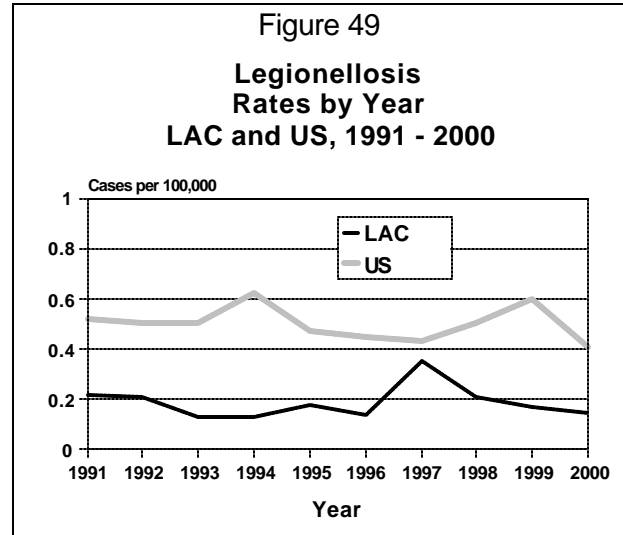


# LEGIONELLOSIS

CRUDE DATA	
Number of Cases	14
Annual Incidence <sup>a</sup>	
LA County	0.15
California	0.16
United States	0.41
Age at Onset	
Mean	56 years
Median	49 years
Range	27 - 87 years
Case Fatality	
LA County	7.7%
United States	N/A

<sup>a</sup> Cases per 100,000 population.



## ETIOLOGY

Legionellosis is a bacterial infection with two distinct clinical forms: Legionnaires' disease and Pontiac fever. Legionnaires' disease is the more severe form, with pneumonia and a reported case-fatality rate as high as 39%. Pontiac fever is a self-limited, flu-like illness without pneumonia. Ninety percent of cases of Legionnaires' disease are caused by *Legionella pneumophila* serogroup 1 (Lp1). Approximately 11 other species of *Legionellae* are known to cause illness in humans, but mainly in persons with significant underlying illness. Transmission occurs through inhalation of an aerosol containing the bacteria or by aspiration of contaminated water. Pontiac fever may represent a hypersensitivity reaction to inhaled organisms rather than bacterial invasion. There is no vaccine available for legionellosis.

## DISEASE ABSTRACT

- All reported cases of legionellosis in 2000 were due to sporadic, community-acquired Legionnaires' disease.
- LAC had no cases of Pontiac fever in 2000.
- The incidence of legionellosis in LAC remains well below the overall US rate of 0.50 cases per 100,000 population.

## STRATIFIED DATA

**Trends:** The incidence of legionellosis continued to decline for the third consecutive year from an all-time high in 1997, which was due to a small community outbreak (Figure 49).

**Seasonality:** In LAC for 2000, cases occurred throughout the year, but peaked in February (Figure 50). National surveillance data consistently show a slight increase in incidence in legionellosis during the summer and autumn months, possibly representing increased exposure related to travel and/or air cooling systems.

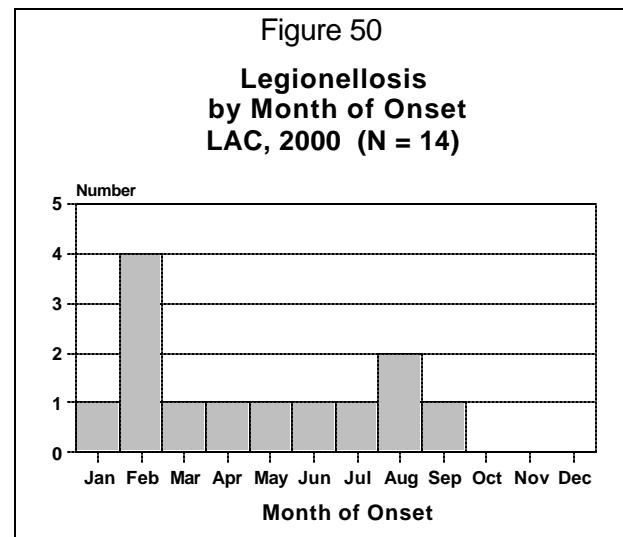
**Age:** The mean age of reported cases was 56 years (range 27-87 years).

