

Disposition of Resolutions
2022

Resolutions Session
2022 Annual General Meeting
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Online

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alPHa
Association of Local PUBLIC HEALTH Agencies

alPHa RESOLUTION A22-1

TITLE: **Race-Based Inequities in Health**

SPONSOR: **Council of Ontario Medical Officers of Health**

WHEREAS the goal of public health is to reduce health inequities and improve the health of the whole population; and

WHEREAS this goal is mandated in the Ontario Public Health Standards; and

WHEREAS pre-existing health, social and economic disparities have been highlighted and deepened by the pandemic; and

WHEREAS evidence shows that racialized populations and low-income groups have suffered disproportionate harm related to COVID-19; and

WHEREAS alPHa denounces systemic racism and discrimination in all its forms and, instead, embrace diversity, in all its dimensions, as an asset and seek to promote respect for all; and

WHEREAS Ontario's anti-racism strategic plan includes the development of a disaggregated race data collection framework and guidelines to understand and address the adverse impacts of systemic racism; and

WHEREAS local public health agencies strive for equity and inclusion in our work environment in order to effectively deliver services to the communities we serve; and

WHEREAS local public health agencies have demonstrated the utility of systematic collection of sociodemographic data and its successful use to inform public health action so as to improve health outcomes and reduce inequities (for example, in the recent COVID-19 vaccination efforts);

THEREFORE BE IT RESOLVED THAT alPHa call on the Ministry of Health to work with stakeholders and communities to explore methods, supports, and resources to more systematically collect socio-demographic data including race, within the provincial health services and to make this data routinely available to local Public Health Units for assessment and planning, to ensure that we are deploying resources to the populations with the greatest need, supporting culturally safe public health services and preserving the capacity of the health care system.

CARRIED

alPHa RESOLUTION A22-2

TITLE: **Public Health Restructuring/Modernization & COVID-19**

SPONSOR: **Peterborough Public Health**

WHEREAS the Province of Ontario has indicated its intention to "modernize" the process of public health delivery in Ontario; and

WHEREAS the consultations led by Mr. Jim Pine on behalf of the Province were interrupted by the emergence of the COVID-19 pandemic; and

WHEREAS public health has been significantly impacted both in the short and long term by the COVID-19 pandemic; and

WHEREAS there is a need to close the program deficit created during the last 28 months addressing COVID-19; and

WHEREAS there are significant lessons to be learned from addressing COVID-19; and

WHEREAS there is a need to engage municipal partners in any proposed financial changes to funding public health;

THEREFORE BE IT RESOLVED that the Association of Local Public Health Agencies (alPHa) send formal correspondence to the Premier of Ontario, the Minister of Health of Ontario, and the Chief Medical Officer of Health of Ontario insisting that, prior to continuing with any renewal initiatives and/or implementing lessons learned from COVID-19, a new round of consultation with local public health agencies (LPHAs), alPHa, the Association of Municipalities of Ontario (AMO), the Ministry of Health and other relevant parties be conducted, and

AND FURTHER THAT alPHa take the position that the Ontario public health mandate as currently outlined in the Ontario Public Health Standards not be altered or diminished in an effort to achieve budget reduction targets, and that the Province continues to financially support LPHAs, in an adequate and predictable manner, to implement the Standards and not require municipalities to increase the percentage of their contribution, and

AND FURTHER THAT alPHa promote the following principles as fundamental to addressing modernization and COVID-recovery activities:

- That the recommendations, as outlined in the January 2022 alPHa Public Health Resilience in Ontario be given full consideration by the provincial government;

- That the current mitigation funding be continued until such time as the cost-shared arrangement is reset to 75/25 for all cost-shared programs and that the Province once again assumes 100% funding for those programs identified as such in the public health budget for 2018-19.

- That COVID recovery be supported by 100% one-time funding from the Province to assist LPHAs in addressing non-COVID program deficits.

- That any amalgamation of existing public health units group units together that have similar communities of interest.

- That any reform of public health includes a local governance model.

- That the unique challenges of rural and urban communities be distinctly incorporated in any re-organization or modernization initiatives.

- That any re-organization, modernization or recovery initiatives be implemented with the meaningful participation of First Nations and Indigenous peoples.

- That alPHa is committed to working collaboratively with Ontario Health and health system partners to contribute to a health system that addresses inequities identified prior to and amplified by the COVID-19 pandemic.

CARRIED AS AMENDED

alPHa RESOLUTION A22-3

TITLE: **Provincial Cooling Tower Registry for the Public Health Management of Legionella Outbreaks**

SPONSOR: **Simcoe Muskoka District Health Unit Board of Health**

WHEREAS Legionella can cause fatal disease and cases of Legionellosis remain underreported in the province of Ontario;

WHEREAS The burden of Legionellosis is increasing and is expected to continue to increase in the context of climate change;

WHEREAS Most non-healthcare-associated Legionellosis deaths are attributable to spread of Legionella from cooling towers by aerosolization;

WHEREAS Public health units must search for and identify cooling towers for environmental sampling and possible remediation in the context of community Legionella outbreaks, which delays remediation actions and causes considerable resource expenditure by public health units;

WHEREAS Legionella outbreak investigation and control could be streamlined if a province-wide cooling tower registry existed, yet no such registry exists;

THEREFORE BE IT RESOLVED that the Association of Local Public Health Agencies (alPHa) write to the Minister of Municipal Affairs and Housing recommending the creation of a province-wide mandatory cooling tower registration system and mandating a risk management plan for cooling towers to operate;

AND FURTHER that the Minister of Health, the Minister of Environment Conservation and Parks, and the Chief Medical Officer of Health of Ontario be copied.

CARRIED

BACKGROUND:

PROVINCIAL COOLING TOWER REGISTRY FOR THE PUBLIC HEALTH MANAGEMENT OF LEGIONELLA OUTBREAKS

1. The burden of Legionella

Legionella bacteria are gram-negative aerobic bacilli that are ubiquitous in freshwater environments such as ponds, rivers, and lakes (1). Their ability to survive in biofilm and to reproduce within certain protozoa makes them resistant to chlorination and other traditional water disinfection protocols, enabling replication within plumbing systems (2), hence their designation as opportunistic premise plumbing pathogens. Most human infections are caused by Legionella pneumophilia serogroups, though other legionellae species have been involved in human disease (3).

