

Public Health Role in Indoor Air Quality

Date: June 26, 2026

To: Board of Health

From: Medical Officer of Health

Wards: All

SUMMARY

Urban Canadians spend almost 90% of their time indoors, meaning that most daily air exposure occurs in homes, schools, workplaces and other indoor environments. Poor indoor air quality can contribute to respiratory and cardiovascular health risks, worsen exposure during wildfire smoke and extreme heat events, and affect transmission risk for some respiratory infections in shared indoor spaces.

Indoor air quality oversight in Canada is distributed across multiple orders of government and sector-specific frameworks, including housing, workplaces, schools, public facilities, and health settings. In Ontario, many of the primary levers for improving indoor air quality sit with the Province, building owners and operators, employers, and school boards.

Toronto Public Health (TPH) also plays a role in indoor air quality. TPH helps protect indoor air quality by monitoring health risks and emerging evidence, responding to complaints and investigating health hazards, supporting outbreak prevention in indoor settings and working with other organizations to share information and coordinate action.

Recommendations in this report focus on strengthening TPH's public communication on indoor air quality in accordance with provincial and federal guidance; continuing collaboration with partners, including school boards; and requesting provincial measures to improve indoor air quality, including supports to reduce wildfire smoke exposure and targeted actions in schools, child care settings and for vulnerable populations.

RECOMMENDATIONS

The Medical Officer of Health recommends that:

1. The Board of Health request the Medical Officer of Health continue to review emerging indoor air quality guidance and incorporate into local public health communication where appropriate, including strengthening information on practical, evidence-informed actions that people can take at home to reduce the risks from exposure to indoor air contaminants.
2. The Board of Health request the Medical Officer of Health to continue collaborating with Toronto school boards and other relevant community partners to support the distribution of public health guidance on preventing transmission of respiratory viruses.
3. The Board of Health request the Medical Officer of Health to continue participating in knowledge exchange and academic partnerships that support local understanding of effective indoor air quality risk-reduction measures.
4. The Board of Health request that the Province of Ontario take steps to improve indoor air quality by:
 - a. enhancing provincial programs and financial supports to reduce exposure to wildfire smoke among vulnerable populations, including improving access to effective indoor air quality measures like filtration and cleaner air spaces.
 - b. implementing, where feasible, interventions based on Health Canada guidance and other evidence-informed practices to reduce exposure to indoor air contaminants in publicly funded schools and child care centres.
 - c. increasing access to portable air cleaners and replacement filters for people who have low-income and are medically vulnerable.

FINANCIAL IMPACT

There are no financial impacts associated with the recommendations of this report.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the information as presented in the Financial Impact Section.

DECISION HISTORY

On February 23, 2026, the Board of Health adopted "Formal Request for a Comprehensive Review of Toronto Public Health's Role and Responsibilities in Regulating Indoor Air Quality" which directed the Medical Officer of Health to review of existing indoor air quality guidance and responsibilities by our Medical Officer of Health

in order to provide greater clarity around our Board's role, capabilities, and best practices for taking action on indoor air quality. <https://secure.toronto.ca/council/agenda-item.do?item=2026.HL30.10>

On November 12 and 13, 2025, City Council adopted "Property Standards By-Law: Phase II Review and Other Property Items" which reviewed the ventilation provisions in property standards and did not recommend changes. <https://secure.toronto.ca/council/agenda-item.do?item=2025.PH25.8>

On July 7, 2025, the Board of Health adopted "Planning and Climate Change Monitoring to Understand Health Impacts and Support Resilience in Toronto" which directed the Medical Officer of Health to include where possible and applicable whether indoor or outdoor exposures was the cause of the outcome in the climate change surveillance framework. <https://secure.toronto.ca/council/agenda-item.do?item=2025.HL26.5>

On April 1, 2025, the Board of Health adopted "Environmental and Occupational-Related Cancer Prevention in Toronto: Public Health Actions" which highlighted Toronto Public Health's participation in existing strategies to prevent cancer. <https://secure.toronto.ca/council/agenda-item.do?item=2025.HL23.2>

On June 24, 2024, the Board of Health adopted item "Update on Toronto Public Health's Wildfire Smoke Response Strategy" which described Toronto Public Health's response activities during wildfire smoke episodes. <https://secure.toronto.ca/council/agenda-item.do?item=2024.HL14.2>

