AMD Projects: Attacking Legionnaires’ Disease

Rapid molecular detection of *Legionella* for outbreak response

First discovered in 1976 at an American Legion convention in Philadelphia, Pennsylvania, Legionnaires’ disease continues to cause outbreaks in the United States. Even though it is a leading cause of potable waterborne outbreaks in the United States, reliable, rapid, and consistent analysis techniques have not been developed.

Available genetic techniques to determine the most likely source of transmission require matching clinical and environmental samples and can be used for only 1 of the more than 60 species of *Legionella*. Right now, it can take more than 3 weeks to completely identify the bacterium, if a specimen is even collected from a patient. These hurdles leave many cases and outbreaks uncharacterized. State and local health departments often rely on CDC laboratories because they do not have the specialized skills and extensive

People with Legionnaires’ disease have pneumonia (lung infection) since the *Legionella* bacteria grow and thrive in the lungs. Pneumonia is confirmed either by chest x-ray or on physical exam.

www.cdc.gov/amd

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resources required to analyze Legionella specimens.

CDC is creating a database of Legionella genomes that will improve capacity for identifying and comparing outbreak-causing strains.

Advance molecular detection (AMD) techniques are revolutionizing how assessments are made about the source of disease transmission, which is the cornerstone of controlling Legionella outbreaks. Rapid identification of a source will allow faster implementation of prevention efforts. This project will help streamline methods for state and local public health laboratories investigating their own outbreaks, leading to quicker public health response. Ultimately, the methods developed through this project are the first critical steps in being able to detect Legionella directly from environmental or clinical samples.

For more information on Legionnaires’ disease, please visit the CDC website, www.cdc.gov/legionella/index.html.