factors, the risk for human infection is low, and no confirmed Lyme disease cases were reported in Arkansas during 2008–2014 (1). However, during 2015–2016, the Arkansas Department of Health (ADH) received several hundred potentially positive serologic laboratory reports for Lyme disease. Recommended serologic testing for Lyme disease is a two-tiered process; only if the first-tier enzyme immunoassay is positive or equivocal should the second-tier western blot be performed. A positive overall result can only be concluded when results of both individual tests are documented (2). Laboratory reports submitted to ADH during 2015–2016 did not always include complete or overall positive two-tiered serology results or associated clinical information needed to make a case determination. To facilitate Lyme disease surveillance in the setting of a high volume of reports and to ascertain whether local transmission of Lyme disease has occurred, ADH and CDC reviewed laboratory reports and clinical data, classified cases according to the surveillance definition, and investigated cases with potential for confirmation of Lyme disease.

Paper laboratory reports of Lyme disease testing sent to ADH were matched by patient name and birth date with electronic laboratory surveillance data to consolidate reports. Reports were then sorted and prioritized for follow-up based on recommended laboratory criteria for diagnosis and available information. Among the 911 Lyme disease laboratory reports submitted to ADH during 2015–2016, a total of 582 combined reports for unique patients were identified. Among 295 reports with sufficient information to make a determination, 282 (95.6%) did not meet the Council of State and Territorial Epidemiologists surveillance criteria for Lyme disease.* Eleven (3.7%) met the probable (three reports) or suspected (eight) Lyme disease surveillance case definition, and two reports (0.7%) met the confirmed case definition. Further investigation of the two confirmed cases revealed that both patients were

likely infected in high-incidence states. One patient had signs of arthritis soon after moving to Arkansas from the northeastern United States, but did not receive a diagnosis of and treatment for Lyme disease until nearly 1 year later, underscoring the fact that even where Lyme disease is rare, providers need to obtain a travel history and consider the diagnosis in patients with compatible symptoms who have lived in or visited states where Lyme disease is common.

Lyme disease is the most common vectorborne disease in the United States, caused by the spirochete *Borrelia burgdorferi* sensu stricto and the recently discovered *Borrelia mayonii* (3), but risk for infection is not uniform. In 2015, 95% of cases in the United States were reported from 14 states concentrated in the Northeast, mid-Atlantic, and upper Midwest regions (1). In Arkansas, host-seeking *I. scapularis* ticks are much less abundant, less prone to biting humans, rarely infected with *B. burgdorferi*, and prefer feeding on nonreservoir hosts (4). However, the occurrence of travel-related infections and the need to monitor for emergence of locally acquired infection underscore the importance of Lyme disease surveillance in Arkansas and other low-risk states.

Of the hundreds of Lyme disease reports submitted to ADH during 2015–2016, many had incomplete information or negative laboratory results; however, the ADH Lyme disease surveillance system did identify two confirmed, travel-associated infections. The absence of similarly confirmed, locally acquired cases supports the view that autochthonous transmission of Lyme disease is either exceedingly rare or has not occurred in Arkansas. The risk for other tickborne diseases in Arkansas results in frequent requests for Lyme disease testing as part of a general tickborne disease serologic panel, even when Lyme disease is not suspected by the clinician. Strong clinical evidence supported by positive two-tiered serologic testing is essential to securing a diagnosis of Lyme disease in low-incidence states (2,5).

For reporting Lyme disease to public health authorities, health care providers should follow infectious disease testing recommendations and reporting guidelines set forth by state health departments and only submit reports for cases that have complete and positive test results and associated clinical information. Given that multiple laboratory tests, potentially performed and reported by different laboratories, might be necessary to determine Lyme disease case status, health departments need an efficient process to manage and interpret incoming laboratory reports.

* <https://www.cdc.gov/nndss/conditions/lyme-disease/case-definition/2017>.