Legionella infection occurs primarily through inhalation of aerosolized water droplets and manifests as two distinct clinical syndromes in humans (1). Pontiac fever is generally mild in nature, self-resolving, involving febrile illness and muscle aches. Symptoms generally begin within 24 to 72 hours post exposure (4). Legionnaire's disease is a type of pneumonia that often manifests with overlapping systemic symptoms and can be severe. Hospitalization is common, and up to 10% of community-acquired cases (non-healthcare associated) are fatal (4). Risk factors for severe disease include age over 50, smoking, chronic lung disease, immunize system compromise, malignancy, or other chronic illness such as diabetes, renal failure, or hepatic failure (5). Cases of Legionnaire's disease are underreported because symptoms are non-specific, overlap significantly with those of other bacterial pneumonias, and Legionella testing is not performed routinely (6,7).

Transmission of Legionella is determined by the presence or absence of conditions that promote growth of Legionella, aerosol generation, and human exposure to aerosolized water (8). Aerosolization of contaminated water particles may occur through potable water systems (e.g., shower), cooling towers, whirlpool spas, or through other water sources such as decorative fountains, sprinkler systems, safety showers and eyewash stations, humidifiers, and nebulizers (2). Water stagnation, temperatures between 25°C and 45°C, and plastic and rubber plumbing materials favor the colonization and growth of Legionella (2).

Sources of Legionella infections can be difficult to determine, but cooling towers have been identified as significant contributors to the burden of Legionella. A cooling tower is an evaporative heat transfer device that places warm water from a building water system into direct contact with atmospheric air. The water is cooled upon contact, and the heat rejected into the atmosphere via evaporation (8). Legionella bacteria present in the cooling tower can be aerosolized via this process and spread to distances of over six kilometers away (9). In a large database that compiles published Legionella outbreaks worldwide, an infectious source for Legionella outbreaks was identified 68% of the time. While potable water systems account for a greater proportion of outbreaks (63%) relative to cooling towers (34%), the overall number of cases attributable to cooling towers is larger than the number of cases attributable to potable water systems (10). A separate review attributed 60% of Legionella outbreak-related deaths to cooling towers (11).

The reported incidence of Legionnaire's disease has been increasing provincially. From 2015 to 2019, the annual incidence rate for Legionellosis in Ontario more than doubled, from 0.9 cases per 100 000 population in 2015 to 2.6 cases per 100 000 in 2019 (12). Rates in Simcoe Muskoka have also increased in recent years and have exceeded provincial rates. In 2019, Simcoe Muskoka reported 3.5 cases per

100, 000 population. There have been two recent Legionella outbreaks in the Simcoe Muskoka region. On September 4, 2019, the Simcoe Muskoka District Health Unit (SMDHU) received a report of a confirmed case of Legionellosis in the City of Orillia. This single case was later associated with a cluster of cases. In all, ten confirmed cases of Legionellosis were identified, with symptom onset ranging from August 9, 2019 to October 2, 2019. The investigation was completed on November 19, 2019. All ten cases required hospitalization and one death was reported. Thirty-nine locations were investigated for cooling towers within the Orillia area. Ten cooling towers in eight different locations were identified and sampled for Legionella. Of these, three cooling towers tested positive for Legionella, but only one of these samples matched the genetic sequence of Legionella found in two of the confirmed cases. As the cluster investigation in Orillia was being finalized, SMDHU received a report of a confirmed case of Legionellosis in the City of Barrie. Five cases were identified, with symptom onset between November 9, 2019 and December 12, 2019. All five cases required hospitalization, and two required admission to the intensive care unit. Twenty-eight cooling tower locations were identified by the SMDHU team as potential sources for the cases. Ultimately, ten cooling towers from 8 distinct locations were sampled for Legionella. Of the ten cooling towers sampled, three tested positive for Legionella spp. Further laboratory analysis with genomic sequencing showed no relation between the Legionella samples from the three cooling towers and confirmed cases.

Both clusters highlight the challenging nature of Legionella investigations. A necessary and time-consuming step in both investigations was the identification of operational cooling towers within a defined geographic area. A significant amount of time was spent in the search for potential cooling tower sites through a variety of means (including field assessments), which caused considerable delay in sampling of the potential sources of aerosolized Legionella and remediating towers with contamination.

The threat of Legionella is likely to increase in the context of climate change (13). Several empirical studies investigating the relationship between sporadic, community acquired Legionnaires Disease (LD) and meteorological variables were identified (14, 15, 16, 17, 18, 19, 20, 22, 23). Overwhelmingly, these studies found that increases in temperature, humidity, and precipitation increased the incidence of LD. Furthermore, Beaute et al. (2016) suggest that higher temperatures are linked with behaviours that can increase the risk of potentially hazardous sources of Legionnaires (22). For example, higher outdoor temperatures are linked to increase use of air conditioning, taking showers, and using fountains (and air conditioning units, shower heads, and fountains are all potential sources of Legionnaires).

Finally, the COVID-19 pandemic may increase the risk of Legionella. Many buildings have been closed or have reduced their water usage in the past year in the context of public health measures, creating stagnant water conditions favorable to Legionella. The Ministry of the Environment, Conservation and Parks (23), Public Services and Procurement Canada (24), and the Canadian Water and Wastewater Association (25) have all issued statements to alert of or provided guidance to mitigate risks linked to Legionella in the context of building re-opening. The staged nature of our provincial re-opening plan and the increase in remote work arrangements mean these risks are likely to persist through 2021 and into next year.

2. Mitigating risks of Legionella outbreaks from cooling towers: Rapid review of the literature

SMDHU performed an environmental scan of jurisdictions in early 2020 to determine existing policies used to mitigate the risk of Legionellosis in buildings. It is useful to organize findings by jurisdictional level, namely national, provincial, and municipal.

The Federal role in mitigating the risk of Legionella is outlined in a joint 2018 report by the National Research Council of Canada (NRC), Health Canada, and Public Services and Procurement Canada (PSPC). The NRC publishes the National Model Construction Codes with oversight by the Canadian Commission on Building and Fire Codes. Included in the National Model Construction Codes are the National Building Code of Canada and the National Plumbing Code of Canada. Each contain provisions specific to the control of Legionella in building systems to be implemented in the design and construction of cooling towers (26).