**Gender:** The male-to-female rate ratio was 3:1. The disproportionately higher rates of legionellosis among males has generally been attributed to a higher prevalence of cigarette smoking among males in the older age groups.

A decreasing gender disparity in smoking as a risk factor for legionellosis is expected to eventually narrow the gender gap in legionellosis incidence.

**Race/Ethnicity:** Of the 14 cases, 57% (8) were Hispanic, 29% (4) were White, and 14% (2) were Black.

**Location:** Cases were geographically distributed throughout LAC; health districts of residence included Hollywood/Wilshire, Pomona, West, Alhambra, East Valley, Glendale, Northeast, West, San Fernando, and West.



## COMMENTS

One or more recognized risk factors for Legionnaires' disease was present in 11 (79%) cases, including heavy cigarette use and/or chronic pulmonary disease (6 cases); malignancy or immunodeficiency syndromes (3 cases); diabetes (1 cases); and advanced age (1 case).

Six of the cases of pneumonia were confirmed as Legionnaires' disease by culture, 6 by demonstration of Lp1 antigen in urine, 1 by detection of *Legionella* in respiratory secretions by direct fluorescent antibody testing, and 1 by four-fold rise in serum *Legionella* antibodies. *L. pneumophila* was the species implicated in 13 cases (93%), while *L. micdadei* was associated with 1 case.

The reported incidence of legionellosis in LAC remains consistently lower than the national rate. Empiric antibiotic therapy for community-acquired pneumonia without appropriate diagnostic testing may have contributed to lower than anticipated rates. In 2000, 15 reports were received that, on investigation, did not meet the surveillance case definition for legionellosis. Nearly all of these diagnoses were based on a single elevated serologic antibody titer, suggesting that some clinicians are unfamiliar with the appropriate use of laboratory tests for confirmation of legionellosis.

## ADDITIONAL RESOURCES

### Guidelines:

- Centers for Disease Control and Prevention: Guidelines for prevention of nosocomial pneumonia. *MMWR* 1997;46(RR-1):1-79.  
[www.cdc.gov/ncidod/hip/pneumonia/pneu\\_mmw.htm](http://www.cdc.gov/ncidod/hip/pneumonia/pneu_mmw.htm)
- Allegheny County Health Department: *Approaches of prevention and control of Legionella infection in Allegheny County health care facilities*. 2<sup>nd</sup> ed. Pittsburgh, PA: Allegheny County Health Department. 1997:1-15.  
[www.legionella.org](http://www.legionella.org)
- State of Maryland, Department of Health and Mental Hygiene: *Report of the Maryland Scientific Working Group to Study Legionella in Water Systems in Healthcare Institutions*. June 14, 2000, Baltimore, Maryland.  
[www.dhmd.state.md.us/html/legionella.htm](http://www.dhmd.state.md.us/html/legionella.htm)
- ASHRAE: Guideline 12-2000. *Minimizing the risk of legionellosis associated with building water systems*. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Atlanta, GA., 1999.  
[www.ASHRAE.org](http://www.ASHRAE.org)
- Acute Communicable Disease Control website:  
<http://lapublichealth.org/acd/procs/b73/b73index.htm>

### Reviews:

- Stout JE, Yu VL; Legionellosis. *N Engl J Med* 1997;337:682-687.
- Breiman RF, Butler JC: Legionnaires' disease: clinical, epidemiological, and public health perspectives. *Semin Respir Infect* 1998;13:84-9.

### Selected Articles:

- Yu VL: Resolving the controversy on environmental cultures for *Legionella*: a modest proposal. *Infect Control Hosp Epidemiol* 1998;19:893-7.
- Lin YS, Stout JE, Yu VL, Vidic RD: Disinfection of water distribution systems for Legionella. *Semin Respir Infect* 1998;13:147-59.