



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
Mary T. Bassett, MD, MPH
Commissioner

2015 Alert 21: Increase in Legionnaire's Disease in the Bronx

- **31 *Legionella* laboratory reports in South Bronx residents in the month of July are under investigation.**
- **Providers should consider Legionnaire's disease when evaluating patients presenting with signs of pneumonia.**
 - **Culturing *Legionella* from sputum or bronchoalveolar lavage specimens is the preferred method of diagnosis. Notify your lab to ensure that they use the appropriate culture media to test for *Legionella*.**
 - **Urinary antigen testing is also recommended but should be accompanied by an attempt to isolate *Legionella* by culture.**
- **Report cases promptly to the NYC Health Department and submit all *Legionella* isolates to the Health Department's Public Health Laboratory for serogrouping and molecular typing.**

Please Distribute to All Clinical Staff in Internal Medicine, Pediatrics, Geriatrics, Primary Care, Infectious Diseases, Emergency Medicine, Family Medicine, Laboratory Medicine and Infection Control

July 29, 2015

Dear Colleagues,

In the month of July 2015, there has been an increase in *Legionella* laboratory reports in residents of the South Bronx. Thirty-one *Legionella* reports have been received from laboratories since July 10, compared with 5 confirmed cases in the same period in 2013 and 2014 combined. In the first seven months of 2015, the rate of *Legionella* in the Bronx overall has been 3.9 per 100,000 population compared to the NYC rate of 1.9 per 100,000 population. The highest rate is in the South Bronx neighborhoods (United Hospital Fund) of High Bridge-Morrisania and Hunts Point-Mott Haven with a rate of 8.8 per 100,000. The Health Department is actively investigating these laboratory reports and whether cases are due to a common exposure. There have also been two deaths reported in patients with Legionnaire's disease in these neighborhoods. The Health Department is actively investigating these deaths and their relationship to the outbreak. **Health care providers should test for *Legionella* when evaluating Bronx residents who may have community acquired pneumonia and should promptly report cases to the Health Department.**

Legionnaire's disease is caused by the bacteria *Legionella*. It is characterized by pneumonia occurring 2-10 days after exposure to an environmental source. *Legionella* is a ubiquitous aquatic organism that grows in warm environments (77°- 108°F). Exposure occurs through inhalation of contaminated aerosols from devices such as cooling towers, whirlpool spas, showers, and faucets, and through aspiration of contaminated water. Person-to-person transmission has not been demonstrated. Groups at high risk

include the elderly, cigarette smokers, persons with chronic lung or immunocompromising disease, and persons receiving immunosuppressive drugs. The case-fatality rate has declined substantially since the disease was first described and is estimated to be 5-40%. Recommended treatment options include macrolide or quinolone antibiotics.

Diagnostic Testing

Culture of the organism from respiratory secretions or tissues is the gold standard for diagnosis. Culture has the added benefit of producing bacterial isolates for molecular typing. With molecular typing of isolates, a patient's isolate(s) can be compared to isolates from environmental sources and other patients to identify a potential source of infection.

Please note the following regarding the diagnosis of legionellosis:

- *Legionella* culture requires specialized media (Buffered Charcoal Yeast Extract medium). Please alert your microbiology laboratory that you are considering legionellosis in your patient. The best specimens for culturing *Legionella* are sputum or bronchoalveolar lavage fluid.
- Urine antigen testing is widely available as a rapid method for detecting *Legionella*, but it is most sensitive for *L. pneumophila* serogroup 1. Although *L. pneumophila* accounts for the majority of *Legionella* cases, a negative urine antigen test does not rule out legionellosis due to other species and serotypes. Depending on clinical suspicion, providers should obtain specimens for culture and serology to diagnose legionellosis. Furthermore, urine antigen testing does not allow molecular comparison to help determine the environmental source.
- Serologic diagnosis requires paired sera, 3-4 weeks apart to detect a fourfold rise in antibody titer to a level > 1:128. A single antibody titer of any level is not diagnostic of legionellosis. For diagnosis, convalescent serology must be obtained.

There is additional information for clinicians on Legionnaire's disease at the Centers for Disease and Control and Prevention's Legionellosis Resource Site at <http://www.cdc.gov/legionella/index.htm>

Recommendations for Providers

To help the Health Department investigate the increase in increase in Legionnaire's disease in the Bronx, providers should:

- Maintain a high index of suspicion for legionellosis among all patients with community-acquired pneumonia
- Specifically request both culture and urine antigen testing for *Legionella* when indicated.
- Report all cases to the Health Department by calling the Provider Access Line at 1-866-692-3641.
- Send all cultured isolates to the Health Department's Public Health Laboratory for serotyping and molecular testing. Send isolate and laboratory test request form to:

Public Health Laboratory
455 First Ave, Room 136
New York, NY 10016

If you have any laboratory related questions, please call John Kornblum, Chief of Microbiology, at 212-447-6783.

As always, we appreciate our ongoing collaboration with healthcare providers in New York City to help us address emerging infectious disease concerns.

Sincerely,
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