

Lyme Disease-Connecticut, 2002

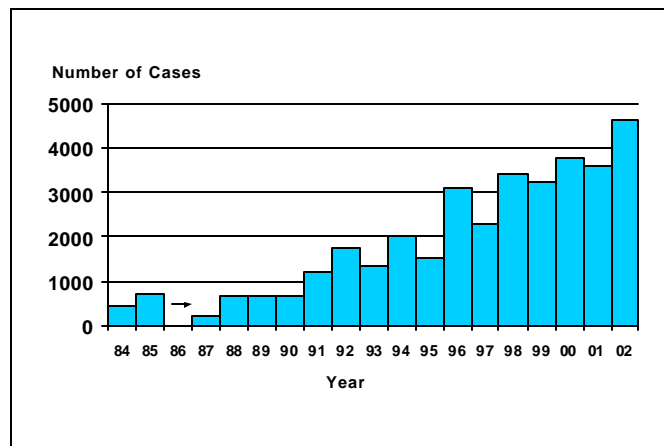
Lyme disease (LD) is the most commonly reported tick-borne disease in the United States (1). The Connecticut Department of Public Health (DPH) has conducted surveillance for LD since 1984, although it did not become physician reportable until 1987.

In 1998, LD was added to the list of laboratory significant findings to help assess the effectiveness of the LD vaccine. The study was completed in 2002. As of January 1, 2003, positive laboratory findings for antibody to *Borrelia burgdorferi* are no longer reportable to the DPH.

In Connecticut, only reports that meet the national surveillance case definition for LD are counted as cases (2) (Figure 1). Of 12,947 LD reports received by the DPH in 2002, 4,631 (36%) met the surveillance case definition. Of these, 2,954 (64%) were reports of erythema migrans (EM) only, 254 (5%) were reports of EM and a systemic manifestation of LD, and 1,423 (31%) had one or more systemic manifestations and a positive serologic test.

Of the 1,423 systemic LD cases, arthritic symptoms occurred in 1,046 (74%), neurologic manifestations occurred in 425 (30%), and cardiac complications occurred in 20 (1%). Cases may have had multiple LD symptoms.

Figure 1. Lyme Disease Cases, Connecticut, 1984-2002.



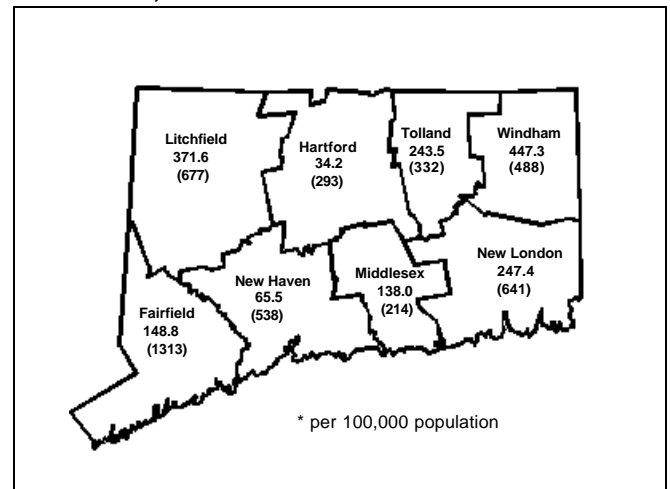
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Of the remaining 8,316 reports, 57% did not meet the surveillance case definition, and 43% had no clinical information.

In 2002, Connecticut had the highest reported rate of LD of any state (136.0 cases per 100,000 population). Windham County reported the highest rate of LD with 447.3 cases per 100,000 population (Figure 2). Hartford County reported the lowest county rate with 34.2 cases per 100,000 population.

Figure 2. Lyme Disease Rates* (Cases) by County, Connecticut, 2002.



Of cases with known onset dates, 69% occurred during the summer months of June, July, and August. Children aged 5-9 years had the highest rate of LD (240.0 cases per 100,000 population). The lowest rate occurred in those aged 25-29 years (63.0 cases per 100,000 population).

Reported by: S Ertel, R Nelson, Epidemiology and Emerging Infections Program, Connecticut Department of Public Health.

Editorial:

Lyme disease prevention initiatives are currently operating in three local health districts: Ledge Light Health District, Torrington Area Health District (http://www.tahd.org/lyme_disease.htm), and Westport Weston Health District (<http://www.wwhd.org/tldtop.htm>). Each site uses an integrated approach to educate residents on methods to prevent tick-borne illness.

Physicians are urged to report LD cases with clinical information in a timely manner. This is critical to the success of our ongoing efforts to assess the impact of this vector-borne disease and the effectiveness of prevention strategies. Contact the Epidemiology Program at (860) 509-7994 for reporting form PD23.

If you have questions concerning LD reporting, please contact Starr-Hope Ertel at (860) 509-7994. Connecticut LD incidence rates by town and county can be found on the DPH Web site at: www.dph.state.ct.us/BCH/infectiousdise/tickborne/lyme.htm.

