COUNTY OF LOS ANGELES
DEPARTMENT OF HEALTH SERVICES
Public Health

THOMAS L. GARTHWAITE, M.D.
Director of Health Services and Chief Medical Officer

JONATHAN E. FIELDING, M.D., M.P.H.
Director of Public Health and Health Officer

313 North Figueroa Street, Room 806
Los Angeles, California 90012
TEL (213) 240-8117 • FAX (213) 975-1273

www.lapublichealth.org

November 18, 2003

TO: Infection Control Practitioners and Medical Directors

FROM: Jonathan E. Fielding, M.D., M.P.H. Jonathan E. Fielding MD

SUBJECT: **IMPORTANCE OF REPORTING AND DIAGNOSIS OF HOSPITAL-ACQUIRED LEGIONNAIRE'S DISEASE**

Nationwide the reported cases and the mortality associated with both community and nosocomially-acquired Legionnaires' Disease has steadily declined in the past 10 years, while the case-fatality rate for hospital-acquired Legionnaires' Disease (LD) decreased from 46% in 1982 to 14 % in 1998. In Los Angeles County, the reported cases of LD have remained steady with 11 to 32 cases reported annually from 1993-2002 and in 2002 the case-fatality rate was 12%. Annual population-based incidence rates over this period are well below national reporting levels. The increasing use of quinolones and macrolides in the empiric treatment of both community-acquired and nosocomial pneumonia as well as the increasing reliance on the rapid Legionella urinary antigen to diagnose LD, which can only diagnose *Legionella pneumophila* serogroup 1, may explain the decline in LD diagnosis as well as contribute to the nationally declining mortality rate in the US.

Of 175 LD cases reported to the Los Angeles County (LAC) Acute Communicable Disease Control Program (ACDC) from 1993 to 2002, only 24 (14%) cases were nosocomially-associated and 151 (86%) were classified as community acquired. Since 1993, ACDC has investigated one nosocomial outbreak involving nine LD cases from a single medical facility in 2002. All other nosocomial cases from 1993-2002 have been single cases reported from diverse geographic locations throughout LAC. Since 2002, only 2 nocomially-associated LD cases have been reported to ACDC from 2 different facilities. At ACDC, we are concerned that LD is not being considered as an important cause of nosocomial pneumonia.

We would like to remind clinicians and infection control practitioners of the importance of diagnosing LD as a preventable nosocomial pneumonia and that all LD cases are reportable to ACDC within 7 calendar days, as required by California Code of Regulations, Title 17, 2500.

Current diagnostic modalities include: rapid urinary antigen test, bacterial culture of the sputum/tissue, direct fluorescent antibody (DFA) testing of the sputum/tissue for the presence of *Legionella pneumophila* and serologic diagnosis. The preferred method of diagnosis for LD is urinary antigen and direct culture of the sputum for *Legionella* sp. The benefits of the urinary Legionella antigen test include: it is rapid, commercially available, and easily obtainable from the patient. However, it will only diagnose *Legionella pneumophila* serogroup 1. Sputum culture requires specialized culture media and is less frequently preformed outside of teaching and transplant hospitals. The availability of the clinical isolate from the sputum culture can be critical for subsequent epidemiological investigations. The Los Angeles County Public Heath Laboratory is a reference laboratory for speciation and serogrouping of *Legionella* sp. There services are available for environmental culturing of water supplies when an outbreak investigation is undertaken and also for clinical specimens free of charge. Serological testing is strongly discouraged for the use of making an acute diagnosis of LD because it requires a second convalescent serology to meet the CDC definition for LD.

On October 8, 2002, Dr. Thomas Garthwaite, Director and Chief Medical Officer, issued guidelines for the prevention of Hospital–acquired Legionnaire's Disease.
The copies of these guidelines are posted on the ACDC web site at http://lapublichealth.org/acd . If you have any questions concerning LD diagnostics, the control of LD in your facility, or need a copy of the guidelines, please contact Dr. Rachel Civen, Medical Epidemiologist at ACDC, 213-240-7941.

c: Sydney Harvey, PhD
Laurene Mascola, M.D., M.P.H.