

Dear Senators John Kane, Wayne Fontana, Katie Muth, and the members of the PA Senate Democratic Policy Committee

My name is Dr. Janet E. Stout. I am considered one of the worlds authorities on *Legionella* diagnosis, detection, prevention and control. My first publication was in the New England Journal of Medicine in 1982 and was entitled “The Ubiquitousness of Legionella in the Water Supply of a Hospital with Endemic Legionnaires’ disease”. Since then, I have authored over 100 publications and book chapters about Legionnaires’ disease and its prevention.

I bring this experience to the committee today in support of PA senate Bill 1285 and the following is my written testimony for the policy committee hearing on May 5, 2021.

Thank you very much for allowing me to speak today in favor of Senate Bill 1285 – An Act Providing for Legionnaires’ disease prevention and reporting and imposing duties on the Department of Environmental Protection and the Department of Health.

This Act will require action by owners or operators of public water systems and certain buildings to take action to prevent and control cases of Legionnaires’ disease in the State of Pennsylvania.

Why Is This Act Necessary?

1. Legionnaires’ disease is increasing. The Centers for Disease Control and Prevention (CDC) has reported increases of over 200%, and Pennsylvania has some of the highest rates of illness year after year.
2. This trend of increasing illness and death from *Legionella* pneumonia has continued despite guidance from the CDC, CMS, The Joint Commission and voluntary industry standards such as ASHRAE Standard 188.
3. In part, this failure has resulted from reliance on other organizations to institute the most common sense and effective measures to assess risk in hospitals and

other at risk buildings. Testing for *Legionella* is the only direct way to know whether *Legionella* is present.

4. These organizations have opted to leave testing “at the discretion of the facility”. When given a choice, they opt not to test for *Legionella* and the risk to patients in hospitals and nursing homes goes undetected until someone contracts the disease. The risk of death is as high as 30% for healthcare-acquired Legionnaires’ disease, so leaving testing to the discretion of the facility means a dangerous condition remains undetected.
5. Water treatment professionals that recognize the need to test cooling towers and healthcare facility water systems for *Legionella* are told by their clients not to test. They need the job, so they comply.
6. **This Act will make *Legionella* testing a required part of Legionella water management, will protect Pennsylvanians and will bridge the regulatory gap that now exists.**
7. **Personally, I believe that Pennsylvania should be among the first to adopt proactive preventive legislation for the following reasons:**
 - a. **The disease was discovered after an outbreak among attendees of the American Legion convention in Philadelphia in 1976.**
 - b. **The first guideline for prevention of healthcare-associated Legionnaires’ disease was written in Allegheny County PA and is the basis for other guidance in the U.S. and world-wide.**
 - c. **PA should continue to lead the nation in *Legionella* prevention.**

This PA Act Comports with Existing Public Health Laws in New York

PA Bill 1285 is not going out on a new limb by advancing public health law for the prevention of building and healthcare-acquired Legionnaires’ disease. Following one of the largest outbreaks of Legionnaires’ disease in U.S. history, New York instituted public health measures to prevent this disease. New York State included both cooling tower requirements as well as requirements for healthcare facilities to address *Legionella* risk by testing their water systems for *Legionella*. Healthcare facilities house people at great risk of getting Legionnaires’ disease if exposed to *Legionella* bacteria in the facility

water system. Special requirements for diagnosis and testing of the water are imperative for protecting this vulnerable population.

The Why, What and How of *Legionella* Testing

It is simple. The CDC states that any *Legionella* species can under the right conditions cause disease. See attached excerpts from the CDC website that include all *Legionella* species in case detection. This is especially true in healthcare facilities where outbreaks of disease have been caused by both *Legionella pneumophila* (Lp) and other *Legionella* species (Non-Lp).

Assessing risk and linking disease from the patient to the suspected environmental source requires the same methods and same ability of the test method to detect any *Legionella* species, whether *Legionella pneumophila* or other non-pneumophila *Legionella* species.

