

November 10, 2021

The Honourable Minister Steve Clark
Minister of Municipal Affairs and Housing
777 Bay Street, 17th Floor
Toronto, ON M5G 2E5

Dear Minister Clark:

Re: Implementation of a Province-Wide Mandatory Cooling Tower Registry

The Board of Health for the Simcoe Muskoka District Health Unit (SMDHU) is concerned that the burden of *Legionella* infections is underestimated and rising in Ontario. To protect Ontarians from potentially fatal disease, strategies mitigating the risk of *Legionella* spread from cooling towers are needed. Given operational considerations and the knowledge gaps that persist in the literature, the implementation of a province-wide mandatory cooling tower registry is recommended as a first step towards improving the control of *Legionella* in the province.

Legionella bacteria are ubiquitous in freshwater environments and can replicate under favorable conditions in water distribution and plumbing systems, posing a risk to people. Cooling towers, notably, can cause significant community outbreaks of *Legionella* infections via spread of contaminated water particles over distances of several kilometers. The lack of a provincial requirement for a cooling tower registry means public health units must deploy considerable time and resources to identify potential cooling tower sites, delaying public health action when clusters of cases of Legionnaires disease require investigation.

The City of Hamilton is the only jurisdiction in the province that requires registration of all cooling towers with local authorities.ⁱ Across Canada, the City of Vancouver has recently adopted similar municipal requirements. Quebec is the only province that mandates registration of all cooling towers.ⁱⁱ This requirement was imposed following a significant outbreak in Quebec City involving 167 cases including 14 deaths. Relying on local by-law creation in Ontario would be impractical and resource intensive, particularly for public health units such as SMDHU which has jurisdiction across many municipalities.

Provincial rates of *Legionella* infections are increasing. There were over 300 cases of Legionellosis reported in both 2018 and 2019 across the province, while previous years had an average of around 160 cases. These are the highest rates of Legionellosis reported in Ontario in recent history.ⁱⁱⁱ Since 2006, 9 declared outbreaks or clusters of legionellosis have occurred in the province.^{iv} One of the most serious *Legionella* outbreaks in Ontario occurred in 2005 in a Toronto Long-Term Care facility, where 135 people including 70 residents were infected and 23 residents died.^v Our experience in Simcoe Muskoka mirrors the provincial trend. In 2019, Simcoe Muskoka reported 20 cases, which is the most cases on record for the region in a single year. 2018 was also an exceptionally high year with 10 cases reported, and the five-year average for 2013-2017 was 4.4 cases per year for Simcoe Muskoka. Fifteen (15) of the cases reported in 2019 were tied to two clusters investigated by the SMDHU in the cities of Barrie and Orillia. Both clusters were hypothesized to be caused by aerosolization of contaminated water particles originating from cooling towers (a cooling tower origin was confirmed for Orillia via

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□ **Cookstown:**
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□ **Gravenhurst:**
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705-684-9090
FAX: 705-684-9887

□ **Huntsville:**
34 Chaffey St.
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705-789-8813
FAX: 705-789-7245

□ **Midland:**
A-925 Hugel Ave.
Midland, ON
L4R 1X8
705-526-9324
FAX: 705-526-1513

□ **Orillia:**
120-169 Front St. S.
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genetic sequencing). A combined 67 sites were investigated for possible cooling tower presence across both municipalities.

Given the increasing threat of *Legionella* infections provincially and the resource-intensive nature of *Legionella* cluster investigations in the absence of a province-wide cooling tower registry, we urge your ministry to consider the following recommendations:

1. Create a province-wide mandatory cooling tower registration system; and,
2. Mandate a risk management plan for cooling towers to operate. Basic elements of the risk management plan may include:
 - i. Documented system maintenance requirements, including scheduled inspection.
 - ii. Specified routine water treatment protocols, including chemical treatment or other specialized treatment equipment. The goals of a water management plan are to extend equipment life, minimize energy consumption, minimize water consumption, and maintain a safe environment.
 - iii. System standby and shutdown protocols.
 - iv. Disinfection protocols to remedy deviations from expected standards on routine monitoring, including when disinfection is urgently required.
 - v. Contingency response plan in the event of known or suspected cases of Legionellosis.

A province-wide cooling tower registry with required registration for all cooling tower owners and mandated implementation of a risk management plan for each cooling tower are first steps toward shifting away from a purely reactionary approach to the control of *Legionella*. These two requirements can serve as necessary building blocks for control measures for cooling towers, which include routine environmental sampling, reporting, and auditing to further support a comprehensive risk management plan for cooling towers.

Thank you for considering these recommendations.

Sincerely,

ORIGINAL Signed By:

Anita Dubeau
Chair, Board of Health

cc: Honourable Christine Elliott, Deputy Premier and Ontario Minister of Health
Honourable David Piccini, Minister of Environment Conservation and Parks
Dr. Kieran Moore, Chief Medical Officer of Health
Loretta Ryan, Executive Director, Association of Local Public Health Agencies
Jamie McGarvey, President, Association of Municipalities of Ontario
Members of Provincial Parliament for Simcoe and Muskoka
Mayor and Council of Simcoe and Muskoka

References

ⁱ City of Hamilton. BY-LAW NO. 11-078 Respecting the Registration of Cooling Towers [2011 Mar 9; last accessed 2021 Oct 13]. <http://www2.hamilton.ca/NR/rdonlyres/C6483866-A515-45B5-A4CD-211412EF7E68/0/11078.pdf>

ⁱⁱ Règlement modifié ant le Code de sécurité. Loi sur le bâtiment (chapitre B-1.1) Gazette officielle du Québec. (2014) 146 G.O.Q. II. Décret 454-2014, 21 mai 2014. <http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=1&file=61543.pdf>

ⁱⁱⁱ Ontario Agency for Health Protection and Promotion (Public Health Ontario). *Infectious Disease Trends in Ontario*. Extracted: November 4, 2021. <https://www.publichealthontario.ca/en/data-and-analysis/infectious-disease/reportable-disease-trends-annually#/31>

^{iv} Integrated Public Health Information System (iPHIS) [2006-September 2021]. Ontario Ministry of Health extracted October 8, 2021.

^v Henry B, Young J, Walker D. Report card: progress in protecting the public's health. Report of the expert panel on the Legionnaires' disease outbreak in the City of Toronto-September/October 2005 [Internet]. Toronto, ON: Queen's Printer for Ontario; 2005. Available from: https://cdn.ymaws.com/www.alphaweb.org/resource/collection/822EC60D-0D03-413E-B590-AFE1AA8620A9/EPLDO_report_ExpertPanelOnLegionnairesDiseaseOutbreak_05-12-2005.pdf or https://www.health.gov.on.ca/en/common/ministry/publications/reports/walker_legion/rep_intro.aspx