On April 6 and 7, 2022, City Council adopted item "Bringing a Public Health Lens to Indoor Ventilation Requirements" requesting Municipal Licensing and Standards and Toronto Building, in consultation with the Medical Officer of Health, review the latest knowledge and best practices for ventilation to reduce the transmission of agents of infectious disease through the air and consider updates to Chapter 629. <https://secure.toronto.ca/council/agenda-item.do?item=2022.HL35.8>

On December 5, 6, 7 and 8, 2017, City Council adopted item "Reducing Health Risks from Traffic-Related Air Pollution (TRAP) in Toronto" which identified traffic-related air pollution as a major source of air pollution in Toronto and recommended coordinated actions across orders of government and sectors to reduce emissions and mitigate exposure near major roadways. <https://secure.toronto.ca/council/agenda-item.do?item=2017.HL22.3>

COMMENTS

Why Indoor Air Quality Matters

Urban Canadians spend almost 90% of their time indoors, meaning that most daily air exposure occurs in homes, schools, workplaces and other indoor environments. Indoor air quality is shaped by the presence of indoor contaminant sources, the movement of

outdoor pollutants into buildings, and the design, operation, and maintenance of ventilation and filtration systems.

Poor indoor air quality can contribute to respiratory and cardiovascular health risks, worsen exposure during wildfire smoke and extreme heat events, and affect transmission risk for some respiratory infections in shared indoor spaces. Indoor air quality is also influenced by temperature and humidity, building conditions, household and workplace activities, and the degree of control occupants have over their indoor environment.

Health Canada identifies indoor air quality as an important environmental determinant of health and emphasizes three core strategies for maintaining good indoor air: reducing or eliminating contaminant sources, ventilating with filtered outdoor air, and filtering indoor air. Health Canada also recently published a [Guidance for Air Quality Professionals](#) that summarizes actions to reduce identified indoor air pollutants (Attachment 1). For example, the Guidance for Air Quality Professionals references the [Residential Indoor Air Quality Guidelines](#) which recommends a long-term exposure limit (24-hour) of 1000 ppm for carbon dioxide (CO₂). Health Canada has not provided short-term exposure limits (1 hour) for CO₂.

Indoor air quality risks are not experienced equally, as many Toronto residents have limited control over their indoor airspace and may face financial or other barriers to improving indoor conditions in areas where they have control. Governments have attempted to improve indoor environments through the building code, provincial guidance for public buildings, by-laws and subsidized programs for HVAC components such as air conditioners.

Respiratory Viruses, Shared Indoor Air and Layered Protection

Respiratory viruses contribute to seasonal illness, outbreaks, absenteeism and pressure on health and community services. Some infections, including COVID-19, influenza, and respiratory syncytial virus (RSV), can cause severe illness, particularly among infants, older adults, people who are immunocompromised, and people with underlying health conditions.

Transmission risk in shared indoor spaces is complex and depends on the pathogen, the number and activity level of people in the space, duration and proximity of exposure, ventilation and filtration, temperature and humidity, and individual susceptibility including vaccination status, and underlying health conditions. Respiratory viruses can spread through a combination of routes, including inhalation of respiratory particles that can accumulate in poorly ventilated indoor spaces, exposure to larger droplets at close range, direct close contact, and contact with contaminated hands or surfaces. The relative importance of these routes varies by virus, setting, activity and behaviour.

No single intervention fully prevents respiratory virus transmission. A layered approach includes vaccination, staying home when sick, hand hygiene, masking where appropriate, environmental cleaning, and measures to improve indoor air quality, such as ventilation and filtration, in alignment with provincial and federal guidance. Cleaner

indoor air is a structural layer of protection because it can reduce shared exposure in a space, including for people who may face barriers to consistently using individual protective measures.

Evidence from school renovation and ventilation studies supports the broader conclusion that cleaner indoor air can reduce illness absence when improvements are implemented at building scale. A large natural experiment across more than 45 schools found that district-wide renovations, including HVAC upgrades, were associated with reductions in illness-related absences and estimated that more than one-third of respiratory illness absences could be reduced by keeping school facilities up to date and meeting recommended ventilation standards.¹

For respiratory infections, ventilation and filtration should be used as part of a layered approach that also includes vaccination, staying home when sick, hand hygiene, masking where appropriate, and environmental cleaning. Ventilation and filtration can reduce exposure over time, but they do not eliminate close-range transmission risk or replace other public health measures.