Some will argue that because most illness is caused by *Legionella pneumophila*, we should limit testing to only this member of the *Legionella* family. This might be supported by industry that have products that detect only *Legionella pneumophila*, but it would not be supported by the CDC.

The testing for a pathogen with such serious public health and legal implications should not be a DIY activity. It should be performed in an accredited laboratory. Including information about laboratory accreditation and proficiency will assure the person submitting a sample for analysis that the results are trustworthy and accurate. The gold standard for testing is a culture-based method described in an international and vetted method (ISO Standard 11731:2107).

These *Legionella* culture samples should be sent to a laboratory is reputable, accredited to a state's environmental laboratory approval program for *Legionella* testing, and deemed proficient in isolating all species of *Legionella* by the CDC's Environmental *Legionella* Isolation Techniques Evaluation (ELITE) program or the Public Health of England's *Legionella* Isolation Scheme.



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I applaud your efforts in working towards making Pennsylvania a safer environment for its vulnerable citizens by requiring action to prevent and control Legionnaires' disease.

Thank you for your time and attention,

A handwritten signature in black ink, appearing to read 'Janet Stout', written in a cursive style.

Janet E. Stout, PhD
President and Director
Special Pathogens Laboratory

REFERENCES

Allegheny County Health Department. Approaches to prevention and control of *Legionella* infection in Allegheny County Health Care Facilities. 2nd ed. Pittsburgh, PA: Allegheny County Health Department; 1997. p.1–15.

ASHRAE. ANSI/ASHRAE Standard 188-2018. In: Legionellosis: Risk management for building water systems. Atlanta, GA: American Society of Heating, Refrigerating and Air-Conditioning Engineers; 2018.

CDC Link for 2021 *Legionella* Tool Kit. <https://www.cdc.gov/legionella/wmp/control-toolkit/index.html>

Wright DR, Centers for Medicare & Medicaid Services. Requirement to reduce *Legionella* risk in healthcare facility water systems to prevent cases and outbreaks of Legionnaires' disease (LD). In: S&C 17-30-Hospitals/CAHs/NHs. 2017.

Local Laws of the City of New York, No. 77, Article 317 Cooling Towers. 2015.

Part 4—Protection Against Legionella; 2016. Volume A (Title 10), R. New York Codes, and Regulations, Editor, New York State.

From The Centers for Disease Control and Prevention (CDC)

<https://www.cdc.gov/legionella/health-depts/surv-reporting/case-definitions.html>

Laboratory Criteria for Diagnosis Not Limited to *Legionella pneumophila* (Lp) and Includes Other Non-pneumophila species (Non-Lp)

Case Definition for Case Classification

The following are descriptions of criteria to determine how a case of legionellosis should be classified.

Clinical Description

Legionnaires' disease: Legionnaires' disease presents as pneumonia, diagnosed clinically and/or radiographically. Evidence of clinically compatible disease can be determined several ways: a) a clinical or radiographic diagnosis of pneumonia in the medical record OR b) if "pneumonia" is not recorded explicitly, a description of clinical symptoms that are consistent with a diagnosis of pneumonia

Confirmed:

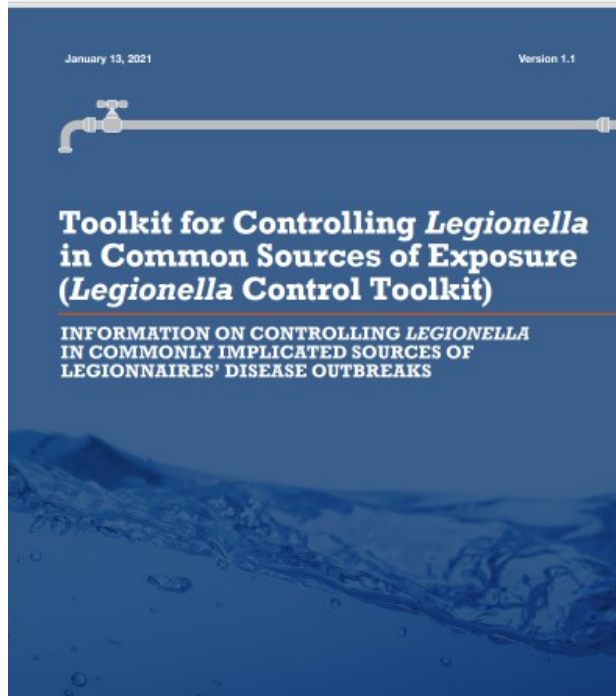
- Isolation of **any *Legionella* organism** from lower respiratory secretions, lung tissue, pleural fluid, or extrapulmonary site