After construction, responsibility for mitigating Legionella risk at the Federal level is shared between Health Canada, the Treasury Board of Canada Secretariat (TBS), and PSPC. Health Canada creates drinking water guidelines, and Legionella is mentioned in its guidance document on waterborne bacterial pathogens, though the section on treatment technologies for Legionella offers a review of evidence for the relative effectiveness of various agents and technologies rather than firm recommendations (27). TBS indirectly mandates requirements for the investigation, risk assessment and control of Legionella as it relates to the health of federal employees (27). PSPC is responsible for mitigating the risk of Legionella on Government of Canada property and has developed the MD-15161 Control of *Legionella* in Mechanical Systems standard. Chapter 3 of the standard outlines design, construction, maintenance, and sampling requirements for mitigating the risk of Legionella in all crown-owned buildings (28). Different maintenance requirements are mandated on a weekly, monthly, and annual basis. Readers are directed to table 3.1 of the standard for a summary of mandated maintenance and testing requirements and to Appendix D for detailed cooling tower bacterial test protocols.

Finally, the Public Health Agency of Canada supports provinces by providing a national case definition for Legionellosis and by aggregating surveillance data (26).

Provinces and territories are responsible for development of their own protocols to prevent, investigate, and control Legionella-related outbreaks (26). The Ontario Public Health Standards (OPHS) Infectious Diseases Protocol puts forth high level principles for the prevention and control of Legionellosis. Section 6.2 of the disease-specific chapter on Legionellosis recommends implementation of a preventive maintenance program with hazard control measures, making specific reference to the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Standard 188-2015 – Legionellosis: Risk Management for Building Water (29).

The British Columbia Center for Disease Control guidelines for the management of Legionella outbreak investigation and control offer more comprehensive prevention recommendations (30). These include i) minimizing risk via design and installation recommendations, operational considerations, water temperature control and flushing, and regular disinfection protocols; and ii) implementation of a monitoring plan that may include testing routine parameters with heterotrophic plate count, weekly dipslide count, and testing at start of season and after disinfection (30).

Quebec has imposed the most stringent requirements for the control of Legionella. These include mandatory registration of all cooling towers with the Régie du bâtiment du Quebec. Cooling tower operators must also provide the name of third-party professionals hired for implementation of a maintenance program, and the name and contact details of the laboratory to whom routine samples are sent for analysis (31).

Several municipalities in Canada have adopted local strategies for mitigating the risk of Legionellosis. The City of Hamilton, Ontario, passed the Cooling Tower Registry By-Law in 2011 that requires all cooling

towers to be registered with the city with an accompanying risk management plan (32). The City of Vancouver, BC, has enacted a similar by-law mandating operating permits for cooling towers, decorative water features, alternate water systems, and building water treatment systems (33). The Middlesex-London Health Unit (MLHU) has also identified cooling tower registration as a key risk mitigation strategy for Legionella. The MLHU Cooling Tower Registration Project allows voluntary registration of cooling towers and assists cooling tower operators with their risk management plans.

The environmental scan also identified 13 guidelines for mitigating the risk of Legionella in cooling towers. The content of the guidelines was variable, though most (nine of the 13 guidelines) recommend a risk management plan. One of the more comprehensive guidelines is the ASHRAE Standard 188-2018, recently supplemented with Guidelines 12 (8), which offers operational considerations specific to cooling towers for implementing components of a risk management plan as outlined in Standard 188. Basic elements of a risk management plan include, but are not limited to (8):

- Documented system maintenance requirements, including scheduled inspection
- 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.
- System standby and shutdown protocols
- Disinfection protocols to remedy deviations from expected standards on routine monitoring, including when disinfection is urgently required
- Contingency response plan in the event of known or suspected cases of Legionellosis

Other risk mitigation strategies discussed in the guidelines include recommendations specific to risk assessment, testing, reporting and remediation actions. Auditing was only mentioned in two guidelines, and cooling tower registries was only mentioned in the BCCDC guideline. It is beyond the scope of this document to provide an in-depth review of the relative merits of each guideline.

The environmental scan also identified two synthesis documents that review control strategies for Legionella in plumbing systems. The first was produced by the US Environmental Protection Agency (EPA) and focuses exclusively on potable water plumbing systems (34). The second review was authored by Public Health Ontario (PHO), is more general in scope, and follows a question-and-answer format (2). The overarching findings from both documents were largely overlapping. In both documents, the challenges posed by Legionella's ability to survive in amoeba and biofilms is highlighted. Techniques for reducing Legionella contamination are extensively discussed, particularly in the EPA review. There is consensus that thermal control is effective, but that temperatures are hard to regulate consistently in complex water systems. The reviews identify monochloramine and chlorine dioxide as superior to chlorine for Legionella-containing biofilm penetration, but optimal concentrations of all chemical biocides are difficult to determine and depend on several system-specific variables including water pH, temperature, pipe material and condition, water turnover rate and turbidity. Moreover, chemical biocides may compromise integrity of the water system and come with a risk of disinfection by-products. Non-chemical biocides such as UV disinfection and ozone appear effective a decreasing Legionella counts that are associated with biofilms and amoebae but must be used in conjunction with other agents or techniques given their lack of a residual effect.

Both reviews also highlighted existing knowledge gaps concerning routine environmental sampling, and the large variation seen in guidelines recommending routine sampling. The PHO review cautions that

interpretation of Legionella culture results can be challenging and lead to underestimation of risk. Culture of the organism, which is considered the gold standard for identification purposes, can be difficult on standard culture media and competing microorganisms may mask Legionella growth. Furthermore, Legionella contained within an amoeba host will not show up on culture (2).

Similarly, an evidence-based threshold of Legionella counts for remediation has not yet been determined. Some standards suggest using numerical cut offs based on colony-forming units per water volume. Others suggest a relative trigger for remediation, whereby remediation is performed when a sample exceeds average counts from historical samples by a certain margin. Neither are based in evidence.

To supplement the environmental scan, a rapid review of the evidence for various mitigation strategies to reduce the risk of spread of Legionella from cooling towers was performed. Seven observational studies met inclusion criteria. Of these, one was discarded due to poor methodological quality. Two reports were from the province of Quebec, where a province-wide mandatory cooling tower registry, documentation of mechanical maintenance and water treatment programs and regular cooling tower sampling and culture were implemented following a significant outbreak in Quebec City in 2012. A decreasing trend in the number of samples exceeding a threshold of 10 000 colony-forming units per litre (cfu/L) was reported, though the level of significance for this observation was not clear and the association to human-cases of Legionella not discussed (35, 36). Similarly, France has required mandatory registration of all cooling towers since 2004 (also following a substantial outbreak), with obligatory sampling every two years. Findings from a cross sectional study suggest a decreasing trend in the number of Legionella cases since 2005 (37). A decrease in the number of yearly outbreaks was also reported (37).