Outdoor Air, Wildfire Smoke and Indoor Exposure

Outdoor air is an important determinant of indoor air quality. Urban air pollution is a mixture of pollutants (e.g. fine particulate matter (PM_{2.5}), nitrogen dioxide (NO₂) and ozone) from multiple sources including traffic-related air pollution, industrial emissions, and pollutants transported over long distances like wildfire smoke. Exposure to urban air pollution at levels typically found in Toronto and other Canadian cities is associated with a range of adverse health outcomes including increased risk of cardiovascular disease events like heart attacks and strokes, exacerbation of respiratory diseases like asthma, adverse pregnancy outcomes and premature death.²

Ventilation with outdoor air can improve indoor conditions when outdoor air is clean, but during wildfire smoke events or other outdoor air quality events, outdoor pollutants can enter buildings and increase indoor exposure to air pollutants. Actions that typically improve indoor air, such as opening windows, may increase exposure when outdoor air quality is poor. Additional challenges arise when these air quality events occur at the same time as an extreme heat event and there is a need to cool an indoor air space while preventing outdoor air intrusion.

Wildfire smoke is a priority indoor air concern because fine particles and gases can infiltrate buildings through open windows, doors, cracks, mechanical systems, and other pathways. Indoor exposure can continue even after outdoor smoke levels begin to improve. Studies have shown that wildfire smoke can be more harmful than urban air pollution because high pollutant levels occurring during wildfire smoke episodes can contain a mix of combustion by-products and toxic compounds from non-vegetation

¹ Haverinen-Shaughnessy, U., Clinchard, S., Hernandez, M. et al. School district-wide renovations, indoor environmental quality, and illness absence. *Journal of Exposure Science & Environmental Epidemiology* (2026). <https://doi.org/10.1038/s41370-026-00903-5>

² Health Canada. Canadian Health Science Assessment for Fine Particulate Matter (PM_{2.5}) (2022). https://publications.gc.ca/collections/collection_2022/sc-hc/H144-100-2022-eng.pdf

sources like buildings, vehicles and other infrastructure. Exposure to wildfire smoke is associated with increased risk of respiratory, cardiovascular, reproductive, and other health risks, especially for people at higher risk.³

Traffic-related air pollution and other outdoor pollutants can also affect indoor air quality, especially in buildings near major roads, airports, industrial sources, or other local emission sources. Building location, ventilation design, window-opening practices, and filtration all influence the extent to which outdoor pollutants affect indoor exposure. TPH has previously reported health impacts from outdoor air pollution ([Path to Healthier Air: Toronto Burden of Illness Update](#)) and traffic-related air pollution in Toronto ([Avoiding the TRAP: Traffic-Related Air Pollution in Toronto and Options for Reducing Exposure](#)). Through this work, TPH has recommended measures that can be taken to reduce exposure to traffic-related air pollution for children and other vulnerable groups in setting such as schools, child care centres and long-term care facilities.

Outdoor-air-driven indoor exposures are not experienced equally. Residents in older or poorly sealed housing, lower-income households, renters, people in congregate settings, and people without access to effective filtration or cooling may have fewer options to reduce exposure during wildfire smoke, extreme heat, or other outdoor air quality events. [TPH's Wildfire Smoke Response Strategy](#) includes public risk communication and a network of Cleaner Air Spaces that provide filtered indoor environments for residents who face barriers to cleaner air at home. In addition, TPH provides workshops and guidance to the child care sector aimed at reducing exposure to air pollutants and wildfire smoke ([Air Quality and Wildfire Smoke Guidance for Child Care Centres](#)).

Roles, Responsibilities and TPH Authority

Indoor air quality oversight in Canada is distributed across multiple orders of government and sector-specific frameworks, including housing, workplaces, schools, public facilities, and health settings. Some requirements are enforceable, while others are technical standards or scientific guidance that only become enforceable when incorporated into legally binding documents.