Suspect:

- Fourfold or greater rise in antibody titer to **specific species** or serogroups of *Legionella* other than *L. pneumophila* serogroup 1 (e.g., *L. micdadei*, *L. pneumophila* serogroup 6)
- Fourfold or greater rise in antibody titer to **multiple species of *Legionella* using** pooled antigens

CDC Legionella Guidance for Water Management

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



CDC Link for 2021 *Legionella* Tool Kit



<https://www.cdc.gov/legionella/wmp/control-toolkit/index.html>

Testing can be useful for routine and non-routine purposes, such as:

- Establishing a baseline measurement for performance indicators
- Validating a WMP
- Evaluating potential growth and transmission sources
- Confirming success or failure of remedial treatment
- Investigating potential sources of environmental exposure for persons with disease

Routine testing can be beneficial for certain types of facilities, such as:

- Facilities that house or treat individuals at increased risk for Legionnaires' disease (e.g., senior communities, outpatient clinics)
 - **Note; This would include healthcare facilities described in The Joint Commission (TJC) Environmental Policy Standards and the 2017/2018 Centers for Medicare and Medicaid (CMS) memorandum*
- Facilities unable to meet control limits consistently
- Facilities with a history of associated Legionnaires' disease cases

Choosing an Environmental Laboratory

Accreditation by a regional, national, or international accrediting body to a recognized standard for routine Legionella test methods, such as ISO/IEC 17025

**Note: ISO Standard 17131:2017 specifies culture methods for isolation of Legionella and estimation of numbers in water samples.*

Capability of retaining Legionella isolates from samples for additional characterization

Capacity to perform additional characterization as needed by the submitter
Legionella

Results of *Legionella* Testing

- Results of *Legionella* testing alone do not provide a measure of health risk and are not predictive of disease. There is no "safe" amount or type of *Legionella*.
- Results have been interpreted in the toolkit based on concentration (e.g., CFU/mL), extent of colonization (e.g., % positive), and type of *Legionella* (e.g., *Legionella pneumophila* serogroup 1 vs other species, serogroups, or sequence types)
- The presence of any *Legionella* should trigger response activities.

International Standards Organization (ISO) Standard 17131 for Isolation of Legionella: Legionella Species (Non-Lp) Cause Human Disease

ISO 11731:2017(E)

Table A.1 — Legionella species associated with disease

<i>L. anisa</i>	<i>L. erythra</i>	<i>L. longbeachae</i>	<i>L. pneumophila</i>
<i>L. birminghamensis</i>	<i>L. feeleii</i>	<i>L. lytica</i>	<i>L. sainthelensi</i>
<i>L. bozemanii</i>	<i>L. gormanii</i>	<i>L. maceachernii</i>	<i>L. steelei</i>
<i>L. cardiaca</i>	<i>L. hackeliae</i>	<i>L. micdadei</i>	<i>L. tusconensis</i>
<i>L. cincinnatiensis</i>	<i>L. jordani</i>	<i>L. nagasakiensis</i>	<i>L. wadsworthii</i>
<i>L. clemensonensis</i>	<i>L. lansingensis</i>	<i>L. oakridgensis</i>	
<i>L. dumoffii</i>	<i>L. londiniensis</i>	<i>L. parisiensis</i>	
NOTE In addition, <i>L. waltersii</i> has been detected by polymerase chain reaction (PCR) from a clinical sample.			