

MEMORANDUM

TO: PA Senate Democratic Policy Committee
FROM: Patsy Root, Regulatory Affairs Manager, MS
IDEXX Water
Westbrook, ME 04092

DATE: May 5, 2021

Regarding: The Legionnaires' Disease Prevention and Reporting Act (SB 1285- 2019/20 Legislative Session)

Good morning Senator Fontana, Chairwoman Muth and esteemed members of the Senate Democratic Policy Committee. I appreciate the opportunity to appear before you today and to submit these written comments pertaining to SB 1285 from the 2019-20 legislative session. IDEXX is supportive of Senator Fontana's efforts to prevent and mitigate Legionnaires' disease (LD) and our testimony presented outlines concerns and consideration of potential amendments to further strengthen the introduction of legislation in the current legislative session that best protects the citizens of Pennsylvania from LD.

My name is Patsy Root and I am the Regulatory Affairs Manager for IDEXX in North America. My area of expertise and employment directly correlate to the content and intent of SB 1285 from the 2019-20 legislative session. Throughout my tenure with IDEXX, I have participated in writing accredited standards, guidelines, and have provided free education on effective Water Management Plans (WMPs) that can protect people from water containing *Legionella pneumophila* bacteria, the causative agent of LD¹. IDEXX Water has supported global research and education on preventing LD with organizations such as US Environmental Protection Agency (EPA), Centers for Disease Control (CDC), Veteran's Administration, various state public health departments, the World Health Organization (WHO), and it has collaborated with many other scientific experts in this specific field. We are pleased to share what we have learned over years to assist Pennsylvania public policy makers with developing health policies that protects public health, is cost effective, and can easily be implemented in the Commonwealth.

Today, I would like to discuss three distinct provisions contained within SB 1285 from the 2019-20 legislative session that could lessen the economic impact and implementation burdens to Commonwealth building owners while still ensuring Pennsylvania citizens are protected from LD. The three areas of concern and proposed legislative amendments that I will present for your consideration include:

1. Focusing on prevention and routine testing to reduce the incidence of *Legionella pneumophila* bacteria in water,
2. Removing business barriers by replacing the requirement for CDC ELITE certification with the existing PA Department of Environmental Protection (DEP) laboratory accreditation process; and
3. Removing the duplicative disinfectant residual minimum from the current language and, instead, require DEP to investigate prevalence and occurrence of *L. pneumophila* in public water systems and report to the General Assembly, recommendations to assess and lower the risk of infection, which may include testing for *L. pneumophila* in public water systems.

By way of background, *Legionella pneumophila*, is a significant and dangerous waterborne bacterium and the causative agent of Legionnaires' Disease^{2a, 2b}, a severe form of pneumonia contracted by breathing in water mist or vapor that contains the *L. pneumophila* bacteria into the lungs. Some examples of exposure to *L. pneumophila* in water include inhaling shower mist, toilet tank flush, cooling tower or hot tub vapor or inhaling aerosolized water from similar devices. Those at highest risk for LD include people over 50, current or former smokers, and especially immunocompromised individuals, including those who have recovered from COVID-19. The death rate from LD can be as high as 33%¹ with highest rates occurring in healthcare settings. Fortunately, the US CDC has clearly stated that LD is 90% preventable³ through the implementation of water management plans (WMPs) that effectively reduce the risk of bacteria in the water that can become aerosolized and inhaled. Several countries around the globe, and some states and local municipalities throughout the United States have adopted regulations to prevent LD, some with more success than others. Those areas doing the best at prevention have focused regulatory activity on reducing *L. pneumophila* in water. To this regard, IDEXX proposes the following amendments to SB 1285 from the 2019-20 legislative session.

RECOMMENDATION #1: FOCUS ROUTINE TESTING ON LEGIONELLA PNEUMOPHILA

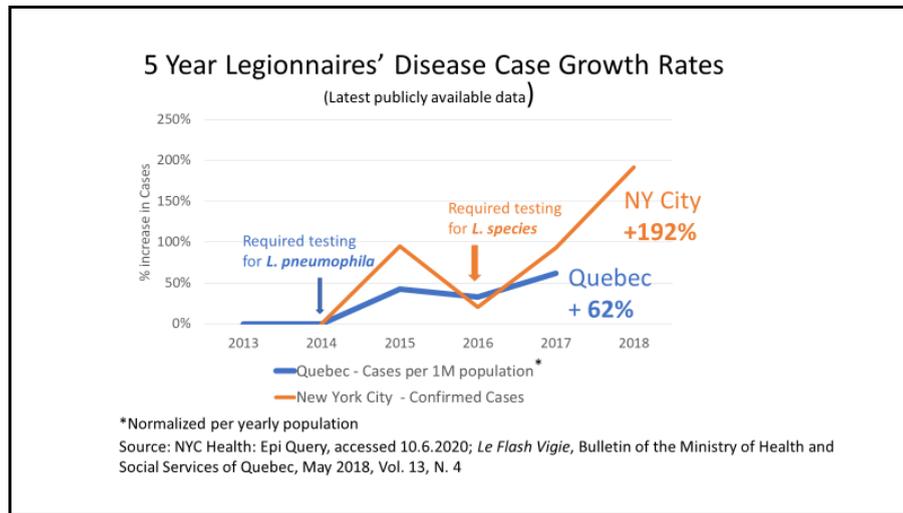
Focusing legislation on the prevention of LD by controlling *Legionella pneumophila* ensures buildings are tested for the most dangerous pathogen species; it does not preclude additional testing for other species or pathogens, if the WMP team chooses, but it does set a minimum protection level. Today, even as buildings have stood empty, and with a significant number of Pennsylvania residents who have recovered from COVID-19, the risk of this disease is far higher now than prior to the pandemic.