In Ontario, the provincial government holds most authority for protecting indoor air quality. The government does this through Ontario Building Code which sets minimum ventilation and filtration requirements. The government establishes indoor air regulations for workplaces based on occupational exposure requirements. The provincial government also sets operational expectations for schools, child care, long-term care, retirement homes, and other provincially-regulated settings.

TPH acts within the Ontario Public Health Standards and the Health Protection and Promotion Act (HPPA). Two standards are directly relevant to indoor air quality: the Healthy Environments Program Standard which describes public health's role in

³ Health Canada. Human Health Effects of Wildfire Smoke (2024). <https://www.canada.ca/content/dam/hc-sc/documents/services/publications/healthy-living/human-health-effects-wildfire-smoke/human-health-effects-wildfire-smoke.pdf>

reducing exposures to environmental health hazards including air pollution, and the Infectious Disease Prevention and Control Program Standard, which addresses preventing the transmission of diseases of public health significance in congregate and community settings.

As well, under Section 11 of the HPPA, TPH is required to investigate complaints of suspected health hazards, including those arising from poor indoor air quality. These investigations commonly involve coordination with City of Toronto Divisions or Provincial Ministries. To fulfil these responsibilities TPH provides evidence-informed recommendations from indoor air quality complaints, investigates outbreaks in institutional settings to prevent transmission indoors, refers issues to provincial ministries, and develops communication and educational materials that are setting-specific and for the public.

In 2025, TPH received approximately 288 complaints related to indoor air quality. Of that number, 94% were in residential settings, 2% were from child care and schools and the rest were from commercial and civic settings. Most of the complaints were focused on odours of unknown origin, followed by odours from neighbours, chemical odours and sewage odours.

TPH does not have the authority to mandate upgrades to heating, ventilation and air conditioning (HVAC) systems or other capital improvements in existing buildings, enforce carbon dioxide (CO₂) monitoring or ventilation performance guidance, or apply Health Canada guidance or American Society of Heating, Refrigeration and Air-Conditioning Engineers standards (e.g. [ASHRAE Standard 241](#)). The authority to implement such measures rests with the provincial government, building owners and operators, employers, and other parties that control buildings and infrastructure.

Table 1 describes each order of government's roles and responsibilities as they pertain to indoor air quality matters.

Order of Government/ Organization	Principal Roles in Indoor Air Quality
Government of Canada	• Sets scientific exposure guidelines (e.g. Health Canada Residential Indoor Air Quality Guidelines which set non-binding recommended exposure limits for specific residential pollutants) • Issues infection prevention and control guidance (Public Health Agency of Canada) • Publishes the National Building Code of Canada (National Research Council) • Health Canada also published Guidance for Indoor Air Quality Professionals, Guidance on Improving Indoor Air Quality in Office Buildings, Best Practices for Improving Air Quality in Ice Arenas, Guidance for Cleaner Air Spaces during Wildfire Smoke Events and Guidance on Upper Temperature Limits: Protecting the Health of Older Adults.

Order of Government/ Organization	Principal Roles in Indoor Air Quality
Government of Ontario	• Sets minimum ventilation and filtration requirements for new construction and major renovations (Ontario Building Code, by reference to ASHRAE 62.1/62.2) • Regulates indoor air in workplaces (Occupational Health and Safety Act and Regulation 833) • Mandates and funds local public health units (Health Protection and Promotion Act, Ontario Public Health Standards) • Sets operational expectations for ventilation in publicly funded schools (Ministry of Education School Ventilation Guidance and Public Reporting of Renewal Projects Memoranda) and licensed long-term care, retirement and child care settings.
City of Toronto	• Regulates property standards, including baseline requirements for the proper operation, maintenance, cleaning, and repair of ventilation systems (Toronto Municipal Code Chapter 629, Property Standards) • Investigates and orders remediation of indoor health hazards (Toronto Public Health under Health Protection and Promotion Act) • Limits idling to no more than one minute in a 60-minute period (Municipal Licensing and Standards under Toronto Municipal Code 517) • Administers the ChemTRAC reporting program for priority substances including PM2.5 (Toronto Public Health under Toronto Municipal Code Chapter 423) • Sets operational policy for City-managed workplaces (City of Toronto Occupational Health and Safety Coordinating Committee, Indoor Air Quality Policy for Office Environments)
Building Owners, Operators, Employers and School Boards	• Operate and maintain buildings, ventilation and filtration systems, and setting-specific policies within applicable legal requirements.
Technical standards organizations (e.g. ASHRAE)	• Develop voluntary standards and best practices that may inform policy or become enforceable only if adopted by an authority (ASHRAE Standard 241-2023, Control of Infectious Aerosol).