The impact of routine sampling of plumbing systems and cooling towers was also described in Greece, where routine monitoring for Legionella was introduced in preparation for the Athens 2004 Olympic games. Greek authorities selected a threshold of 10 000 cfu/L for cooling towers and water distribution systems to trigger remediation. In hospitals specifically, a significant decrease in the contamination of potable plumbing systems was noted over the monitoring period, but no decrease in the proportion of cooling towers requiring remediation was noted (38). In community settings where the same measures were introduced, an inverse association was noted between Legionella contamination levels and the presence of a risk assessment and management plan with trained staff (39). The impact on Legionella cases was not discussed.

Finally, one mixed-methods study based in Texas investigated the impact of a requirement for owners of multi-family dwellings with cooling towers to perform annual testing for Legionella (40). Qualitative findings suggest that the testing requirement was effective in raising awareness of the potential risks of Legionella and enhancing overall controls, a finding that was also reported in Racine, 2019 (35). The low cost of testing (and possible remediation) was also identified as enabling by study participants. During the ten-year observation period from 2005 to 2015, the proportion of cooling towers with samples positive for Legionella decreased significantly. Trends in human cases were not noticeably different.

3. Policy options

To articulate policy recommendations, it is useful to discuss the expected real-world effects of the various risk mitigation strategies discussed above, while also accounting for implementation considerations.

The effectiveness of a mandatory cooling tower registry, and specifically, the impact of having a cooling tower registry on the number of human cases of Legionellosis, is difficult to assess because this intervention was never applied in isolation in the cross sectional studies we encountered in our rapid literature review. Mandatory registration was most often accompanied by routine sampling requirements and reporting. While the effectiveness of this intervention in reducing the burden of Legionella, therefore, cannot be commented on, there are several anticipated operational benefits to such a policy. First, having such a registry would improve the comprehensiveness and speed of public health response in the context of a suspected Legionella outbreak linked to a cooling tower. If a comprehensive list of cooling towers in each geographic area is readily available for reference by public health unit investigators, the task of identifying cooling tower locations is eliminated, and shutdown and remediation of potential sources of the outbreak can occur more rapidly, potentially saving lives. Procedures and processes that enable rapid detection and risk assessment during suspected Legionella outbreaks are essential (6) and SMDHU's own experience attests to this. Moreover, the human resources and other costs involved in a cooling tower outbreak response would also be diminished, because field investigations (for identification of potential cooling tower sites specifically) would be significantly reduced. Finally, mandatory registration of cooling towers would be necessary for other risk mitigation strategies such as routine environmental sampling, reporting, and auditing to be effectively implemented.

The primary disadvantage of mandating cooling tower registration is the additional costs for multiple stakeholders. First, cooling tower operators will need to cover the cost of operating permits, though these are generally low (frequently under $100 per annum) and some jurisdictions have provided operating permits at no cost in the initial phases of roll-out (41). Moreover, the processing of operating permit applications and maintenance of a cooling tower database will require administrative and technical staff support in government agencies at the local and provincial levels.

Implementation of a cooling tower registry can be done via various legal channels. While the examples of Hamilton and Vancouver demonstrate that cooling tower registries can be enacted through municipal by-laws, this approach is impractical for public health units who have jurisdiction over several distinct municipalities, as each would require its own by-law. A provincial approach, such as the one adopted in Quebec, could be implemented much more rapidly and with considerable savings (both in time and labour) for municipalities and their associated public health units across the province.

The cross-sectional articles we identified in our rapid review largely focused on frequent sampling and remediation. The overall impact on human cases of Legionella was largely equivocal. The benefits of routine sampling in a non-outbreak context remain unclear given the uncertain link between Legionella counts and likelihood of dissemination and human disease. Moreover, given the knowledge gaps that persist about interpretation of culture results and altogether arbitrary thresholds recommended in various guidelines, the effect of implementing a sampling protocol is difficult to forecast. In addition, a frequent sampling process imposes additional human resource demands on cooling tower operators and laboratories tasked with sample analysis. Therefore, a case for strong recommendation of routine sampling cannot be made at this time. Additional strategies, such as mandated reporting and preventive remediation would rely on routine environmental sampling being in place, and therefore cannot be recommended.

Most of the guidelines encountered in the environmental scan recommended implementation of a risk management plan, as described in the previous section. While the literature is equivocal on the

association between implementation of a risk management plan and reduction of human cases of Legionellosis, the general principles of a risk management plan align with current understanding of factors that promote the growth of Legionella and how to mitigate these. A properly implemented risk management plan should decrease the presence of biofilm, monitor for, and remediate the presence of disinfectant residual, and control water age and water temperature. How to best achieve control of these factors, however, depends on a host of factors that may be unique to each facility. These include average temperature water, water replacement rate, plumbing system materials, turbidity level, and pH. Therefore, generalizable recommendations on the use of specific chemical biocides, their concentration, and potential supplementation with other effective decontamination techniques such as ozone or UV disinfection, are difficult to make. Instead, these decisions should be made by cooling tower owners for their specific system in consultation with manufacturers or third-party experts as they design their risk management plan and consider the potential for unwanted effects of various technologies including damage to plumbing infrastructure. Cooling tower operators should be directed to well-established guidelines for the formulation of risk management plans, such as the ASHRAE standard 188 (2018) and Guideline 12-2020 supplement, and the CDC Controlling Legionella in Cooling Towers resource. If testing is being considered by a cooling tower operator, Appendix D of the Mechanical design 15161-2013 control of Legionella in mechanical systems produced by the PSPC can be referenced (42).

4. Conclusion

The burden of Legionella is underestimated and rising. To protect Ontarians from potentially fatal disease, strategies mitigating the risk of Legionella spread from cooling towers must be adopted. 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. Additional provisions could be made for cooling tower operators to have a risk management plan in place, though beyond general principles, decisions on the use of chemical biocides or other techniques should be made by cooling tower operators in consultation with experts familiar with the unique characteristics of their water system. Additional risk mitigation strategies, such as sampling, reporting, and auditing, could be added to the registration requirement if stronger evidence of their effectiveness becomes available. Finally, new technologies providing alternatives to wet cooling towers that would remove the risk of Legionella aerosolization entirely should be considered in the construction of new buildings.