Why test for *Legionella pneumophila* rather than all Legionella species?

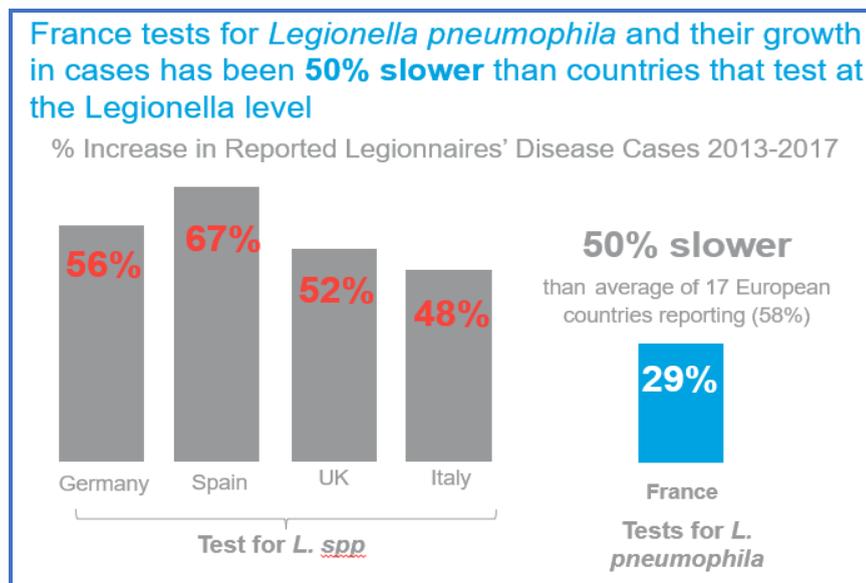
1. *Legionella pneumophila* causes almost every case of LD.
 - A. US CDC Outbreak Data 2009-2017⁴ show *L. pneumophila* is the pathogen of highest concern. The CDC defines LD outbreaks as two or more people who are exposed and get sick about the same time and has published data for 290 outbreaks affecting 1,917 patients.
 - *L. pneumophila* caused all the outbreak deaths where a cause was determined.
 - Only 0.6% of the outbreaks were defined as non-pneumophila Legionella. These non- *L. pneumophila* cases affected two patients, and both occurred in settings in which *L. pneumophila* was also found.
 - B. 97.3% of LD cases, which were confirmed by a clinical culture (which means they looked for any type of Legionella in the patient), were caused by *L. pneumophila*. That number represents 4,719 Total Cases (Outbreak and Sporadic) from 17 countries (2009-2015).^{5, 6}
 - C. Over a 10-year period across all of Europe, 99.6 % of the Legionnaire' disease cases associated with healthcare facilities were caused by *L. pneumophila* 2008-2017 (98.1% of the cases with culture test results).⁷
 - D. In September 2016, the WHO recommended focusing on: "*monitoring and target setting on Legionella pneumophila since this is the causative agent of legionellosis, and not Legionella spp., since this genus contains many species that do not cause the illness.*"⁸

2. **Regulation in other areas demonstrate the effectiveness of focusing on managing *L. pneumophila*.** Research and data support that risk-reduction measures focused on reducing and testing for *L. pneumophila* are effective public health policies. For example:

A. **New York vs. Quebec:** Both have cooling tower regulations to prevent LD. However, by focusing on mitigating and testing for *L. pneumophila*, Quebec is doing much better at protecting its citizens than New York:



B. **France vs. other EU Countries:** France manages and tests for *L. pneumophila* and has slowed the increase of LD to ½ the rate of England and neighboring countries that test for Legionella species.^{5,6}



3. **Focusing testing on *L. pneumophila* makes it easier for regulated communities to support and comply with prevention and mitigation efforts.** This results in more effective and efficient

implementation and risk reduction efforts. There is 60+ species of Legionella, most of which have no major disease implications at all.⁹ In our experience, broader species-level testing can lead to the unnecessary shut down and disinfectant of a water system after detection of a non-pathogenic Legionella species, which can lead to higher levels of non-compliance and increased public health risk, as well as much higher costs. In contrast, managing a clear target (*L. pneumophila*) produces targeted actions – if you find *L. pneumophila*, there is no gray area, we know it is deadly and you need to take the action spelled out in your WMP. Again, nothing IDEXX is proposing would preclude a WMP team from choosing to do more testing, rather, every WMP must test for *L. pneumophila* first and foremost to reduce adverse health risks. If a specific level of *L. pneumophila* is present, then it must be immediately corrected according to the building's WMP.

