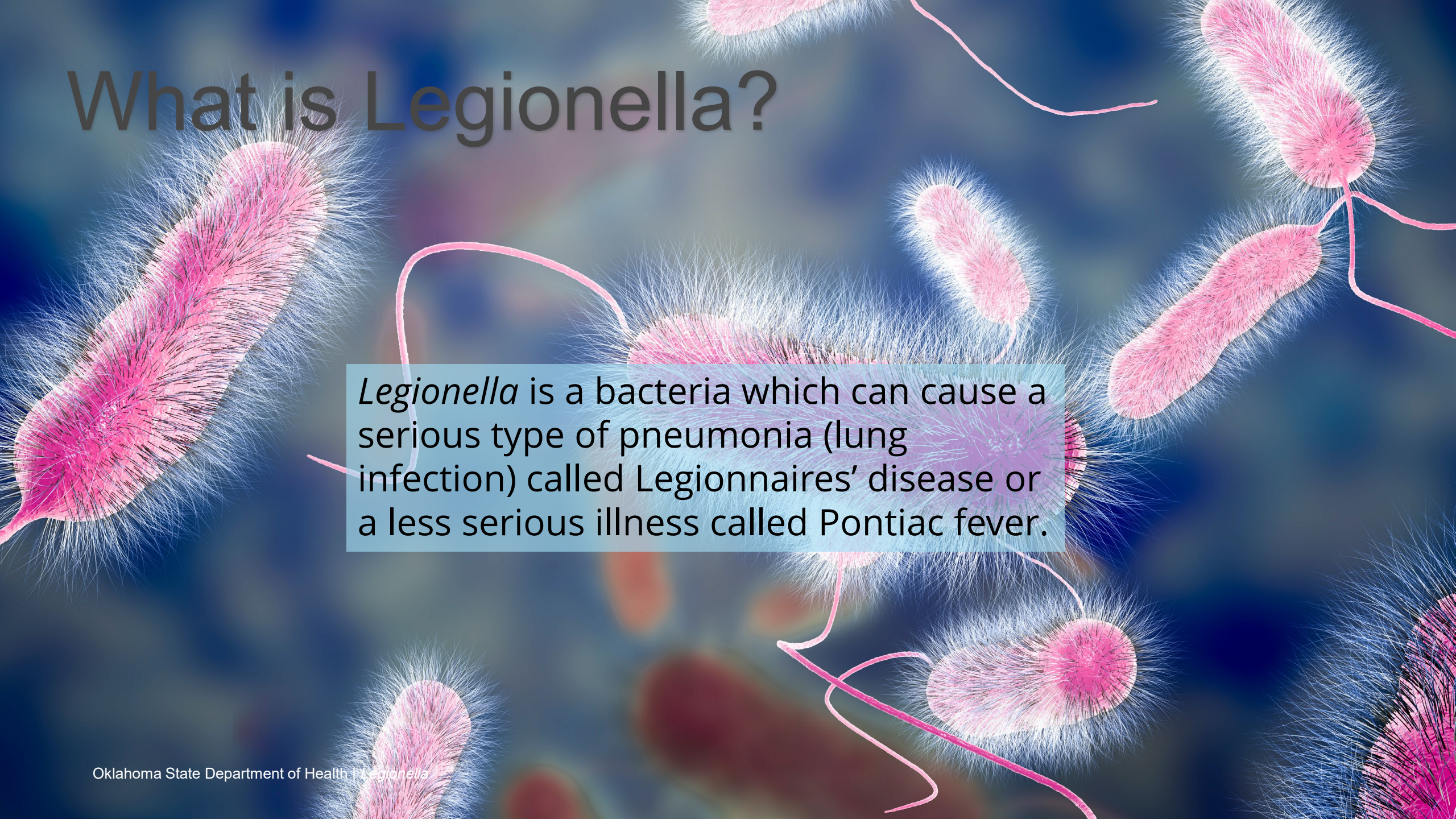
# Legionella

OKLAHOMA
State Department of Health

# What is Legionella?

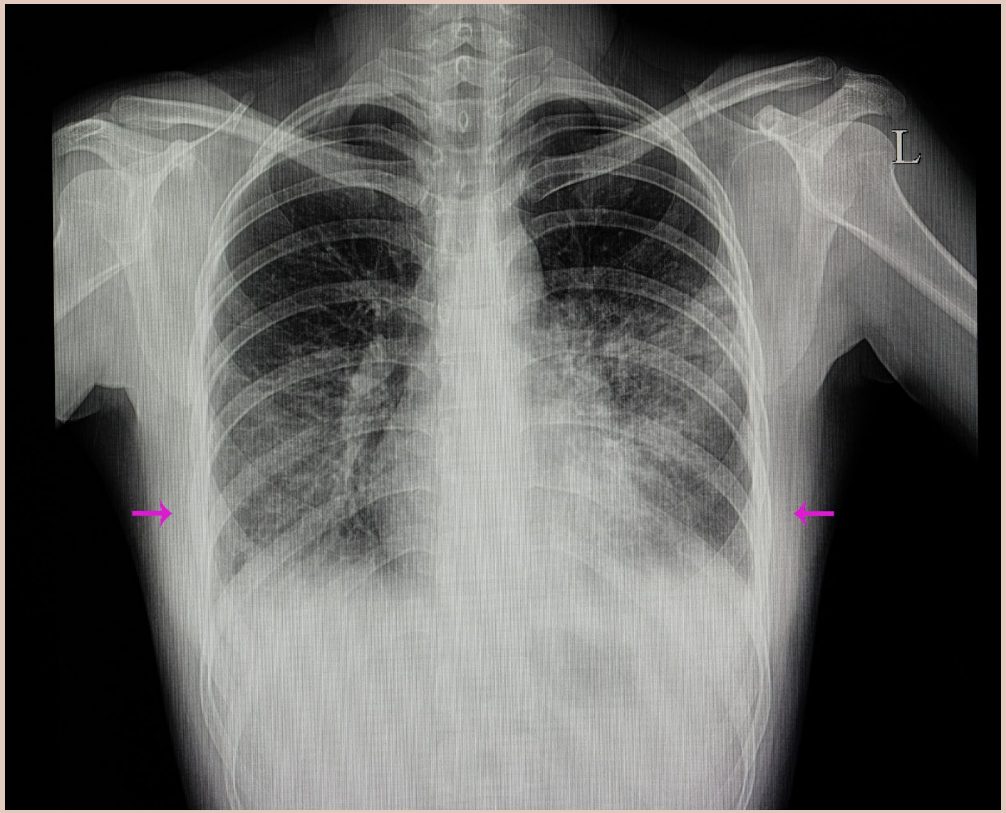


*Legionella* is a bacteria which can cause a serious type of pneumonia (lung infection) called Legionnaires' disease or a less serious illness called Pontiac fever.

# Symptoms

Legionnaires' Disease can cause Pneumonia symptoms. Signs and symptoms of Legionnaires' Disease can include:

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



# Treatment

**Legionnaires' Disease** is serious, but can be treated with antibiotics.

# What Owners and Managers of Buildings and Healthcare Facilities Need to Know about the **Growth** and **Spread** of *Legionella*

***Legionella***, the bacterium that causes Legionnaires' disease, occurs naturally in freshwater environments, like lakes and streams.

Generally the low amounts of these bacteria in freshwater do not lead to disease.

However, *Legionella* can pose a health risk when it gets into building water systems.

To do this:

- *Legionella* first has to grow (increase in numbers).
- Then it has to spread through small water droplets (aerosolization) that people can breathe in.

You can take steps to reduce the risk for *Legionella* in your building.