References

(1) *Legionella pneumophila* infections. In: Kimberlin DW, Barnett ED, Lynfield R, Sawyer MH, editors. Red Book: 2021–2024 Report of the Committee on Infectious Diseases. Itasca, IL: American Academy of Pediatrics; 2021. p.465-468.

(2) Ontario Agency for Health Protection and Promotion (Public Health Ontario). Legionella: questions and answers. 2nd ed. Toronto, ON: Queen's Printer for Ontario; 2019. https://www.publichealthontario.ca/-/media/documents/f/2019/faq-legionella.pdf?la=en

(3) Marrie TJ, Garay JR, Weir E. Legionellosis: Why should I test and report? *CMAJ*. 2010;182(14):1538-1542. doi:10.1503/cmaj.082030 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2950186/

(4) Centers for Disease Control and Prevention. Legionnaires Disease: Clinical Features. [2021 Mar 25; last accessed 2021 Jun 9]. https://www.cdc.gov/legionella/clinicians/clinical-features.html
(5) Centers for Disease Control and Prevention. What Clinicians Need to Know about Legionnaire's Disease. [2020 Feb 24; last accessed 2021 Oct 13]. https://www.cdc.gov/legionella/downloads/fs-legionella-clinicians.pdf
(6) Walser SM, Gerstner DG, Brenner B, Höller C, Liebl B, Herr CE. Assessing the environmental health relevance of cooling towers--a systematic review of legionellosis outbreaks. Int J Hyg Environ Health. 2014 Mar;217(2-3):145-54. doi: 10.1016/j.ijheh.2013.08.002. Epub 2013 Sep 9. PMID: 24100053.
(7) Cunha BA, Burillo A, Bouza E. Legionaires' disease. The Lancet. 2015;387(10016):376-385. doi:10.1016/S0140-6736(15)60078-2
(8) American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE). ASHRAE guideline 12-2020: Minimizing the risk of Legionellosis associated with building water systems. Atlanta, GA: American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc.: 2020.
(9) Nguyen TM, Ilef D, Jarraud S, Rouil L, Campese C, Che D, Haeghebaert S, Ganiayre F, Marcel F, Etienne J, Desenclos JC. A community-wide outbreak of legionnaires disease linked to industrial cooling towers--how far can contaminated aerosols spread? J Infect Dis. 2006 Jan 1;193(1):102-11. doi: 10.1086/498575. Epub 2005 Nov 28. PMID: 16323138.
(10) Gonçalves IG, Fernandes HS, Melo A, Sousa SF, Simões LC, Simões M. LegionellaDB - A Database on Legionella Outbreaks. Trends Microbiol. 2021 Feb 18:S0966-842X(21)00032-9. doi: 10.1016/j.tim.2021.01.015. Epub ahead of print. PMID: 33612398.
(11) Hamilton KA, Prussin AJ, Ahmed W. *et al.* Outbreaks of Legionnaires' Disease and Pontiac Fever 2006–2017. Curr Envir Health Rpt 5, 2018:263–271https://doi.org/10.1007/s40572-018-0201-4
(12) Ontario Agency for Health Protection and Promotion (Public Health Ontario). Legionellosis rates and cases for all ages, for all sexes, in Ontario [last accessed 2021 Jun 13]. https://www.publichealthontario.ca/data-and-analysis/infectious-disease/reportable-disease-trends-annually#/31
(13) Walker JT. The influence of climate change on waterborne disease and Legionella: a review. Perspect Public Health. 2018 Sep;138(5):282-286. doi: 10.1177/1757913918791198. PMID: 30156484
(14) Fisman DN, Lim S, Wellenius GA, Johnson C, Britz P, Gaskins M, et al. It's not the heat, it's the humidity: wet weather increases legionellosis risk in the greater Philadelphia metropolitan area. J Infect Dis. 2005 Dec 15;192(12):2066–73. doi: http://dx.doi.org/10.1086/498248 PMID: 16288369
(15) Hicks LA, Rose CE, Fields BS, Drees ML, Engel JP, Jenkins PR et al. Increased rainfall is associated with increased risk for legionellosis. Epidemiology & Infection 2007;135(5), 811-817.
(16) Ricketts KD, Charlett A, Gelb D, Lane C, Lee JV, Joseph CA. Weather patterns and Legionnaires' disease: a meteorological study. Epidemiology & Infection 2009;137(7):1003-1012.
(17) Karagiannis I, Brandsema P, Van der Sande M. Warm, wet weather associated with increased Legionnaires' disease incidence in The Netherlands. Epidemiology & Infection 2009;137(2):181-187.
(18) Garcia-Vidal C, Labori M, Viasus D, Simonetti A, Garcia-Somoza D, Dorca, J et al. Rainfall is a risk factor for sporadic cases of Legionella pneumophila pneumonia. PLoS One 2013;8(4):e61036.
(19) Conza L, Casati S, Limoni C, Gaia V. Meteorological factors and risk of community-acquired Legionnaires' disease in Switzerland: an epidemiological study. BMJ open 2013;3(3):e002428.

