

INCIDENCE OF *LEGIONELLA PNEUMOPHILA* INFECTIONS AMONG OKLAHOMA PULMONARY DISEASE PATIENTS

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Prior studies by the authors suggested high levels of *Legionella pneumophila* in the recreational and water supply reservoirs in central Oklahoma. This high exposure potential was supported by a relatively high prevalence of seropositive, asymptomatic infections among healthy blood donors in the area. In contrast, the present 9-month laboratory-based study confirmed only one clinical *Legionella* infection among 117 unidentified pulmonary disease patients admitted to the Oklahoma City Veterans Administration Medical Center. Comparison with the reports of others and with reported legionellosis in Oklahoma indicates that differences in cohort definition and variations in utilization and interpretation of clinical analyses leads to wide variations in the reported incidence of legionellosis.

Key words • *Legionella pneumophila* • pulmonary disease • community-acquired pulmonary infections

Since 1976, *Legionella pneumophila* has received increasing attention as a cause of nosocomial and community-acquired pneumonia in the United States as well as abroad. Despite this attention, the significance of this organism in comparison with other causes of pneumonia remains unresolved, especially with respect to nonepidemic community-acquired pneumonia, where incidence rates from less than 1% to greater than 30% have been reported.

One of the earliest studies, and one that indicated a relatively low incidence of legionnaires' disease, was reported in 1977 by McDade et al.¹ The results of their serosurvey of 170 patients with a clinical diagnosis of pneumonia and 49 patients with a clinical diagnosis of Q fever (presumably many of whom also had pneumonia) indicated that the proportion of pneumonias caused by the legionnaires' disease bacterium was only 1% to 2%. Similarly, Foy et al, in their study of paired sera from 500 pneumonia patients in Seattle between 1963 and 1975, reported that 1% exhibited a fourfold increase in antibody titer, which was considered to be indicative of legionnaires' disease.² Supporting observations were made by Fraser and McDade, who reported between 0.3% and 1.5% of the pneumonia cases exhibited evidence of legionellosis, based on serum specimens.³ Similar conclusions were reached in a study of paired sera from approximately 1700 atypical pneumonias in Austria⁴ and by Sutherland et al,⁵ who analyzed postmortem lung tissue from 97 patients hospitalized with pneumonia and found only one patient to have had a *Legionella* infection.

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Boerhaave Committee For Postgraduate Medical Education Legionella Pneumophila Infections

**Ralph van Furth, University. Faculty of
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Legionella Pneumophila Infections Ralph van Furth, University. Faculty of Medicine. Boerhaave Committee for Postgraduate Medical Education, 1982 Management of Legionella in Water Systems National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Division on Earth and Life Studies, Board on Population Health and Public Health Practice, Board on Life Sciences, Water Science and Technology Board, Committee on Management of Legionella in Water Systems, 2020-03-20 Legionnaires disease a pneumonia caused by the Legionella bacterium is the leading cause of reported waterborne disease outbreaks in the United States Legionella occur naturally in water from many different environmental sources but grow rapidly in the warm stagnant conditions that can be found in engineered water systems such as cooling towers building plumbing and hot tubs Humans are primarily exposed to Legionella through inhalation of contaminated aerosols into the respiratory system Legionnaires disease can be fatal with between 3 and 33 percent of Legionella infections leading to death and studies show the incidence of Legionnaires disease in the United States increased five fold from 2000 to 2017 Management of Legionella in Water Systems reviews the state of science on Legionella contamination of water systems specifically the ecology and diagnosis This report explores the process of transmission via water systems quantification prevention and control and policy and training issues that affect the incidence of Legionnaires disease It also analyzes existing knowledge gaps and recommends research priorities moving forward **Legionella and the Prevention of Legionellosis** Jamie Bartram, 2007 Water is the major natural reservoir for legionellae and the bacteria are found worldwide in many different natural and artificial aquatic environments such as cooling towers water systems in hotels homes ships and factories respiratory therapy equipment fountains misting devices and spa pools This book provides a comprehensive overview on the sources ecology and laboratory diagnosis of legionella Guidance is provided on risk assessment and risk management of susceptible environments The necessary measures to prevent or adequately control the risk from exposure to legionella bacteria are identified for each identified environment Outbreaks of legionellosis generally cause a high level of morbidity and mortality in the people affected and as such the suspicion of an outbreak warrants immediate action The policies and practice for outbreak management and the institutional roles and responsibilities of an outbreak control team are reviewed This book will be useful to all those concerned with legionella and health including environmental and public health officers health care workers the travel industry researchers and special interest groups

Legionnaires' Disease Great Britain. Health and Safety Commission, 2000 Legionnaires Disease The Control of Legionella Bacteria in Water Systems **Legionella** Clyde Thornsberry, 1984 **The Prevention Or Control of Legionellosis (including Legionnaires' Disease)** Great Britain. Health and Safety Commission, 1991 Legionella Infections Christopher L. R. Bartlett, Alastair D. Macrae, John T. Macfarlane, 1986 **National Guidelines for the Control of Legionellosis in Ireland** Health Protection Surveillance Centre, Health Protection Surveillance Centre (Ireland).

Legionnaires' Disease Sub-Committee,Ireland. Health Service Executive,2008

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