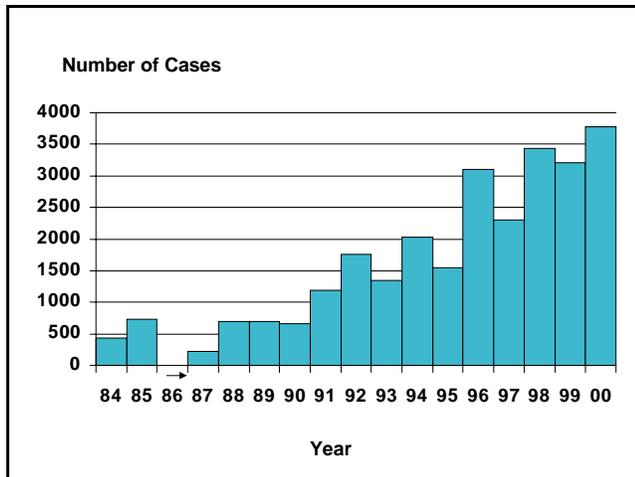


Lyme Disease-Connecticut, 2000

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 the disease did not become officially reportable until July 1987 (Figure 1).

Figure 1: Lyme Disease Cases, Connecticut, 1984-2000.



The DPH added LD to the list of laboratory reportable significant findings in 1998. Follow-up consists of mailing supplemental LD report forms to the attending physician listed on the laboratory report form (OL15C) with a cover letter requesting additional clinical information. Only reports that meet the national LD surveillance case definition are counted as cases (2).

Of 11,925 LD reports received by the DPH in 2000, 3,773 (32%) met the surveillance case definition. Of these, 2,452 (65%) were reports of erythema migrans (EM) only, 255 (7%) were reports of EM and a systemic manifestation of LD, and 1,066 (28%) had one or more systemic manifestations and a positive serologic test for antibody to *Borrelia burgdorferi*.

Of the 1,066 systemic LD cases, arthritic symptoms occurred in 731 (69%), neurologic manifestations occurred in 388 (36%), and cardiac complications

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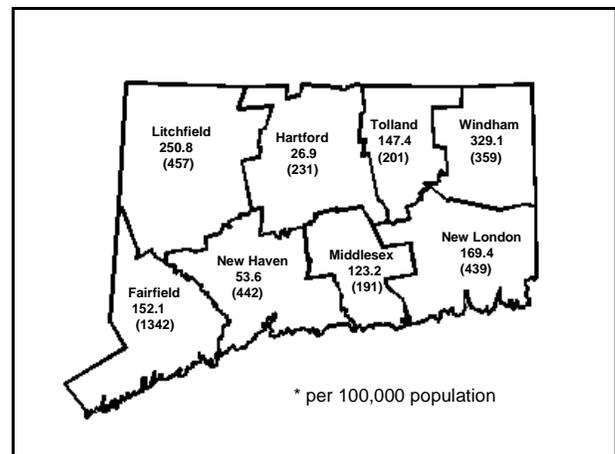
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occurred in 18 (2%). Cases may have had more than one of these LD symptoms.

The remaining 8,152 reports either did not meet the surveillance case definition (44%) or had no clinical information (56%).

In 2000, Connecticut had the highest reported rate of LD of any state (110.8 cases per 100,000 population). Windham County reported the highest rate of LD with 329.1 cases per 100,000 population (Figure 2). In contrast, Hartford County reported 26.9 cases per 100,000 population, the lowest county rate in the state.

Figure 2. Lyme Disease Rates* (Cases) by County, Connecticut, 2000.



Of cases with known onset dates, 73% occurred during the months of June, July, and August. Children aged 5 through 9 years had the highest incidence (209.6 cases per 100,000 population). The lowest rate occurred in those aged 25

through 29 years (34.8 cases per 100,000 population).