(20)Chen NT, Chen MJ, Guo CY, Chen KT, Su HJ. Precipitation increases the occurrence of sporadic legionnaires' disease in Taiwan. PloS one 2014;9(12):e114337.
(21)Halsby KD, Joseph CA, Lee JV, Wilkinson P. The relationship between meteorological variables and sporadic cases of Legionnaires' disease in residents of England and Wales. Epidemiology & Infection 2014;142(11):2352-2359.
(22)Beaute J, Sandini S, Uldum SA, Rota MC, Brandsema P, Giesecke J. Shortterm effects of atmospheric pressure, temperature, and rainfall on notification rate of community-acquired Legionnaires' disease in four European countries. Epidemiol. Infect. 2016;144:3483–3493.
*(23)*Ontario Ministry of Environment Conservation and Parks. Guide for maintaining building plumbing after an extended vacancy. [2021 Jul 15; last accessed 2021 Oct 13]. https://www.ontario.ca/page/guide-maintaining-building-plumbing-after-extended-vacancy
(24)Public Services and Procurement Canada. Management of Legionella in Public Services and Procurement Canada buildings [2020 Jan 12; last accessed 2021 Jun 16]. https://www.tpsgc-pwgsc.gc.ca/trans/pq-qp/qp20-eng.html
(25)Canadian Water and Wastewater Association. Safely Re-opening Buildings: A fact sheet for building owners/operators [2020 May; last accessed 2021 Oct 13]. https://cwwa.ca/wp-content/uploads/2020/05/Re-Opening-Buildings-FACT-SHEET_FINAL-amend1.pdf
(26)National Research Council of Canada, Health Canada, & Public Services and Procurement Canada. Legionella - Who's addressing the risks in Canada? [2019 Mar 23; last accessed 2021 Jun 10]. https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada/legionella-whos-addressing-risks-canada
(27)Health Canada . Guidance on waterborne bacterial pathogens. Water, Air and Climate Change Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa: ON: 2013. (Catalogue No.H129-25/1-2014E-PDF).
(28) Public Works and Government Services Canada. Standard MD 15161 – 2013: Control of Legionella in Mechanical Systems [2016 Mar; last accessed 2021 Jun 10]. https://www.tpsgc-pwgsc.gc.ca/biens-property/documents/legionella-eng.pdf
(29) Ontario Ministry of Health and Long-Term Care. Infectious diseases protocol — Appendix A: Disease-specific chapters. Chapter: Legionellosis [2019 Feb; last accessed 2021 Oct 13].https://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/legionellosis_chapter.pdf
(30) BC Centre for Disease Control. Communicable Disease Control. Chapter 1 – Management of Specific Disease: Legionella outbreak investigation and control [2018 Mar; last accessed 2021 Jun 10] http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%201%20-%20CDC/Legionella%20Guidelines.PDF
(31)Règlement modifi 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
(32)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

(33)City of Vancouver. Policy Report. Water Use in Buildings: Enhanced Public Safety, Efficiency and Long-Term Resiliency Measures [2018 Nov 19; last accessed 2021 Oct 13]. https://council.vancouver.ca/ctyclerk/cclerk/20181205/documents/cfsc2.pdf
(34)US Environmental Protection Agency. EPA Office of Ground Water and Drinking Water. Technologies for Legionella Control in Premise Plumbing Systems: Scientific Literature Review [2016 Sept; last accessed 2021 June 10]. https://www.epa.gov/sites/production/files/2016-09/documents/placeholder.pdf
(35)Racine P, Elliott S, Betts S. Legionella regulation, cooling tower positivity and water quality in the Quebec context. ASHRAE Transactions 2019;125:350-359
(36)Racine P. Impact of Legionella Regulations on Water Treatment Programs and Control – An observational prospective survey. 2019 Cooling Technology Institute Annual Conference. New Orleans, Louisiana. https://www.coolingtechnology.org/product-page/19-06-impact-of-legionella-regulations-on-water-treatment-programs-and-control
(37)Campese C, Bitar D, Jarraud S, Maine C, Forey F, Etienne J et al. Progress in the surveillance and control of Legionella infection in France, 1998-2008. Int J Infect Dis. 2011 Jan;15(1):e30-7. doi: 10.1016/j.ijid.2010.09.007. Epub 2010 Nov 24. PMID: 21109475.
(38)Velonakis E, Karanika M, Mouchtouri V, Thanasias E, Katsiaflaka A, Vatopoulos A et. al. Decreasing trend of Legionella isolation in a long-term microbial monitoring program in Greek hospitals. Int J Environ Health Res. 2012;22(3):197-209. doi: 10.1080/09603123.2011.628644. Epub 2011 Oct 24. PMID: 22017573.
(39)Mouchtouri VA, Goutziana G, Kremastinou J, Hadjichristodoulou C. Legionella species colonization in cooling towers: risk factors and assessment of control measures. Am J Infect Control. 2010 Feb;38(1):50-5. doi: 10.1016/j.ajic.2009.04.285. Epub 2009 Aug 20. PMID: 19699013.
(40)Whitney EA, Blake S, Berkelman RL. Implementation of a Legionella Ordinance for Multifamily Housing, Garland, Texas. J Public Health Manag Pract. 2017 Nov/Dec;23(6):601-607. doi: 10.1097/PHH.0000000000000518. PMID: 28141673; PMCID: PMC5636053.
(41)Whelton A. Legionella Prevention Vancouver Building By-Law Amendments. Public Communication to the Standing Committee on City Finance and Services, City of Vancouver, British Columbia, Canada. 2020 Jun 9. [Last accessed 2021 Oct 13]. https://engineering.purdue.edu/PlumbingSafety/opinions/Opinion-Files-Vancouver-Building-Water-Systems-06-09-2020.pdf
(42)Public Services and Procurement Canada. Appendix D: Legionella testing protocols [2019 Nov 6; last accessed 2021 Oct 13]. https://www.tpsgc-pwgsc.gc.ca/biens-property/legionella/annexe-appendix-d-eng.html

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alPHa RESOLUTION A22-4

TITLE: **Priorities for Provincial Action on the Drug/Opioid Poisoning Crisis in Ontario**

SPONSOR: **Council of Ontario Medical Officers of Health (COMOH)**

WHEREAS the ongoing drug/opioid poisoning crisis has affected every part of Ontario, with the COVID-19 pandemic further exacerbating the issue, leading to a 73% increase in deaths from opioid-related toxicity from 2,870 deaths experienced in the 22 months prior to the pandemic (May 2018 to February 2020) to 4,951 deaths in the 22 months of available data since then (March 2020 to December 2021); and

WHEREAS the burden of disease is particularly substantial given the majority of deaths that occurred prior to the pandemic and the increase during the pandemic have been in young adults, in particular those aged 25-44, and the extent of the resulting trauma for families, front line responders, and communities as a whole cannot be overstated; and

WHEREAS the membership previously carried resolution A19-3, asking the federal government to decriminalize the possession of all drugs for personal use based on broad and inclusive consultation, as well as supporting robust prevention, harm reduction and treatment services; and

WHEREAS the membership previously carried resolution A21-2, calling on all organizations and governmental actors to respond to the opioid crisis with the same intensity as they did for the COVID-19 pandemic; and

WHEREAS the Association of Local Public Health Agencies (alPHa) has identified that responding to the opioid crisis is a priority area for local public health recovery in their *Public Health Resilience in Ontario* publication (Executive Summary and Report); and

