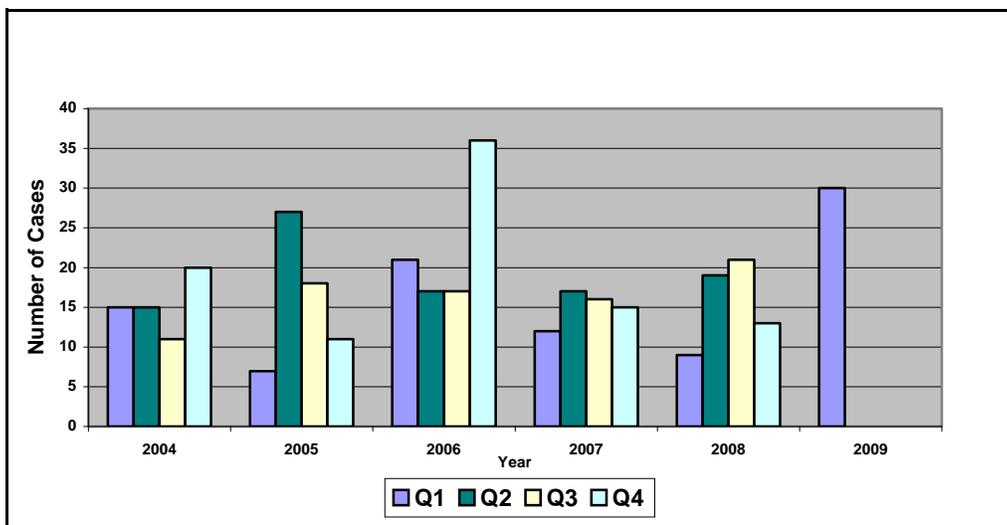


## Increase in Early Syphilis—Connecticut, 2009

Syphilis is a sexually transmitted bacterial infection caused by the spirochete *Treponema pallidum*. Early or infectious syphilis is defined as primary, secondary or early latent disease. Disease in the primary stage is manifested by a shallow, non-painful ulcer (known as a chancre) at the site of infection. Secondary syphilis is manifested by rash, which can be present on the palms of the hands and soles of the feet, as well as constitutional symptoms. Early latent disease is asymptomatic disease of <1 year duration. From 2004–2008, the average number of early syphilis cases reported to the Connecticut Department of Public Health (DPH) by quarter was 16.85 (Figure 1). The 30 early syphilis cases reported in the first quarter of 2009 was nearly double this average. The majority of cases were among men who have sex with men (MSM). Healthcare providers need to be aware of groups at highest risk for syphilis infections. Patients should be presumptively treated when they present with symptoms consistent with syphilis.

**Figure 1: Reported primary, secondary, and early latent syphilis cases by quarter, Connecticut, 2004-2009**



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In the first quarter of 2009, cases were disproportionately male, with only one female reported with secondary syphilis. Among the male cases, a majority (83%) identified as MSM. The median age was 34 years (range: 15–52 years). The race/ethnicity of case-patients was as follows: 11 (37%) White; 10 (33%) Hispanic; 8 (27%) Black/African-American; and 1 (3%) Asian. Human immunodeficiency virus (HIV) co-infection was reported in 12 of 30 (40%) cases. Cases were reported from 16 different towns in 4 counties.

From January 1 – March 31, 2009, 2 cases of congenital syphilis were reported to the DPH. One infant was stillborn. In 2008, 3 cases of congenital syphilis were reported.

During 2004–2008, 351 cases of early syphilis were reported to the DPH. The incidence varied from 1.8 cases per 100,000 population to 2.7 cases per 100,000 population during that period.

Similar to cases reported in 2009, cases were disproportionately male, with only 27 females (8%) reported. A majority of cases were identified as MSM, averaging 77% during this period. HIV co-infection was also high among this group, ranging from 20% in 2004 to 39% in 2008 with a peak of 42% in 2006.

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**Editorial Note:**

In 1999, the Centers for Disease Control and Prevention (CDC), with state and local partners, initiated the National Plan to Eliminate Syphilis (1). The goal was to reduce the number of syphilis cases reported in the United States to less than 1000 (0.4 cases per 100,000 population) by 2005. Since that time, there have been improvements in national syphilis rates among Blacks/African-Americans and women, and a decrease in the rate of congenital syphilis, but overall syphilis cases have increased. This is attributed to an increasing rate of syphilis among the MSM population, which accounted for approximately 65% of all cases in 2007 (2). Despite syphilis numbers being at low levels, the epidemiology of syphilis in Connecticut reflects national trends, especially among MSM. Also concerning is the high rate of HIV co-infection among this group, which averaged 34% during the last 5 years. It is recommended that sexually active MSM (regardless of HIV status) undergo annual syphilis screening; MSM who practice high risk behaviors including having multiple or anonymous sex partners, using illicit drugs during sex, or using methamphetamine should undergo syphilis screening more frequently (3).

Healthcare providers should be alert for syphilis symptoms in patients who are MSM or HIV-infected. A thorough symptom, risk, and sexual history should be conducted for all patients. Treatment should be initiated before test results are available for these groups of patients who present with genital ulcers or rashes consistent with syphilis. A patient presenting with a chancre early in their disease course could have a negative serologic result (4).

