

LEGIONNAIRES' DISEASE

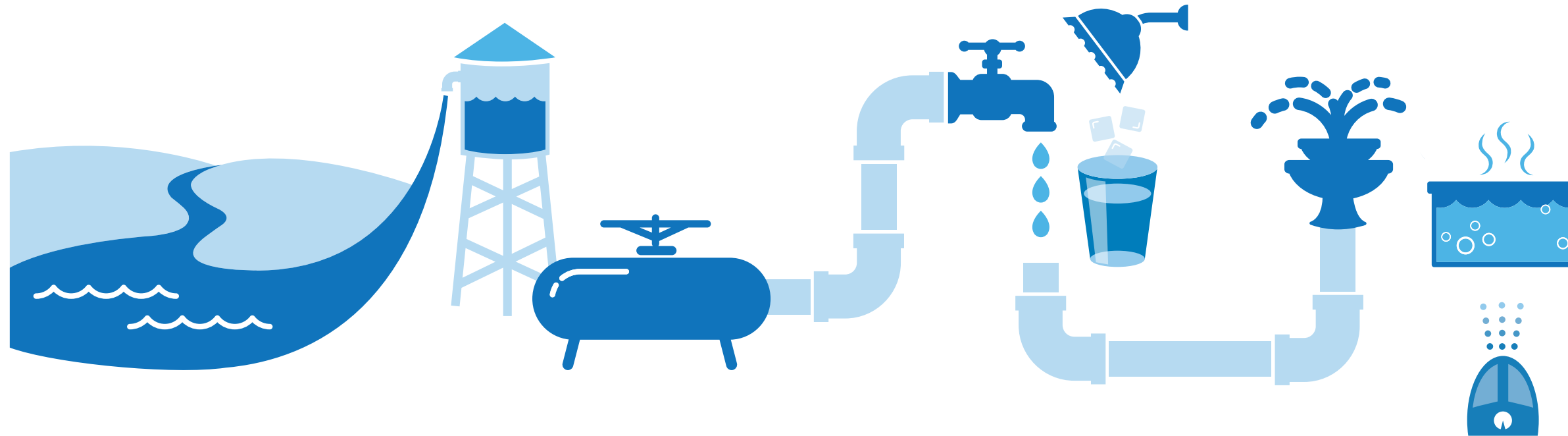
LINES OF PREVENTION

#1 EDUCATION

The general public, building owners and health care professionals need **more information** on *Legionella* bacteria and how it may cause Legionnaires' disease. There are many myths surrounding the disease, so up-to-date and accurate information is crucial to reduce its incidence and increase prevention. Knowledge of the origins and exposure points of *Legionella* throughout the water system help us to understand how best to prevent its spread.



preventlegionnaires.org



#2 SOURCE WATER TREATMENT

The water we use, collected from lakes, rivers and reservoirs, is known as **source water**. Source water naturally contains bacteria and nutrients. To protect public health it is treated and filtered* to limit the levels of contaminants, per the Safe Water Drinking Act.

#3 PUBLIC WATER TREATMENT

After collection and treatment, source water enters the **public water system**. Opportunities exist for *Legionella* and other bacteria to colonize and reproduce in the public water system. Pipe biofilm and corrosion, potential low chlorine levels and stagnant water all contribute to growth. It is critical to design, manage and maintain new distribution systems, as well as upgrade and repair older ones, to limit the growth of bacteria.

#4 BUILDING WATER SYSTEMS

Multi-story buildings are at greater risk of water-borne bacteria than smaller buildings, as the complexity of their piping provides more opportunity for bacterial growth. The exposure points in a **building water system** are numerous, from showers, baths and drinking water to ice machines, faucets, and cooling equipment. A multi-disciplinary team has developed ASHRAE Standard 188 for risk management of building water systems.

#5 WATER EQUIPMENT MANAGEMENT

Proper selection, placement, maintenance, treatment, monitoring, and management of **water-based equipment**, such as medical equipment, humidifiers, misters, hot tubs and pools, can further reduce the risk of exposure to water-borne *Legionella* bacteria.

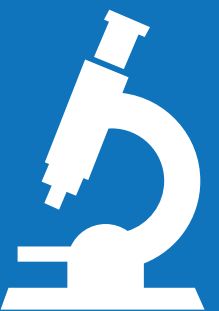
#6 TESTING PROCEDURES



When Legionnaires' disease clusters or outbreaks are reported, it is crucial to determine the point of exposure by **testing** all water sources within the water system.* When the exposure point is found, it can be treated to stop the spread. Prematurely ending an investigation with the first positive sample may lead to further outbreaks which could occur unexpectedly, even months later, as multiple exposure points to bacteria are possible within one water system. Failure to test throughout the system may result in inconclusive or incorrect findings, or mis-identification of the source of the bacteria that caused the illness.

*Currently, single cases are rarely investigated, except in healthcare facilities.

#7 ONGOING RESEARCH



As Legionnaires' disease is a relatively newly discovered disease, ongoing **research** is imperative to better understand its causes, prevention and treatment. New studies and their findings are published periodically and it is important that this new information is communicated to dispel myths with proven measures for combatting the disease.

*New York City does not filter 90% of its water, having been given an exemption from the EPA if the water meets certain criteria, including residual disinfectant concentrations, and not being identified as a source of a waterborne disease outbreak.