# Where *Legionella* Can Grow or Spread

*Legionella* can grow in many parts of building water systems that are continually wet, and certain devices can then spread contaminated water droplets. **Some examples of devices where *Legionella* can grow and/or spread through aerosolization or aspiration (when water accidentally goes into the lungs while drinking) include:**

- Hot and cold-water storage tanks
- Water heaters
- Water hammer arrestors
- Expansion tanks
- Water filters
- Electronic and manual faucets
- Aerators
- Faucet flow restrictors
- Showerheads and hoses
- Pipes, valves, and fittings
- Centrally installed misters, atomizers, air washers, and humidifiers
- Non-stream aerosol-generating humidifiers
- Infrequently used equipment including eyewash stations
- Ice machines
- Hot tubs
- Decorative fountains
- Cooling towers
- Medical equipment
  (such as CPAP machines, hydrotherapy equipment, bronchoscopes)

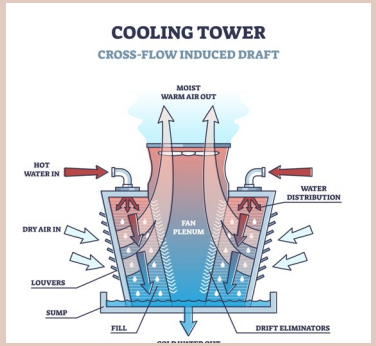
# Common sources of Infection

Outbreaks of Legionnaire's disease are often associated with large or complex water systems, like those found in hospitals, hotels, and cruise ships.

The ***most likely sources*** of infection include:

Water used for showering (potable water)

Decorative Fountains




Cooling towers (parts of large air conditioning systems)

Hot Tubs

*Legionella* are usually spread through water droplets in the air.

People can get Legionnaires' disease or Pontiac fever when they breathe in small droplets of water in the air that contain the bacteria.

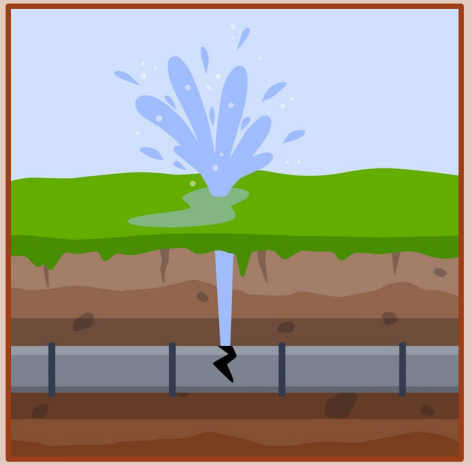
Less commonly, people can get sick by aspiration of drinking water containing *Legionella*.