In response to this increase in early syphilis cases, the DPH Sexually Transmitted Diseases (STD) Program is conducting several activities including a quarterly newsletter updating program staff and STD clinicians on current syphilis statistics in Connecticut, and visits to healthcare providers that serve high-risk populations and have recently diagnosed syphilis cases. During the visit, a folder with up-to-date information on syphilis will be disseminated to providers. Staff of the STD Program meet monthly to review all cases of early syphilis, and identify and discuss issues and challenges.

The STD Program interviews all patients diagnosed with early syphilis. During the interview, patients are educated about their disease and partners are identified so they can be notified and treated. All partner notification services are performed confidentially, without divulging the patient's information. Healthcare providers should inform their patients about the DPH's partner notification activities and educate them about the benefits of cooperating with DPH staff. Providers can request partner notification services and materials by contacting the STD Program at (860) 509-7920.

**References:**

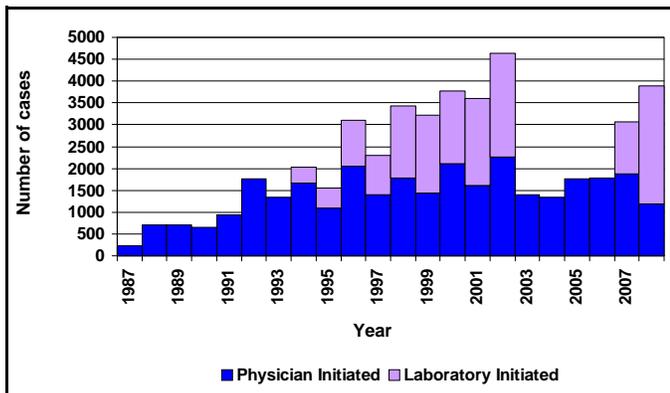
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**Lyme Disease—Connecticut, 2008**

Lyme disease (LD) has been a public health issue in Connecticut since 1975, when it was first identified. It is the most commonly reported vector-borne disease in the United States (1). The Connecticut Department of Public Health (DPH) has maintained surveillance for Lyme disease since 1984, although it did not become an officially reportable disease until 1987. Since then, analysis of surveillance data has allowed the DPH to track the geographic spread of Lyme disease and trends over time (Figure 1, page 15).

Surveillance methods in Connecticut have changed over time to reflect surveillance goals and available resources. In 2007, Lyme disease was added to the laboratory list of significant findings for laboratories that had the capacity to report electronically. In 2008, Connecticut conducted statewide physician surveillance as well as laboratory surveillance. Two major clinical laboratories submitted Lyme disease test results on all specimens submitted. Laboratory reports do not include the information necessary to

**Figure 1. Lyme disease cases by source of report and year, Connecticut, 1987-2008.**



determine case status, therefore, follow-up was conducted on those reports with positive findings. Letters requesting clinical and additional demographic information were mailed to the ordering physician. Follow-up reports from physicians were manually entered into the surveillance database.

In 2008, several changes were made to the national surveillance case definition for Lyme disease (2). Additional explanation was given to the measurement of erythema migrans (EM) necessary to be a confirmed case and the definition of a qualified laboratory assay was revised to include a positive culture and additional specific testing criteria. Two additional case classifications were introduced, probable and suspected (the 1996 surveillance case criteria defined only confirmed cases).

Cases were classified as confirmed when required laboratory results indicated a positive EIA and positive Western blot or positive Western blot IgG or positive culture, and clinical findings indicative of Lyme disease. Probable cases were those that physicians diagnosed with Lyme disease but did not meet the clinical criteria necessary for confirmed case classification. Suspect cases were those with a laboratory result that met the national criteria but clinical information was not available. Confirmed and probable cases are included in state and national surveillance data.

During 2008, the DPH received 14,018 reports of potential Lyme disease cases. They included 1703 (12%) reports received from physicians and 12,315 (88%) from the participating laboratories. Duplicate

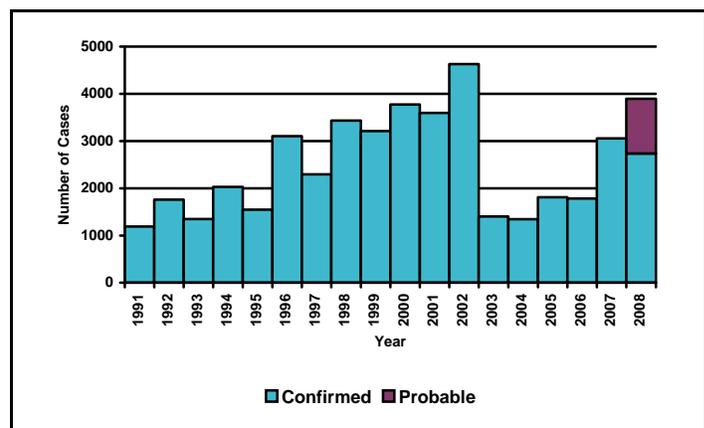
reports were removed leaving a total of 12,172 reports of individual patients. Of the reports received from the laboratories, 10,490 resulted in a positive finding and supplemental reporting forms were mailed to the ordering physician for additional clinical and demographic information. The DPH conducted follow-up on all reports of positive laboratory test results.