Editorial Note

In 1992, the DPH received a cooperative agreement from the Centers for Disease Control and Prevention to enhance LD surveillance. The cooperative agreement has provided funding for a dedicated LD surveillance coordinator for the past 10 years.

During this time, active surveillance for LD has been implemented in the 12-town area around Lyme, the counties of Litchfield, Windham and Tolland, and the towns of Weston and Westport. Since 1998, when LD became a laboratory reportable finding, there has been a dramatic increase in the number of LD reports.

From 1992-1997 the average annual number of LD reports received by the DPH was 3,551. From 1998-2000, the average annual number of LD reports was 9,463, a 166% increase. Lyme disease reports meeting the national case definition increased by 72% during the same time period.

Of 11,925 reports received in 2000, 8,491 (71%) originated from a laboratory. Of these, 6,620 (78%) had an attending physician name. A maximum of four requests for clinical information were mailed to each physician. Of the 6,620 requests, 4,010 (61%) supplemental report forms were completed and returned.

The timely reporting of LD cases with clinical information is critical to the success of our ongoing efforts to assess the impact of this emerging vector-borne disease. If reporting forms are needed, please contact the Epidemiology office at (860) 509-7994 and request form PD23.

If you have questions concerning the incidence of LD in your area of Connecticut, or reporting of LD cases, 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.state.ct.us/dph.

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Study of efficacy of the Lyme disease vaccine in clinical practice

A case-control study is currently being conducted to evaluate the protective efficacy of the Lyme disease vaccine in clinical practice in Connecticut. This study is being conducted jointly by the State of Connecticut Department of Public Health (DPH), the Centers for Disease Control and Prevention, and the Yale University School of Medicine (Dr. Marietta Vazquez and Dr. Eugene Shapiro).

Persons eligible for the study must be 15 to 70 years of age. Potential study participants are identified through active LD surveillance conducted at private practices in Connecticut by the DPH. Once a person is identified as a potential case for the study, the reporting physician is contacted to obtain permission to contact the patient for study participation. Two controls per case (persons without LD), matched by age and telephone prefix, are selected using a sequential digit-dialing technique.

Cases and controls are interviewed by telephone and the medical records of all participants are reviewed to determine their vaccination status. This study does not involve any vaccination or laboratory testing of participants.

Between January, 2000 and May, 2001, 535 potential study participants have been identified from cases of LD reported to the DPH. Of the 535 potential participants, 53 refused to participate, 9 were ineligible, 13 physicians refused to provide verbal consent for researchers to contact their patients, 25 patients withdrew from the study after enrollment, 37 could not be reached, and 48 are currently being contacted. Thus far, interviews have been completed for 350 cases and 446 matched controls.

All information is kept strictly confidential and results will be presented in aggregate form; no personal identifiers will be revealed.

For further information about this study, please contact Dr. Vazquez (203) 737-6018, Dr. Shapiro (203-688-4518), or Dr. Matthew Cartter at the DPH (860) 509-7994.

Babesiosis - Connecticut, 1991-2000

Babesiosis has been reported with increasing frequency in the northeastern United States. 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.

In 1989, 8 cases of babesiosis were acquired in Connecticut; 7 involved residents of Stonington or Old Lyme, and 1 involved a central Connecticut resident who became infected as a result of a blood transfusion (1). In 1990, 4 cases were reported; 3 from Stonington and 1 from Montville.

From 1991 through 2000, 296 cases of babesiosis were reported to the Connecticut Department of Public Health (DPH) (Figure 1, pg. 12). Of these, 67% were reported in residents of New London County. Cases were reported in residents of each county except Tolland County (Figure 2, pg. 12).

The mean age of reported cases was 64 years with a median of 67 years (Figure 3, pg. 12); 61% were males. Infection was seasonal with a majority of cases (82%) being reported in the summer months of June, July, and August (Figure 4, pg. 12).

