Guidance for Mitigation of Legionella (Legionnaires' Disease) in Community Congregate Settings

Background

Legionella bacteria can cause a serious type of pneumonia (lung infection) called Legionnaires' disease. *Legionella* bacteria can also cause a less serious illness called Pontiac fever. *Legionella* bacteria are found naturally in freshwater environments, like lakes and streams. The bacteria can become a health concern when they grow and spread in human-made building water systems. After *Legionella* grows and multiplies in a building water system, water containing *Legionella* can spread in droplets small enough for people to breathe in. People can get Legionnaires' disease or Pontiac fever when they breathe in small droplets of water in the air that contain the bacteria. Less commonly, people can get sick by aspiration of drinking water containing *Legionella*. This happens when water accidently goes into the lungs while drinking. Legionnaires' disease frequently requires hospitalization and requires treatment with antibiotics.

Common Sources of Infection:

- Showerheads and sink faucets
- Cooling towers (structures that contain water and a fan as part of centralized air-cooling systems for buildings or industrial processes)
- Hot tubs
- Decorative fountains and water features
- Hot water tanks and heaters
- Large, complex plumbing systems

Symptoms Associated with *Legionella* infection:

- Cough
- Shortness of breath
- Fever
- Muscle aches
- Headaches

If you develop pneumonia symptoms, see a doctor right away. Be sure to mention if you may have been exposed to *Legionella*, have used a hot tub, spent any nights away from home, or stayed in a hospital in the last two weeks.

How long does it take from exposure to onset of symptoms?

Legionnaires' disease can also be associated with other symptoms such as diarrhea, nausea, and confusion. Symptoms usually begin 2 to 14 days after being exposed to the bacteria, but it can take longer.

Risk Factors Associated with Contracting Legionella:

Risk factors for becoming infected with *Legionella* include:

- People 50 years or older
- Current or former smokers
- People with chronic lung disease (like chronic obstructive pulmonary disease or emphysema)
- People with weak immune systems or who take drugs that weaken the immune system (like after a transplant operation or chemotherapy)
- People with cancer
- People with underlying illnesses such as diabetes, kidney failure, or liver failure

Immediate Next Steps for Case Treatment and Monitoring:

Upon the identification of a resident or staff with symptoms consistent with *Legionella* infection:

1. Refer individuals with severe symptoms related to legionella to a healthcare provider for proper diagnosis and treatment.
2. Contact the Special Populations team at the Chicago Department of Public Health to report any cases of legionnaire's disease associated with your facility here: https://redcap.link/specpopreport
3. Contact your building maintenance team to determine current water management program protocols in place to mitigate waterborne illness.
4. Continue to work with the Chicago Department of Public Health to determine appropriate mitigation strategies to prevent further spread.

Preventing Legionella:

- Reduce risk of *Legionella* growth and spread by running water from fixtures for a time period (a process called flushing) weekly, with particular focus on less used fixtures to prevent water stagnation and boost chlorine levels. The flushing process should consist of the following: each tap and water outlet (including showers) should be opened and left to run until the hot water reaches maximum temperature and keep running for at least 5 minutes. When flushing, guard against splashing water and/or the creation of a water aerosol. The room should be left unoccupied, and door(s) should be closed when flushing is performed, if possible.
- Develop a water management program that is tailored to the needs of facility with the help of your CDPH contact and building maintenance team.
- Monthly monitoring water quality parameters, such as chlorine residual and temperature levels at multiple locations within your facility both close to (proximal) and far away from (distal) to water point of entry into. Chlorine residuals will generally decrease with increasing distance from point of entry.
- Establish thresholds of action in your facility water management plan, and pre-plan corrective actions when parameters do not meet established thresholds. If *Legionella* is found within your water system, additional corrective actions should be pre-planned and documented in the facility water management plan.

More information on *Legionella* can be found here: https://www.cdc.gov/legionella/index.html

Organization	Contact Information:
CDPH Community Congregate Settings Team	Email: SpecialPops@cityofchicago.org Reporting Link: https://redcap.link/specpopreport