Because it is much more common to find Legionella species found in buildings than to find *L. pneumophila* specifically, with the current wording of this bill, building owners could find themselves constantly remediating unnecessarily, resulting in the loss of precious time and financial resources that could be better spent elsewhere. Failing to specifically focus testing on *L. pneumophila* also serves as a disincentive for building WMP teams to test and act in areas with high potential for contamination and infection. It will be tempting for WMP teams to try to avoid getting any positive results because they do not think the action or remediation steps are needed. Even healthcare professionals agree that focusing on *L. pneumophila* not only protects their patients, personnel and guests but also controls their cost of compliance. I'll quote a board certified Infection Preventionist that I worked with on setting up his hospital's water management plan who gave me this opinion: “[I] discussed this with his CMO and Infectious Disease doctors, to make sure he wasn't missing anything from the medical practitioner point of view. This more specific testing [on *L. pneumophila*] will focus on the most likely causative agent in the outbreak, and not distract the focus to much less likely agents that merely add cost to the investigation.”

In summary, the data and research support and IDEXX endorses focusing the introduction of any LD prevention legislation that includes routine testing to specifically mitigate *Legionella pneumophila* to protect the public, manage costs, and increase compliance by impacted building and water system owners.

RECOMMENDATION #2: REMOVE BUSINESS BARRIERS AND LEVERAGE EXISTING DEP PROCESSES BY REMOVING CDC ELITE REQUIREMENTS

SB 1285 from the 2019-20 legislative session specifically requires any laboratory performing Legionella testing to maintain CDC ELITE certification. IDEXX believes that this requirement is unnecessary. Striking this provision and inserting a more general requirement that laboratories maintain accreditation through the PA DEP would reduce barriers to entry for many businesses to conduct the necessary Legionella testing to protect the public. Legionella testing is not specific to one testing method or laboratory and the amendment to SB 1285 from the 2019-20 legislative session that IDEXX is proposing would increase the opportunity for any PA DEP accredited laboratory to offer these services, which increases choices for building owners and drives their compliance costs down because there will be more laboratories to solicit testing from for price comparisons. Moreover, the replacement of the CDC ELITE certification provision with language that requires PA DEP laboratory or comparable accreditation better ensures data quality and comparability for

building owners and managers and is consistent with the national ASHRAE 188 Standard which covers LD risk reduction. Accreditation through PA DEP requires far more stringent quality control measures in the laboratory than ELITE certification, including the requirement to pass biannual, accredited proficiency tests that are available to clients.

RECOMENDATION #3: REQUIRE DEP TO BETTER UNDERSTAND THE PUBLIC WATER RISK CONTRIBUTION AND DEVELOP MITIGATION STEPS

Outbreaks of LD have been associated with growth of *L. pneumophila* in utility distribution systems^{10, 11}. *L. pneumophila* grow best in warm water, typically greater than 77°F, although it's been detected in drinking water supplies when water temperatures were as low as 65°F^{12, 13}. Given these observations it makes sense to suggest the PA DEP consider requiring testing for *L. pneumophila* when disinfectant residuals are less than 0.2 gm/L and when water temperatures are 65°F or greater. This requirement to test for *L. pneumophila* when disinfectant residuals are low and water temperatures are warm will reduce the cost burden on water utilities and focus the monitoring when the risk of *L. pneumophila* growth can be the highest. Additionally, this is consistent with the recommendation from the National Academy of Science report on Legionella (page 263) that stated, "EPA should require a minimum disinfectant residual throughout public water systems and validate treatment performance by routine monitoring for *L. pneumophila* from sampling sites representative of the distribution system"¹.

Again, thank you for allowing me to share my expertise and proposed revisions to SB 1285 from the 2019-20 legislative session which include:

1. Focus risk mitigation and routine testing on *L. pneumophila* to best protect public health, control costs, and encourage both implementation and compliance as demonstrated by other countries and organizations utilizing this approach, and
2. Replace CDC ELITE laboratory certification requirements with the existing PA DEP laboratory accreditation program to support Pennsylvania programs and businesses, and
3. Allow PA DEP to investigate and develop regulations or policies that direct public water systems to understand and implement measures to reduce *L. pneumophila* in public drinking water.

I welcome the opportunity to answer any questions Senator Fontana, Chairwoman Muth or any other esteemed member of the Senate Democratic Policy Committee may have with regards to my testimony. IDEXX looks forward to working with Pennsylvania public policy makers in shaping the introduction of legislation in the current legislative session and I vow to personally avail myself to be a resource to Senator Fontana and the members of the Committee as it continues its deliberations on this vital public health policy initiative.

Respectfully submitted,



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