Schools and Child Care: Provincial Authority, Local Collaboration and Monitoring

In Ontario, indoor air quality in publicly funded schools falls primarily under the authority of the Ontario Ministry of Education (EDU). EDU sets expectations and provides funding for school facility renewal, while school boards operate and maintain buildings, ventilation systems, filtration, and related reporting. Since 2020, provincial and school board actions have included ventilation and filtration improvements, use of higher-efficiency filters where equipment allows, deployment of portable high-efficiency particulate air (HEPA) filter units in specified learning spaces, and public reporting of school-level ventilation measures.

TPH does not have the authority to regulate school infrastructure. However, TPH can support schools and child care partners through public health guidance, respiratory season communications, infection prevention and control advice during outbreaks, and collaboration to support consistent sharing of practical risk-reduction information with school communities. This includes guidance on layered respiratory virus prevention and practical indoor air quality measures.

In the absence of combustion sources, the main indoor source of CO₂ is human respiration. Because CO₂ is exhaled at the same time as respiratory aerosol, indoor CO₂ concentration can be used as a proxy for both ventilation adequacy and the fraction of air that has recently been exhaled by other occupants. CO₂ levels should not be interpreted as a standalone metric for viral transmission.⁴

Ontario does not currently have a province-wide requirement for CO₂ monitoring in schools, a classroom CO₂ action threshold, or standardized public reporting of classroom CO₂ or particulate matter measurements. Bill 140, *Improving Air Quality for Our Children Act*, 2023, proposed taking steps in this direction for school and child care indoor air quality monitoring and reporting, but did not pass.

Implementation of systems aimed at monitoring indoor air contaminants in public buildings is typically undertaken at the regional or national level and can require substantial investment in equipment, data systems and ongoing maintenance. Experience from other jurisdictions indicates that monitoring is most useful when it is paired with clear responsibility and resources to act on results. Monitoring alone has limited value unless the information is used to inform actions to improve indoor air quality both over short and long-time horizons including the prioritization of maintenance, operational improvements and longer-term capital investments in ventilation and filtration systems.

In some circumstances, minor adjustments to ventilation systems, maintenance or operational practices may help address identified issues. However, in many settings, particularly buildings without mechanical ventilation, substantive funding for capital upgrades may be required. In these cases, monitoring is best understood as a tool to support assessment and prioritization of improvements, rather than a standalone intervention or trigger for immediate action.

⁴ Public Health Ontario 2023. Heating, Ventilation and Air Conditioning (HVAC) Systems in Buildings and COVID-19.

Some jurisdictions use CO₂ monitoring as a proxy for indoor air quality that is often combined with other indicators like temperature, relative humidity and other indoor contaminants. The most comprehensive city-level example is [Boston Public Schools](#), where over 4,400 sensors monitor CO₂, carbon monoxide (CO), particulate matter, temperature and relative humidity at one-minute resolution in every classroom across 125+ buildings with data streamed to a public real-time dashboard. The results from the indoor air quality monitoring are being used to prioritize ventilation system improvements at the school and classroom levels.

Quebec operates Canada's only province-wide mandatory classroom indoor air quality monitoring and improvement program and represents the closest domestic precedent for Ontario. Approximately 90,000 sensors have been installed in kindergarten to grade 12 classrooms across the province, and there has been over \$800 million invested in indoor air quality infrastructure improvements between 2020 to 2024. Other provinces (Alberta, Manitoba, Saskatchewan, the Atlantic provinces and British Columbia) have only general occupational health and safety ventilation rules in workplace regulations, with no school-specific monitoring program. Vancouver Coastal Health provides low-cost portable fine particulate matter (PM_{2.5}) sensors to community organizations through its [AQ-CARE program](#) (Air Quality, Community, Action, Resilience and Empowerment), operates a free CO₂ monitor lending library available to schools and childcare facilities, and has issued dedicated traffic-related air pollution, ventilation and indoor air quality guidance for schools and child care.