WHEREAS recognizing that any responses to this crisis must meaningfully involve and be centred-around people who use drugs (PWUDs), inclusive of all backgrounds, and must be founded not only on evidence- and trauma-informed practices but also equity, cultural safety, anti-racism as well as anti-oppression; and

WHEREAS COMOH's Drug / Opioid Poisoning Crisis Working Group has recently identified nine provincial priorities for a robust, multi-sector response that is necessary in response to this crisis (see Appendix A); and

WHEREAS local public health agencies are well positioned, with additional resourcing, to play an enhanced role in local planning, implementation and coordination of the following priority areas: harm reduction, substance use prevention and mental health promotion, analysis, monitoring and reporting of epidemiological data on opioid and other substance-

related harms, health equity and anti-stigma initiatives, efforts towards healthy public policy related to substance use including but not limited to decriminalization, and providing and mobilizing community leadership; and

WHEREAS this work of local public health agencies aligns with the Substance Use and Harm Reduction Guideline (2018) and the Health Equity Guideline (2018) under the Ontario Public Health Standards;

THEREFORE BE IT RESOLVED that alPHa endorse the nine priorities for a provincial multi-sector response;

AND FURTHER that the noted provincial priorities and areas of contribution by local public health agencies be communicated to the Premier, Minister of Health, Associate Minister of Mental Health & Addictions, Attorney General, Minister of Municipal Affairs & Housing, Minister of Children, Community & Social Services, Chief Medical Officer of Health, Chief Executive Officer (CEO) of Ontario Health and CEO of Public Health Ontario;

AND FURTHER that alPHa urge the above mentioned parties to collaborate on an effective, well-resourced and comprehensive multi-sectoral approach, which meaningfully involves and is centred-around PWUDs from of all backgrounds, and is based on the nine identified provincial priorities.

AND FURTHER that alPHa recommend the provincial government consider the potential role and appropriate timing of declaring the drug poisoning crisis in Ontario as an emergency under the Emergency Management and Civil Protection act (R.S.O. 1990).

CARRIED AS AMENDED

Appendix A – Priorities for a Provincial Multi-Sector Response

The following was developed by the Drug / Opioid Poisoning Crisis Working Group of COMOH, and shared with the COMOH membership for review at its general meeting on April 27th, 2022:

1. Create a **multi-sectoral task force**, including people with lived experience of drug use, to guide the development of a robust, integrated provincial drug poisoning crisis response plan. The plan should ensure necessary resourcing, health and social system coordination, policy change, and public reporting on drug-related harms and the progress of the response. An **integrated approach** is essential, to address the overlap between the use of various substances, to integrate aspects of the response such as treatment and harm reduction, and to ensure a common vision for addressing health inequities and preventive opportunities.
2. Expand access to **harm reduction** programs and practices (e.g. Consumption and Treatment Service (CTS) sites, Urgent Public Health Needs Sites (UPHNS), drug checking, addressing inhalation methods as a key route of use and poisonings, and exploring the scale up of safer opioid supply access).
3. Enhance and ensure sustainability of support for substance use **prevention** and mental health promotion initiatives, with a focus from early childhood through to adolescence.
4. Expand the collection, analysis and reporting of timely integrated **epidemiological data** initiatives, to guide resource allocation, frontline programs and services, and inform healthy public policy.
5. Expand access to **treatment** for opioid use disorder, including opioid agonist therapy in a range of settings (e.g., mobile outreach, primary care, emergency departments) and a variety of medication options (including injectable). To support the overall health of PWUDs, also connect with and expand access to care for other substances, for mental illness and trauma as key risk factors for drug use, and for comprehensive medical care for PWUDs.
6. Address the structural **stigma**, discrimination and related harms that create systemic barriers for PWUDs, through re-orienting systems for public health, first responders, health care, and social services, to address service provider and policy-level stigma, normalize services for drug use, and better meet the needs of PWUDs. Also, support community and community leadership conversations to address drug use stigma and its societal consequences.
7. Advocate to and support the Federal government to **decriminalize** personal use and possession of substances, paired with increased investments in health and social services and a focus on health equity at all levels. These efforts aim to address the significant health and social harms of approaches that criminalize PWUDs, including Black, Indigenous and other racialized communities.
8. Acknowledge and address **socioeconomic determinants of health**, **systemic racism**, and their intersections that are risk factors for substance use and substance use disorders, and pose barriers to accessing supports. This includes a need for more affordable and supportive **housing** for PWUDs, and efforts to further address **poverty** and **unemployment/precarious employment**.
9. Provide funding and other supports to enable consistent **community leadership** by PWUDs and by community organizations, including engagement with local drug strategies. People who bring their lived experience should be paid for their knowledge contribution and participation at community tables.

alPHa RESOLUTION A22-5

TITLE: **Indigenous Harm Reduction: A Wellness Journey**

SPONSOR: **Haliburton Kawartha Pine Ridge District Health Unit**

WHEREAS The burden of harm associated with substance use among Indigenous peoples is far reaching. From 2009 to 2019 there has been a 480% increase in hospital visits related to opioid poisoning for First Nation peoples compared to 164% for non- First Nation peoples. The rate of hospital visits for opioid-related poisoning among First Nation peoples totaled 45.1 per 10,000. First Nation peoples living outside of First Nations communities experienced the highest rate of hospital visits for opioid-related poisoning at 57.5 per 10,000 people. The rate of hospital visits for opioid-related poisoning among First Nation peoples living within First Nations communities was 19.6 per 10,000 people, and the rate among non-First Nation peoples was 6.0 hospital visits per 10,000 people. There is a gap in readily available Ontario surveillance data specific to alcohol, prescription drug, and other substance misuse in addition to data specific to registered and non-registered status First Nation peoples, Inuit and Metis.

WHEREAS The increased burden of harm associated with substance use among Indigenous peoples can be directly attributed to historical and ongoing colonial violence perpetrated against Indigenous peoples. It is deeply rooted in colonization, disenfranchisement, the Indian residential school system, the 60's scoop, intergenerational trauma, forced removal from land, and oppression. The health system has been a key tool utilized in the violence against Indigenous peoples, resulting in mistrust in the health system by Indigenous populations. As a result, public health units must adapt and decolonize their approaches when working with Indigenous populations and work alongside communities to develop culturally-based and trauma-informed Indigenous harm reduction strategies.

