

March 3, 2023

Peterborough Public Health Urges Local Schools and School Boards to Explore Improvements to Improve Indoor Air Quality

TO: Local District School Boards and Private Schools

Dear Directors / School Administrators:

Re: Improved Indoor Air Quality in Education Settings

We've learned a great deal about COVID-19 since the pandemic began, most notably, is that **COVID-19 is an airborne virus**,¹ and does not spread as easily as we once thought by touching contaminated surfaces.² The Canadian Centre for Occupational Health and Safety states that "the virus that causes COVID-19 spreads from a person that is infected through the air, by respiratory droplets and aerosols."³ Additionally, the Ontario Science Table noted that "aerosols play a role in the transmission of SARS-CoV-2, especially in poorly ventilated indoor areas."⁴

While provincially legislated 'lockdowns', mask mandates, and gathering limits may be behind us, the COVID-19 pandemic is not over. With all that we have learned, **improvements to indoor air quality of the spaces we occupy are necessary and life-saving** to truly control how the SARS-CoV2 virus and other respiratory/airborne pathogens spread. One important strategy to support this change would be to thoroughly examine your HVAC systems, and implement the strategies detailed below.

Canada's Chief Science Advisor recommends that owners and operators of indoor public facilities "scale-up and monitor effective prevention interventions, such as improving ventilation in schools, workplaces and public places as part of a first line of prevention of SARS-CoV2 infection and other respiratory/airborne pathogens."⁵ These sentiments are echoed by the Ontario Society of Professional Engineers (OSPE) Indoor Air Quality group who have created many tools and resources to help Ontarians. [Recommendations](#) OSPE have developed, include:

- increasing the minimum number of air exchanges to at least 6 per hour in any indoor occupied space;
- improving ventilation requirements to follow the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) and the Canadian Standards Association;
- ensuring that HVAC systems and portable units use at least MERV 13 rated filters, and that portable filters with HEPA filters are in occupied spaces where air quality is a concern;
- having certified technicians install upper room ultraviolet germicidal systems; and
- committing to public transparency about the air quality of a space.⁶

Additionally, there are demonstrable links between increased ventilation, good IAQ *and* many positive outcomes that benefit school communities. Most notably, the Environmental Protection Agency (EPA) notes that "studies demonstrate a connection between improvements in IAQ — either from increased outdoor air ventilation rates or from the removal of pollution sources — and improved performance of children and adults".⁷ According to the EPA, "children in classrooms with higher outdoor air ventilation rates tend to

achieve higher scores on standardized tests in math and reading than children in poorly ventilated classrooms.”⁸ It should come as no surprise that the EPA also states that “poor IAQ causes illness and increases school absenteeism.”⁹

We know that local school boards have already started to implement and monitor improvements to IAQ and report on upgrades as they happen, but we can’t stress enough how important sustaining improved IAQ is for staff and students alike.

Improving IAQ can be as simple as adding affordable and effective “[DIY Air Cleaners](#)” in each classroom and learning spaces. Also known as [Corsi Rosenthal Boxes](#), the National Collaborating Centre for Environmental Health¹⁰ and the Ontario Society of Professional Engineers¹¹ recommends installing these air cleaners, when indoor air quality is a concern, *in addition* to an overall ventilation strategy. What’s more is that building these boxes has numerous connections to the Ontario Curriculum, and the Foundations for a Healthy School approach, with the potential to include parent councils and other community partners in this endeavor.

As the Chair of our Board of Health, I am writing to you today, imploring you to thoroughly examine the HVAC systems in your schools and offices, and to identify opportunities to implement some of these strategies to improve indoor air quality and provide increased protection for the staff, students, and volunteers in local schools.

The staff at PPH and I are ready to support your teams in moving this forward; please don’t hesitate to reach out if we can be of assistance.

Respectfully,

Original signed by

Councillor Kathryn Wilson
Chair, Board of Health

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¹ Public Health Agency of Canada. (2022). COVID-19: Main modes of transmission. Retrieved October 18, 2022 from: <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/main-modes-transmission.html>

² Chen T. (2021) Fomites and the COVID-19 pandemic: An evidence review on its role in viral transmission. Vancouver, BC: National Collaborating Centre for Environmental Health. Retrieved October 12, 2022 from <https://ncceh.ca/documents/evidence-review/fomites-and-covid-19-pandemic-evidence-review-its-role-viral-transmission>

³ Ontario Agency for Health Protection and Promotion (Public Health Ontario). (2022). COVID-19 transmission through short and long-range respiratory particles. Toronto, ON: Queen’s Printer for Ontario. Retrieved October 11, 2022 from https://www.publichealthontario.ca/-/media/Documents/nCoV/phm/2022/01/covid-19-respiratory-transmission-range.pdf?sc_lang=en

⁴ Science M, Thampi N, Bitnun A, et al. (2022). Infection prevention and control considerations for schools during the 2022- 2023 academic year. Science Briefs of the Ontario COVID-19 Science Advisory Table. Retrieved October 11, 2022 from https://covid19-sciencetable.ca/wp-content/uploads/2022/08/Infection-Prevention-and-Control-Considerations-for-Schools-During-the-2022-2023-Academic-Year_20220825_published.pdf

⁵ Chief Science Advisor of Canada. (2022). Post-COVID-19 Condition in Canada: What We Know, What We Don’t Know and a Framework for Action. Retrieved December 15, 2022 from, https://ised-isde.canada.ca/site/science/sites/default/files/attachments/2022/Pre-Report_PCC_Dec2022.pdf

⁶ Ontario Society of Professional Engineers. (2022). Indoor Air Quality Reports. Retrieved December 8, 2022 from <https://ospe.on.ca/indoor-air-quality/>.

⁷ United States Environmental Protection Agency. (2022) Evidence from Scientific Literature about Improved Academic Performance. Retrieved February 7, 2023 from <https://www.epa.gov/iaq-schools/evidence-scientific-literature-about-improved-academic-performance>

⁸ Ibid.

⁹ Ibid.

¹⁰ National Collaborating Centre for Environmental Health. (2023). Do-it-yourself (DIY) air cleaners: Evidence on effectiveness and considerations for safe operation. Retrieved, February 8, 2023 from <https://ncceh.ca/documents/evidence-review/do-it-yourself-diy-air-cleaners-evidence-effectiveness-and-considerations>

¹¹ Ontario Society of Professional Engineers. (2022). Core Recommendations for Safer Indoor Air. Retrieved, February 8, 2023 from https://ospe.on.ca/wp-content/uploads/2022/11/IAQ_Checklist-copy.pdf