Any consideration for a provincial monitoring and response program for schools and child care settings in Ontario would require an investment in infrastructure and sufficient implementation capacity to monitor and prioritize locations, and clear roles for the Province, school boards, and other operators. It would also be important to ensure that monitoring results are interpreted appropriately and linked to feasible interventions to support improvements in indoor air quality with the recognition that approaches used in other jurisdictions may not be directly transferable to Toronto due to differing local conditions (e.g. different risk levels from wildfire smoke episodes).

What Can Be Done to Improve Indoor Air Quality

Indoor air quality interventions are most effective when they follow a hierarchy of controls. According to Health Canada guidance, where possible, contaminant sources should be removed or reduced first, such as remediating mould, repairing moisture intrusion, reducing combustion sources, selecting lower-emitting products, and testing for potential pollutants such as radon. Ventilation and filtration are important complementary measures, but they cannot fully compensate for persistent high-emitting sources or hazardous conditions requiring remediation.

Ventilation and filtration reduce the concentration of indoor pollutants by bringing in cleaner outdoor air where appropriate, exhausting or diluting indoor contaminants, and removing particles from recirculated or room air. These measures are especially important where source control is not fully possible, for example during wildfire smoke

events, in crowded shared spaces, and in buildings where occupants have limited control over building-level systems.

Residents' ability to reduce their exposure to indoor air contaminants at home is shaped by building age and condition, ventilation design, proximity to outdoor pollution sources, tenancy status, household activities, appliances, and access to tools such as filtration, cooling, and monitoring. Public-facing information should focus on practical actions residents can take or ask about, while recognizing that many indoor air quality determinants are controlled by landlords and building owners.

Source control is particularly important in homes. Moisture intrusion and mould should be prevented or remediated where possible. Radon can enter buildings from soil and accumulate indoors; testing is the only way to know whether levels are elevated, and remediation can reduce exposure where levels are high. Combustion appliances and activities, including gas cooking, fireplaces, candles, wood burning, smoking, and vaping, can increase indoor pollutants, particularly in smaller or poorly ventilated spaces. Practical exposure-reduction measures include using a range hood vented outdoors and for sufficient durations of time to remove cooking-related emissions, using back burners when possible to improve efficiency of ventilation, opening windows when outdoor air quality permits, avoiding unnecessary indoor combustion, and considering electric options when appliances are replaced.

Portable air cleaners, including HEPA units and well-designed box-fan filters, can help reduce indoor fine particles when appropriately selected, sized, placed, operated, and maintained. They can be especially useful during wildfire smoke events, in rooms where outdoor air ventilation is limited, and in households with occupants at higher risk. Public information can help residents understand how to choose, use, and maintain filtration options, while also making clear that filtration does not replace source control or remediation of hazards such as mould, moisture intrusion, or elevated radon.

Portable Air Cleaner Ownership and Barriers to Use in Toronto

A 2025 survey supported by the Bloomberg Philanthropies' [Partnership for Healthy Cities](#), a global network of more than 70 cities working to prevent noncommunicable diseases and injuries, assessed residents' experiences with indoor air and the use of air purifiers at home. The survey found that 15% of respondents reported owning a portable air purifier indicating limited ownership among Toronto households. This suggests a majority of residents do not have ready access to an effective tool for reducing indoor fine particulate matter at home.

Survey respondents who indicated owning an air purifier were asked about barriers to using the unit. The most frequently reported reasons included:

- Cost of replacement filters: 29%. HEPA replacement filters typically cost between \$30 and \$150 per replacement cycle and are required every 6 to 12 months.
- Cost of electricity: 17%. Continuous operation of a portable HEPA unit adds a modest but non-trivial amount to household electricity bills.

- Noise generated by the unit: 12%. Noise rises with fan speed and residents may run units at lower speeds (which substantially reduces clean air delivery) or not at all.
- Cost of repairing the air purifier system/unit: 11%.

