



# CD Info



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**CDInfo** is a surveillance newsletter intended to promote prevention of morbidity and mortality by providing useful data and practical recommendations for clinicians, laboratorians, and infection control personnel who diagnose, treat or report infectious diseases in Chicago.

## Increases in reported legionellosis in Chicago

Over the past decade Chicago has experienced an increase in the number of reported legionellosis cases. In 2003 an abrupt increase in reported legionellosis was observed locally, statewide, and nationally, and counts have remained relatively elevated in the ensuing years (figure 1).

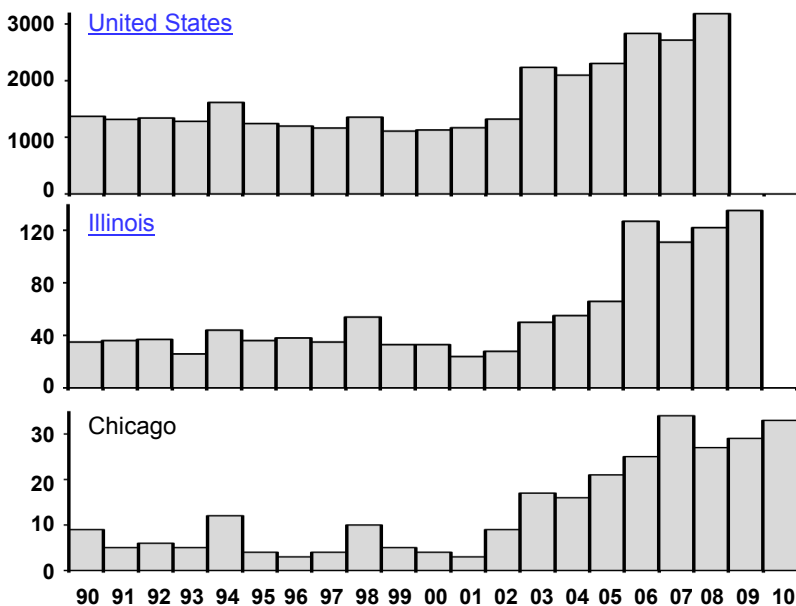
Legionellosis is an acute bacterial disease caused by *Legionella pneumophila*, a Gram-negative bacillus commonly found in warm, wet environments. *Legionellae* are typically spread through the air by aerosolized water which is then inhaled or micro aspirated. Legionellosis is associated with two clinically distinct illnesses: the more severe is Legionnaires' disease, which is characterized by pneumonia; Pontiac fever is a milder, flu-like illness without pneumonia. Among those most at risk for Legionnaires' disease are the elderly, smokers, and persons with underlying medical conditions such as chronic lung disease, cancer, or immunosuppression. A confirmed case of legionellosis is defined as clinically compatible illness with isolation of any *Legionella* organism from respiratory specimens or a normally sterile body fluid, or the detection of *L. pneumophila* serogroup 1 antigen in urine.

From 2001 through November 2010 there were 214 confirmed cases of legionellosis reported to the Chicago Department of Public Health (annual mean, 21; range, 3-34). No pediatric cases were reported, 38 (18%) cases occurred in adults aged 19-44 years, 108 (50%) were in the 45-64 year old age group, and 68 (31%) were in persons aged >65 years. Sixty-eight percent of case-patients were male. Among cases for which race-ethnicity was given, a disproportionate number of cases were reported in non-Hispanic Blacks (50%) compared to non-Hispanic Whites (28%) and Hispanics (8%). Among community areas in which at least five cases were recorded, the highest 10-year incidence rates per 100,000 adults were recorded in the south side neighborhoods of Woodlawn (rate, 40 per 100,000 adults) West Pullman (rate, 38), South Shore (rate, 28), Chatham (rate, 26), and Auburn Gresham (rate, 24).

A review of case reports and death certificates identified nine legionellosis-associated deaths from 2001-2007; this total includes two Chicago residents whose cause of death was given as legionellosis on the death certificate, but for whom CDPH had not received a case report.

Although legionellosis cases are reported throughout the year, the months in which the greatest number of cases typically occur in Chicago are August, September, and October. Temporal clustering

**Figure 1. Confirmed cases of legionellosis reported in the United States, Illinois, and Chicago, by year, 1990 - 2010.**



was observed in the city in September 2006 (n=12), August 2007 (n=14), and June – August 2010 (n=18). The investigations of these clusters did not reveal a point-source exposure.

In the U.S. and abroad, outbreaks have been linked to aerosol-producing devices such as cooling towers, indoor fountains, and grocery store produce-display misters. But most cases nationally and virtually all Chicago cases are not outbreak-associated. Researchers have found that the increased incidence of legionellosis is associated with [increases in heavy rainfall events](#) and [humid, hot weather](#), but the [mechanism by which this results in human infections](#) remains controversial. Potable water distribution systems are considered important potential sources of human exposure and infection. [Increased healthcare provider awareness of the infection and use of the urine antigen test](#) is another theory that has been suggested.

In Illinois, legionellosis cases are reportable via the Illinois National Electronic Disease Surveillance System (INEDSS). Clusters and cases occurring in persons with an exposure history thought to represent a potentially ongoing risk of transmission to others should be reported upon identification to the Communicable Disease Program at 312-746-5377 or 312-746-5925; on weekends, holidays, after hours, or if no one is available to take an urgent report, notifications may be made by calling 311 and asking for the communicable disease physician on call.