# In general, people do not spread Legionnaires' disease and Pontiac fever to other people.

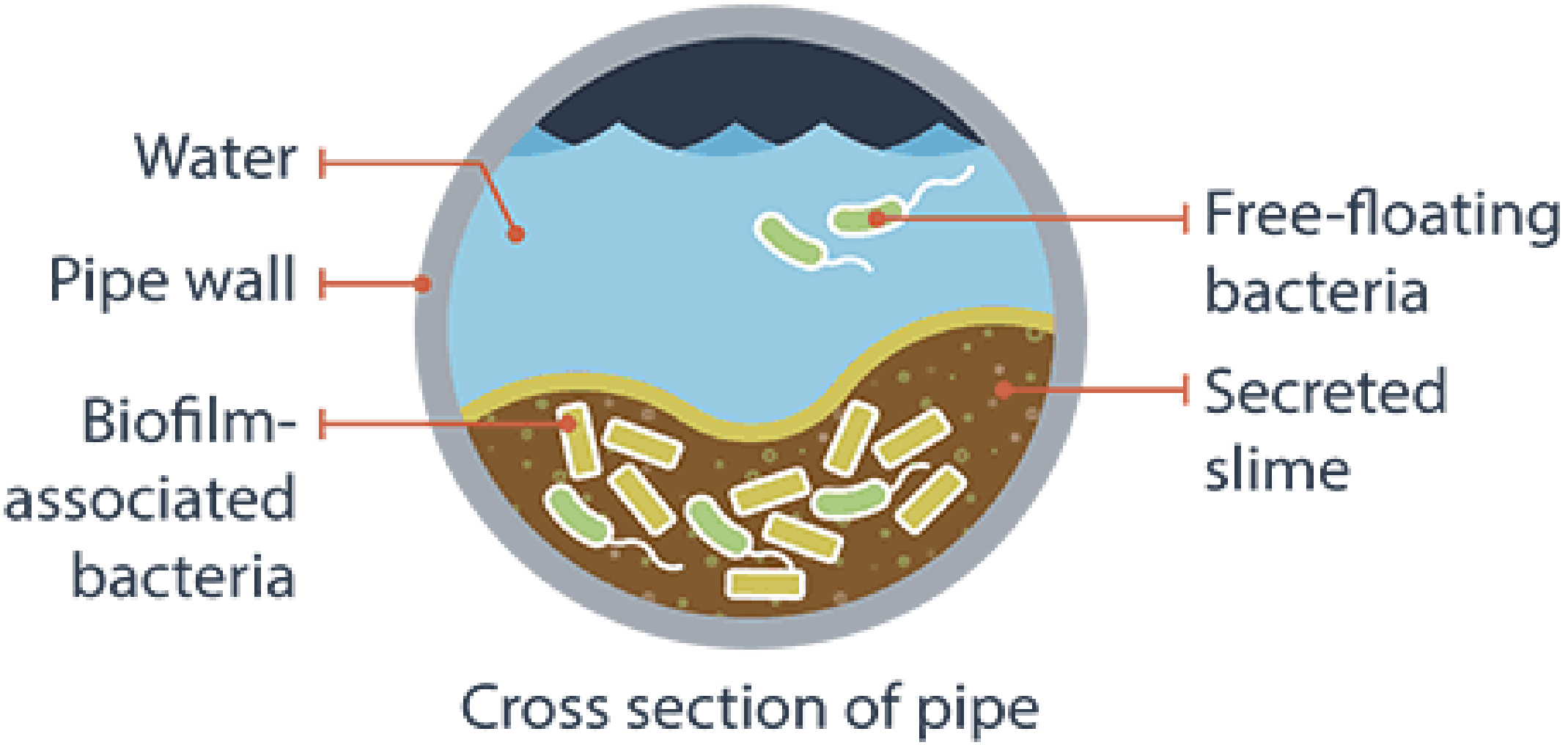
# Factors That Lead to *Legionella* Growth

A variety of internal and external factors can lead to a *Legionella* problem in your building, including:

- Construction
- Water main breaks
- Changes in municipal water quality
- Biofilm
- Scale and sediment
- Water temperature fluctuations
- pH fluctuations
- Inadequate levels of disinfectant
- Changes in water pressure
- Water stagnation



# *Legionella* can live and grow in biofilm



# People at Increased Risk

Most healthy people exposed to *Legionella* do not get sick.

People at increased risk of getting sick are:

- People ages 50 years or older
- Current or former smokers
- People with a 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

# Prevention

Stagnant water favors *Legionella* growth.

To reduce the risk, you should:

- remove dead legs / dead ends in pipe-work
- flush out infrequently used outlets (including showerheads and taps) at least weekly and
- clean and descale shower heads and hoses at least quarterly.