Of the 12,172 potential cases, 3896 (32%) met the national surveillance case definition for confirmed or probable cases (2738 or 1158 respectively). Of the 2738 confirmed cases, 1645 (60%) patients had erythema migrans (EM) only, 880 (32%) had one or more systemic manifestations only, and 213 (8%) had both EM and systemic manifestations of Lyme disease. An additional 1158 probable cases were reported (Figure 2).

Of the 880 systemic LD cases not associated with EM, arthritis occurred in 714 (81%), neurologic manifestations (Bell's palsy, encephalitis, radiculoneuropathy, lymphocytic meningitis) in 248 (28%), and cardiac complications in 8 (1%). Cases may have had multiple systemic symptoms. The remaining 8276 reports did not meet the national criteria for a confirmed or probable case.

The statewide incidence of Lyme diseases was 114 cases per 100,000 population. Tolland County reported the highest county rate (250 cases per

**Figure 2. Lyme disease cases statewide by case status Connecticut, 1991 – 2008\***



\*Numbers and rates reflect changes in the reporting system and the national surveillance case definition ([http://www.cdc.gov/ncphi/diss/nndss/casedef/lyme\\_disease\\_2008.htm](http://www.cdc.gov/ncphi/diss/nndss/casedef/lyme_disease_2008.htm)). Surveillance has included physician-reporting (1987-present) and laboratory-reporting (1998-2002, 2006-present) components. The 2008 data contains both confirmed and probable cases as defined by the national surveillance case definition.

100,000 population) followed by Middlesex and New London counties (each with 135 cases per 100,000 population). Hartford County reported the lowest rate (38 cases per 100,000 population) (Figure 3).

Persons aged 50 years or older reported the highest incidence with 162.5 cases per 100,000 population. The rate for children less than 10 years of age was 114.6 cases per 100,000 population; 56% were male. Of cases with known onset dates, 63% occurred during the summer months of June, July, and August.

**Reported by:** S. Ertel, H. Altier, R. Nelson, DVM, MPH, M.L. Cartter, MD, MPH, Epidemiology and Emerging Infections Program, Connecticut Department of Public Health.

**Editorial:**

In 2008, cases of Lyme disease increased by 27% compared to 2007 (3896 vs. 3058) when laboratory reporting was resumed. This increase is due in part to changes in the national Lyme disease surveillance case definition and the inclusion of probable as well as confirmed cases.

**Figure 3: Lyme disease (cases) and rates per 100,000 population by county— Connecticut, 2008.**

In 2008, laboratory surveillance reported more than twice as many cases than physician surveillance (2711 and 1185 respectively). However, 65% of laboratory reported cases met the national surveillance case definition for a confirmed case compared to 95% of cases reported through physician reporting. Of all probable cases, 95% were initiated through laboratory surveillance.

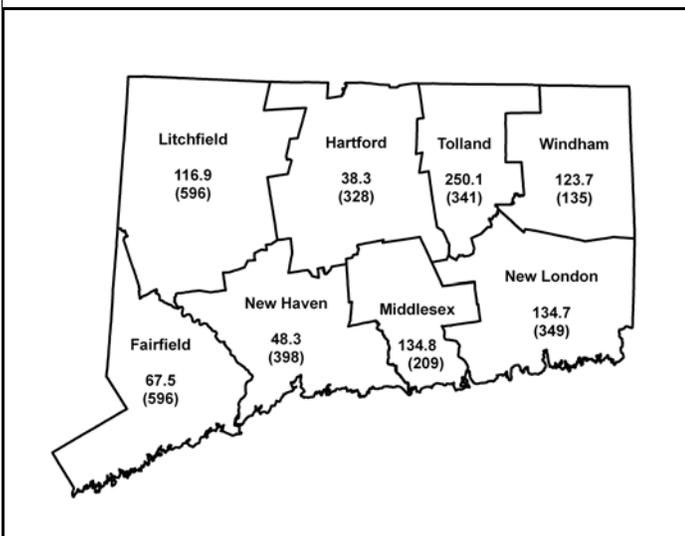
The DPH will continue to include evaluation of positive laboratory reports and follow-up on all findings meeting the laboratory criteria in the updated national surveillance case definition. Two major commercial laboratories conducting Lyme disease testing in Connecticut are reporting results to the DPH.

Physicians should report patients with Lyme disease by completing the 2009 version of the Reportable Disease Confidential Case Report Form (PD-23) or, if received, the Supplemental Lyme Disease Laboratory Case Report form in a timely manner. For questions concerning Lyme disease reporting or to order the most recent version of the PD-23, please contact the Epidemiology and Emerging Infections Program at (860) 509-7994.

Connecticut Lyme disease incidence rates by town and county can be found at [www.ct.gov/dph/lymedisease](http://www.ct.gov/dph/lymedisease) under “Lyme Disease Statistics”. Graphs and incidence maps are also available.

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