References:

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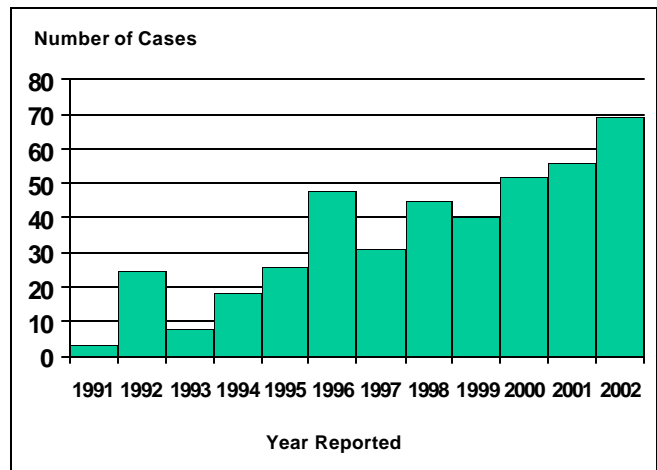
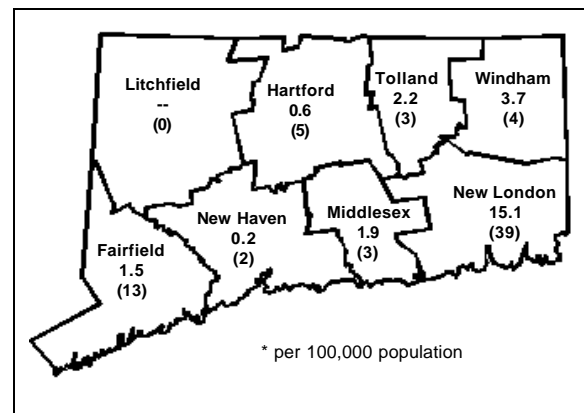
Babesiosis - Connecticut, 2002

The first documented endemic case of babesiosis in Connecticut was reported from Stonington in 1988. Babesiosis was added to the list of physician reportable diseases in October 1989 and laboratory reportable significant findings in January 1990.

A confirmed case is defined as; identification of the parasite within the RBCs on a peripheral blood smear, or identification of antibodies to *Babesia microti*, titer of 1:256 or higher.

In 2002, 69 cases of babesiosis were reported to the DPH, a statewide rate of 1.5 cases per 100,000 population (Figure 1). New London County reported the highest rate of babesiosis, 15.1 cases per 100,000 population (Figure 2). Towns with the highest rates were Waterford, Hampton, and Old Lyme (62.7, 56.9, and 40.5 cases per 100,000 population respectively).

Males (59%) were more frequently reported than females. Adults aged 60-64 years had the highest rate (12.2 cases per 100,000 population). The

Figure 1: Babesiosis Cases, Connecticut 1991-2002**Figure 2: Babesiosis Rates* (Cases) by County, Connecticut, 2002**

lowest rate among groups with at least one case occurred in those aged 35-39 years (0.69). No cases were reported in those aged <30 years.

Reported by: S Ertel, B Esponda, R Nelson, Epidemiology and Emerging Infections Program, Connecticut Department of Public Health.

Editorial:

Babesiosis is a disease caused by infection of red blood cells with a one-cell parasite of the genus *Babesia*. There are several species that can infect humans, *Babesia microti* being the most prevalent (1).

The elderly, immunocompromised, and persons who lack a functioning spleen are particularly susceptible to babesiosis. While most infected persons are asymptomatic, symptoms may include high fever, chills, diaphoresis, weakness, headache, and hemolytic anemia lasting from several days to a few months. Congestive heart failure, renal failure, and acute respiratory distress syndrome are the most common complications (2).

The recommended treatment for symptomatic cases is quinine plus clindamycin. A recent clinical trial showed that the combination of azithromycin and atovaquone may also be effective (3). In Connecticut, babesiosis is one of three currently reportable tick-borne diseases and the possibility of co-infection should be considered when moderate to severe LD has been diagnosed (4).

References

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2. Mylonakis E. When to suspect and how to monitor babesiosis. *Amer Fam Phys* 2001 May 15;63(10):1969-74.
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Ehrlichiosis - Connecticut, 2002

The Centers for Disease Control and Prevention (CDC) revised the national case definition for ehrlichiosis in 2001 (http://www.cdc.gov/epo/dphsi/casedef/ehrlichiosis_current.htm).

A confirmed case is defined as a patient with clinically compatible illness of fever or rash, plus one or more of the following signs: headache, myalgia, anemia, thrombocytopenia, leukopenia, or elevated hepatic transaminases; plus 1) a fourfold change in antibody titer to antigen from an *Ehrlichia* species by indirect fluorescent antibody (IFA) in two serum samples, or 2) a positive polymerase chain reaction assay (PCR), or 3) the visualization of morulae in white blood cells with a single serum positive antibody titer by IFA, or 4) immunostaining of antigen in a skin biopsy or autopsy sample, or 5) isolation and culture of an *Ehrlichia* species from a clinical specimen.