WHEREAS In 2017 alPHa passed a resolution on the Truth and Reconciliation: Calls to Action. The resolution requested alPHa to modify and reorient public health intervention to be culturally safe for Indigenous peoples, and to advocate to ensure that Ontario's Indigenous peoples have more equitable access to the social determinants of health as well as access to culturally safe health care and Aboriginal healing practices. Harm Reduction is a public health priority written in the Ontario Public Health Standards and Guidelines.

WHEREAS Inequities of culturally based Indigenous harm reduction, prevention, and treatment exist for Indigenous peoples in Ontario. There is a lack of integrated land-based harm reduction service provision, lack of Indigenous specific safe consumption services, and lack of public awareness and education on Indigenous harm reduction. There are barriers and limited access to local Treatment and Healing Centres across Ontario.

WHEREAS Indigenous Harm reduction policies, programs, and practices must be grounded in local Indigenous knowledges, traditions, teachings, ceremonies, land, and languages which are unique to each community. Evidence suggests that culturally based harm reduction interventions for Indigenous peoples, including access to local Treatment and Healing Centres, are beneficial to help improve functioning in all areas of wellness.

THEREFORE BE IT RESOLVED that the Association of Local Public Health Agencies recognize the critical importance of working with Indigenous communities to better understand Indigenous harm reduction and adopt policies, practices and programs for harm reduction that are culturally safe and rooted in community-knowledge and needs.

AND FURTHER that the Association of Local Public Health Agencies advocate with Indigenous partners to the Minister of Health and other appropriate government bodies for additional funding to support Indigenous harm reduction including additional Indigenous Treatment and Healing Centres.

CARRIED AS AMENDED

alPHa Resolution A22-5 - Backgrounder
Submitted by: Haliburton, Kawartha, Pine Ridge District Health Unit

Backgrounder – Indigenous Harm Reduction: A Wellness Journey

Substance use within Indigenous populations is rooted in colonization, disenfranchisement, the Indian residential school system, the 60's scoop, intergenerational trauma, forced removal from land, and oppression. In 2016, the government of Ontario adopted the Truth and Reconciliation: Calls to action[1]. Call to Action # 19 and #20 speak to the recognition of the right to optimum health regardless of residence, and #21 calls to provide funding for sustainable Healing Centres. In 2017, the Association of Local Public Health Agencies (alPHa) adopted the Truth and Reconciliation recommendations and committed to assisting member boards of health to modify and reorient public health interventions to be culturally safe for Indigenous peoples, and to advocate to ensure that Ontario's Indigenous peoples have more equitable access to the social determinants of health as well as access to culturally safe health care and Aboriginal healing practices[2].
The burden of harm associated with substance use among Indigenous peoples is far reaching. From 2009 to 2019 there has been a 480% increase in hospital visits related to opioid poisoning for First Nation peoples compared to 164% for non- First Nation peoples[3]. In 2019, the rate of hospital visits for opioid-related poisoning among First Nation peoples totaled 45.1 per 10,000. First Nation peoples living outside of First Nations communities experienced the highest rate of hospital visits for opioid-related poisoning at 57.5 per 10,000 people. The rate of hospital visits for opioid-related poisoning among First Nation peoples living within First Nations communities was 19.6 per 10,000 people, and the rate among non-First Nation peoples was 6.0 hospital visits per 10,000 people[3]. While opioid poisoning data is readily available, there is a need to establish epidemiological surveillance to address other substances such as cannabis, prescription drugs, and alcohol use also impacting the health of Indigenous peoples. Additional data is needed to understand substance use trends among registered and non-registered status First Nation peoples, Inuit, and Metis.
Harm Reduction is a public health priority within the Ontario Public Health Standards and Guidelines[4]. A public health response to the current epidemic of opioid poisonings has been highlighted as a priority as communities work to recover from the COVID-19 pandemic. alPHa Resolution A21-2[5] called on public health to lead and coordinate the response to address the opioid crisis, capitalizing on the momentum of managing the COVID-19 emergency.

In Public Health, harm reduction refers to policies, programmes and practices that aim primarily to reduce the adverse health, social and economic consequences of the use of legal and illegal psychoactive drugs without necessarily reducing substance consumption. Harm reduction interventions respect the rights of individuals to use such substances, increase awareness regarding lower risk use, and address risk and protective factors related to harms[6].

Emerging substance use trends articulate the need to adopt policy solutions based on evidence-informed harm reduction and treatment practices, eliminating structural stigma, investing in prevention, and declaring the opioid poisoning crisis an emergency[7]. The policy approach is grounded in public health principles.

Indigenous harm reduction policies, programs, and practices must be grounded in local Indigenous knowledges, traditions, teachings, ceremonies, land, and languages which are unique to each community[8]. To this end, it is important that public health units not re-inscribe colonial systems but work with Indigenous communities to understand what harm reduction means for them and establish approaches that are specific to community needs. Indigenous harm reduction is reducing the harms of colonization and colonialism[8]. Evidence supports utilizing land-based service delivery models[9], Wellness Circles[10], and Feather Carriers Wise Practices[11] that involve a wellness journey connected to ceremony, land, water, spirit, community, and family. Healing spaces that offer a wholistic approach with a Traditional Indigenous Healer/Elder/Knowledge Keeper who conducts lands-based teachings, sweat lodge ceremony, traditional healing ceremony, and other culturally appropriate ceremonies and teachings are

key to some Indigenous harm reduction programs[12,13]. In addition, for some communities the use of safe consumption sites supports prevention of overdose and death.

In 2022, Ontario announced the Addictions Recovery fund focused on building quality client centred mental health and addiction system services[14]. Funding was allocated to Northern Rural communities and Indigenous Treatment and Healing Centres were established[15]. Despite increased investment, there are still gaps in access to Treatment and Healing Centres (e.g. Southeastern Ontario) as well as to the broader array of culturally safe harm reduction policies, practices and programs. Barriers such as long waitlists, unclear approval criteria, costs of transportation, and application barriers remain to access current Treatment and Healing Centres.

In addition, there is a lack of awareness and understanding of Indigenous approaches to harm reduction throughout public health in Ontario. By further establishing robust surveillance of substance use harms, adopting Indigenous harm reduction strategies for health promotion, utilizing culturally based education and awareness resources, and working to advocate for equitable access to 'safe consumption sites' and Treatment and Healing Centres, alPHa will support boards of health in working towards the Truth and Reconciliation Calls to Action.