In 2000, 52 cases of babesiosis were reported to the DPH, a rate of 1.5 cases per 100,000 population. The five towns with the highest reported case rates per 100,000 population were Lyme (99.2), Old Lyme (67.5) Hampton (56.9), North Stonington (40.1), and Stonington (39.1).

Editorial Note

Babesiosis is an emerging disease caused by infection of red blood cells with a protozoan parasite of the genus *Babesia*. There are several species that can infect humans, *Babesia microti* being the most prevalent (2). Most cases are tick-borne and are normally transmitted by the bite of the *Ixodes scapularis* tick. Occasionally, cases have been reported to be transfusion-associated; transplacental/perinatal transmission has also been reported (3).

The incubation period is usually 1 to 4 weeks following a tick bite or 6 to 9 weeks following transmission by blood transfusion. Recurrence of symptoms after prolonged asymptomatic parasitemia may occur from several months to more than a year after initial exposure.

The elderly, immunocompromised, and persons who lack a functioning spleen are particularly susceptible to babesiosis. While most cases 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 (3).

The current recommended treatment for symptomatic cases is quinine plus clindamycin. Prompt diagnosis and treatment are essential but are often delayed. This delay reinforces the need for enhanced public and physician education targeted towards residents and visitors to high-risk geographic areas where disease and *I. scapularis* ticks are endemic (4). In Connecticut, where both LD and babesiosis have been reported, the possibility of concomitant babesial infection should be considered when moderate to severe LD has been diagnosed (5).

Babesiosis is one of three currently recognized tick-borne diseases transmitted by *I. scapularis* ticks. Personal protective measures will help reduce exposure to LD, human granulocytic ehrlichiosis, and babesiosis (4).

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In This Issue... Lyme Disease, Lyme Disease Vaccine Study, Babesiosis

Figure 1: Annual Reported Cases of Babesiosis, Connecticut, 1991-2000

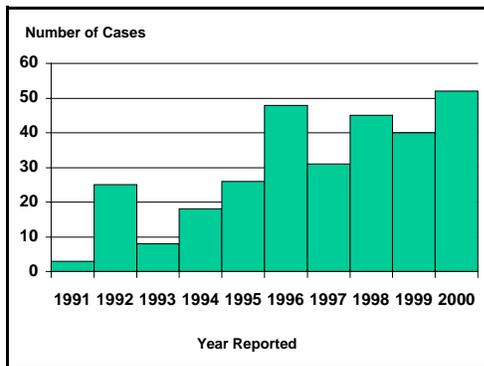


Figure 2: Annual Average Babesiosis Rate* (Cases) by County, Connecticut, 1991-2000

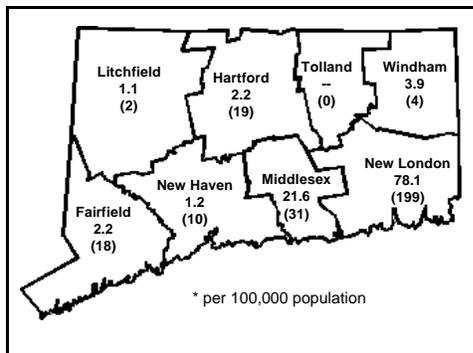


Figure 3: Average Annual Babesiosis Rate* by Age Group, Connecticut, 1991-2000

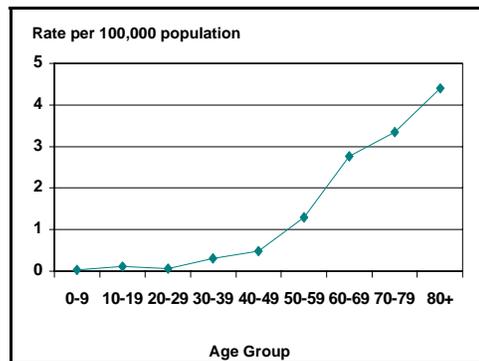


Figure 4: Babesiosis Cases by Month, Connecticut, 1991-2000