A probable case is defined as a patient with clinically compatible illness, as stated above, with 1) a single positive antibody titer by IFA, or 2) the visualization of morulae in white blood cells.

Most cases present with acute, nonspecific, flu-like, febrile illnesses that can range from mild to severe and life threatening (1). Symptoms may include acute onset of fever, headache, myalgia, and/or malaise. Nausea, vomiting, or rash may be present

in some cases, although many people infected will not become sick.

Ehrlichiosis surveillance started in Connecticut in 1995 (Figure 1, pg. 12). Of the two forms of ehrlichiosis recognized in the United States, human granulocytic ehrlichiosis (HGE) is primarily seen in Connecticut. HGE is caused by a bacteria called *Anaplasma phagocytophila*.

In 2002, the DPH received 544 ehrlichiosis reports. Of these, 49 (9%) were confirmed cases and 154 (28%) were probable cases.

Confirmed cases with known onset dates reported illness during March through November with 52% occurring in June, July, and August. Cases were equally distributed between males and females.

Age specific rates increased with age and were highest among those ≥ 70 years of age (3.4 cases per 100,000 population) and lowest among those < 30 years of age (averaged 0.7 cases per 100,000 population). The counties with the highest reported rates were Middlesex, New London, and Windham (6.4, 5.0, and 3.7 cases per 100,000 population respectively) (Figure 2, pg. 12).

Reported by: S Ertel, B Esponda, R Nelson, Epidemiology and Emerging Infections Program, Connecticut Department of Public Health.

Editorial:

Since ehrlichiosis surveillance started in 1995, it has become the second most commonly reported tick-borne disease in Connecticut. From 1995-2002, the number of reported cases ranged from 27 to 126. An additional 767 probable cases were reported during the same time period.

Persons exposed to ticks must follow proper personal protection methods to reduce their risk of tick bites. As with Lyme disease, *Ehrlichia*-infected ticks need to feed for >24 hours before transmission of the agent occurs (2), and peridomestic activities account for many ehrlichiosis exposures (3).

Doxycycline is the preferred treatment for individuals infected with ehrlichiosis. The minimum course of treatment should be 5 to 7 days. Severe disease or persons with co-infections, may require longer courses of

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treatment. Because doxycycline is contraindicated in pregnancy, limited success has been shown treating with rifampin (4).

As of 2003, laboratory testing for ehrlichiosis by the DPH laboratory had been discontinued, however, testing is readily available through commercial laboratories. Physicians are urged to continue to include ehrlichiosis in the differential diagnosis of acute febrile illnesses and report suspected cases to the DPH. Contact the Epidemiology Program at (860) 509-7994 for reporting forms.

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Figure 1. Ehrlichiosis Cases, Connecticut 1995-2002

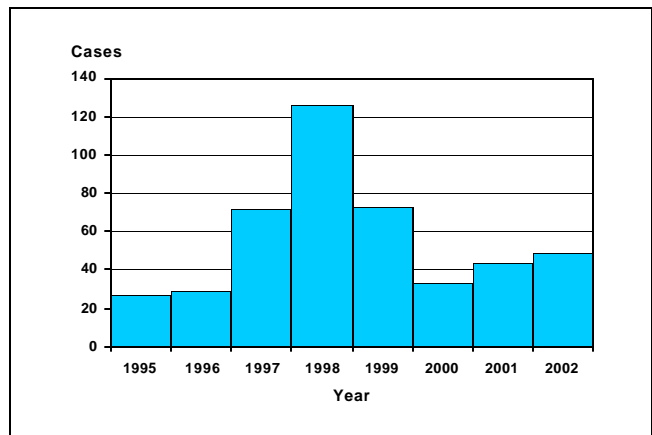
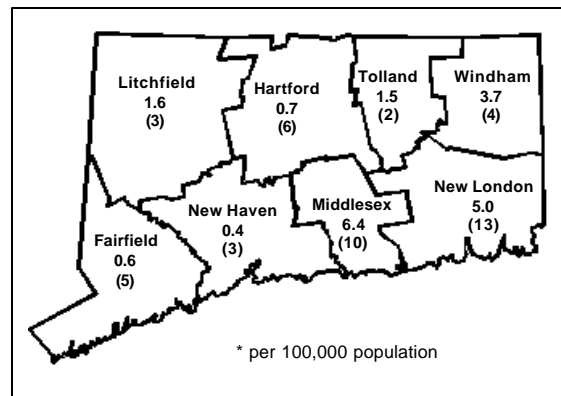


Figure 2. Ehrlichiosis Rates* (Cases) by County, Connecticut, 2002



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