# Make Sure Water Temperatures Are Right

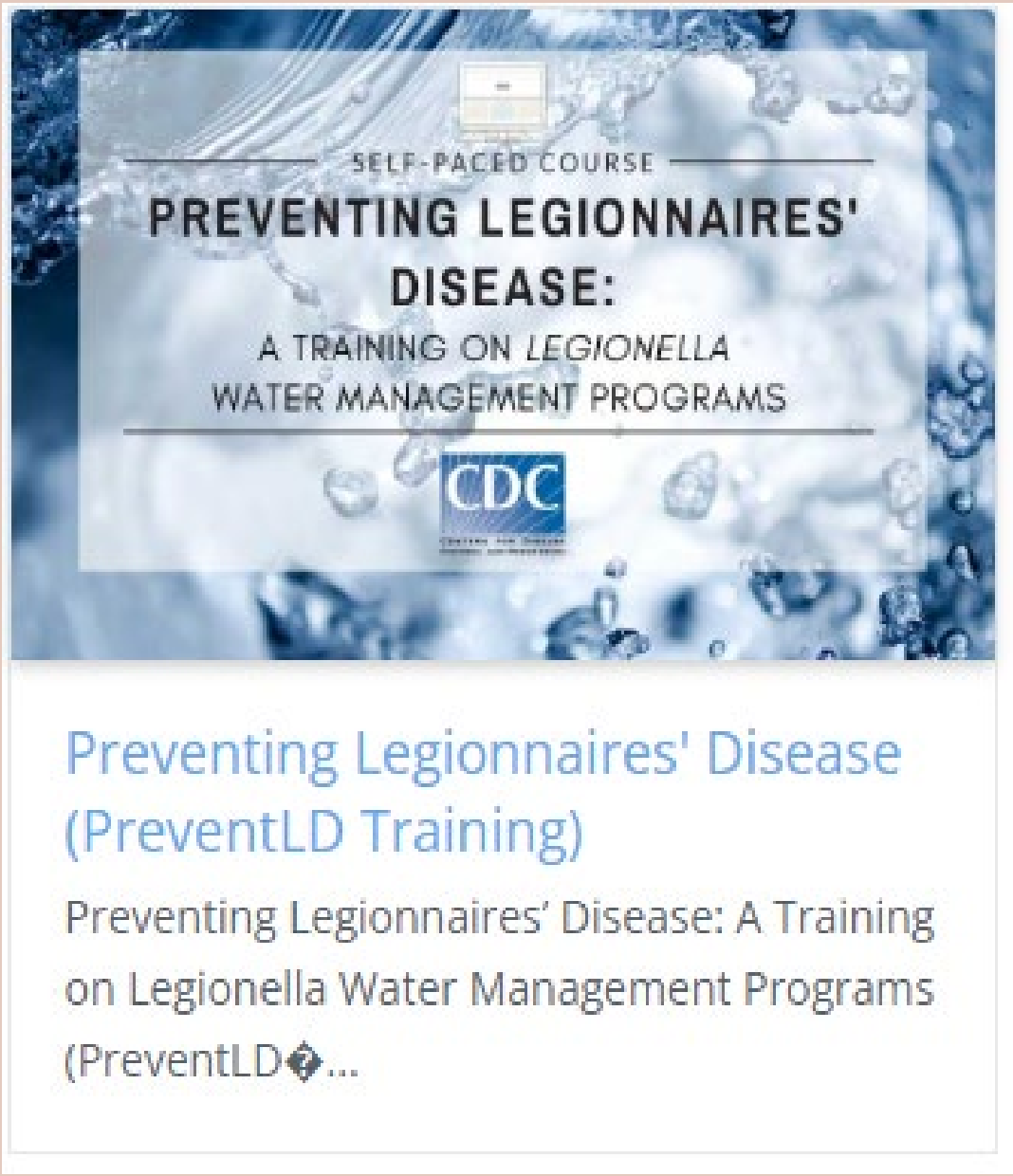
*Legionella* grows best within a certain temperature range (77°F-113°F). To keep water outside the range for *Legionella* growth, it is important to keep cold water cold and keep hot water hot.

# Develop & Implement

**A Water Management Program** to help identify hazardous conditions and take steps to minimize the growth and transmission of *Legionella* and other waterborne pathogens in building water systems.

# Online Training

Preventing Legionnaires’ Disease: A Training on *Legionella* Water Management Programs (PreventLD Training)




https://www.cdc.gov/control-legionella/php/training/index.html#:~: text=Start%20Course,training%20addresses%20how%20to%20manage

# Resources:

https://www.cdc.gov/legionella/index.html

https://www.cdc.gov/control-legionella/php/toolkit/wmp-toolkit.html

https://www.cdc.gov/control-legionella/php/training/index. html#:~: text = Start%20Course,training%20addresses%20how%20to%20manage

www.cdc.gov/project-firstline/media/pdfs/Healthcare-Germs-Environment-WaterAndWetSurfaces-508.pdf

Western Region Public Health Training Center at the University of ArizonaExternalexternal icon

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