Equity Considerations and Barriers to Action

Exposure to poor indoor air quality may disproportionately impact equity-deserving communities. Residents may face higher exposure because of housing age and condition, overcrowding, proximity to outdoor pollution sources, limited access to cooling or filtration, or time spent in shared indoor settings such as schools, shelters, congregate living environments, and certain workplaces. Many people have limited control over the buildings where they live, learn, work, or receive care. Renters, students, workers, residents of congregate settings, and people experiencing homelessness may not be able to change ventilation systems, upgrade filtration, remediate building conditions, or avoid shared indoor air.

Even where household-level measures are available, affordability and usability can limit their benefit. Upfront purchase costs, replacement filters, electricity costs, noise, space constraints, and limited information about proper use can prevent residents from using filtration consistently or effectively. Barriers fall disproportionately on lower-income households, renters who cannot easily modify their home environment and residents in older, poorly ventilated buildings who would benefit most from supplemental filtration.

Climate-related events can compound indoor exposure risks. During wildfire smoke and extreme heat events, residents without effective filtration, cooling, or safe cleaner-air options may face difficult trade-offs between keeping windows closed to reduce smoke exposure and maintaining tolerable indoor temperatures. The City of Toronto has taken steps to address these inequities through initiatives such as the Air Conditioner Assistance Program. To support access to portable air cleaners, this report recommends that the province expand access to portable air cleaners and replacement filters for low-income households with medically vulnerable people.

Engagement Summary

TPH undertook targeted engagement to inform this report, including multiple meetings with Clean Indoor Air Toronto and organizations and experts connected through that engagement, including the Ontario Society of Professional Engineers, Air Club, Canadian Environmental Law Associate and the Canadian Association of Physicians for the Environment. TPH also engaged Toronto school boards to understand current ventilation and filtration activities, and opportunities for TPH and schools to continue to work together on environmental health and consistent public health messaging.

Engagement participants emphasized four main themes: stronger public communication on respiratory virus prevention and practical indoor air quality measures; concern about indoor air quality in schools and child care settings; the need to address wildfire smoke, extreme heat, and other climate-related indoor risks; and interest in monitoring, public reporting, and building-level improvements linked to feasible mitigation actions.

Participants raised policy options including monitoring with public reporting, building retrofit incentives, HVAC upgrades, and stronger communication on ventilation, filtration, masking, wildfire smoke, and extreme heat. This report considers those ideas through the lens of TPH's mandate, municipal authority, provincial responsibility, feasibility, and equity.

A consistent theme was that monitoring alone has limited value unless results are connected to clear, feasible actions such as ventilation adjustment, filtration improvement, maintenance, or communication, or occupancy management. Participants also emphasized that filtration equipment only provides meaningful protection when it is appropriately sized, placed, operated, maintained, and resourced for filter replacement.

School board representatives identified that infrastructure upgrades are shaped by resource constraints, building age and condition, occupancy, operational feasibility, and competing capital priorities.

Next Steps

TPH will continue to review relevant provincial and federal guidance and incorporate applicable evidence into public health communications to the public and partners, including respiratory season messaging and practical indoor air quality information for residents. TPH will also continue collaborating with Toronto school boards, relevant City divisions, community partners, and public health partners to support consistent knowledge exchange, sharing of public health guidance and practical risk-reduction information.

Strategic Plan Alignment

This work supports TPH's requirements under the Health Protection and Promotion Act and aligns with TPH's Strategic Plan:

Priority 1: Strengthen health protection, disease prevention and emergency preparedness.

- a. Prepare for and respond to outbreaks and public health emergencies informed by best evidence and lessons learned from previous responses.
- c. Effectively communicate with the public about how they can protect their health.
- d. Monitor and prepare for climate change and collaborate with partners to address its impacts.

Priority 2: Promote health and well-being across the lifespan.

- a. Reduce the burden of chronic and infectious diseases across the lifespan.
- b. Prioritize effective interventions for children and youth to meet their changing needs.
- d. Advocate for healthy social, natural, and built environments and collaborate with partners on initiatives that advance these goals.

Priority 4. Advocate to advance health equity.

- a. Assess and report on health inequities and population health needs.
- b. Collaborate with partners across multiple sectors to address local health needs.
- c. Share evidence, advocate and collaborate to influence actions that impact population health.

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ATTACHMENTS

Attachment 1: Indoor Air Pollutants