Clean Indoor Air Toronto

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Toronto Board of Health
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To the Toronto Board of Health;

We are *Clean Indoor Air Toronto*, a group of concerned Toronto residents who are dedicated to improving indoor air quality in our shared public spaces. Many of us are parents of children attending TDSB schools; other members of our group have chronic health conditions that make them vulnerable to infection. We are joined with other concerned Toronto residents and organizations in making the requests outlined below.

We thank Toronto Public Health (TPH) for the report, "Environmental & Occupational-Related Cancer Prevention in Toronto: Public Health Actions" (hereafter referred to as "the Report"). Our comments and questions regarding the Report are provided below.

1. Airborne pathogens and pollutants are not contemplated by the Report

Although the Report acknowledges that environmental causes of cancer exist in air, water, soil, dust and food, and that residents are exposed in their daily lives by simply breathing and eating/drinking, it makes no mention of pathogens and infectious diseases that are primarily transmitted through the air that can cause diseases, including cancer, to arise years after the initial infection. The Report also does not mention human-made air pollutants that are now common within built environments, including microplastics and per- and polyfluoroalkyl substances (PFAS). These pathogens and pollutants concentrate indoors when ventilation and air filtration are inadequate.

Examples of airborne infectious diseases associated with cancer include Epstein-Barr virus, which is associated with later development of lymphoma, multiple sclerosis, and autoimmune disorders[1,2]; tuberculosis, which is associated with increased risk of lung cancer[3]; and SARS-CoV-2, which causes Long COVID, and significantly increased risk for cardiovascular disease, immune dysfunction, and neurological/cognitive damage.[4–8] There is also growing suspicion that COVID-19 infection may be associated with an increased risk of cancer, primarily due to its effect on the immune system.[7,9] At present, there is no vaccine for Epstein-Barr virus. Tuberculosis requires months of treatment during which there is the risk of non-compliance, treatment failure, and development of drug-resistant bacteria.[10] The vaccines currently available for COVID-19 provide only a modest decrease in the risk of developing Long COVID.[11] Prevention remains the best method for protecting population health.

The Report mentions wildfires as a source of environmental carcinogens, chiefly fine particulates (PM2.5), but does not mention air pollution from other climate change-related events such as flooding and torrential rain. Heavy rains and floods create harmful air pollution by generating fine particulates from soil matter and human-made environments, and by creating conditions that promote and support fungal growth.[12,13] These particulates can include heavy metals, microplastics, PFAS, and other toxins, as well as pathogens and infectious agents. Microplastics and PFAS bioaccumulate in the body and there is mounting concern over their harmful effects, including causing cancer.[14,15] Fungal spores in the air can lead to lung infections, which are known to be associated with an increased risk of cancer.[16]

2. Working with other agencies and levels of government

(i) Complaints to TPH regarding health hazards: Lack of awareness

The Report states that TPH's role in environmental cancer prevention activities and investigating occupational health complaints is determined by Ontario's *Health Protection and Promotion Act*. In both cases, a complaint must be made to the health unit to trigger an investigation. However, we note that many people remain unaware of the environmental and occupational exposures that are associated with increased risks of cancer. In particular, many people do not know that the majority of exposures to cancer-causing agents occur through breathing and the risk of exposure is greatest in poorly ventilated spaces. That means that the likelihood of health hazards being identified, along with a complaint, is greatly reduced.

(ii) Responsibilities related to environmental and occupational carcinogen exposure

Table 2 of the Report provides a summary of relevant legislation at all three levels of government and examples of TPH activities that integrate with each level. However, we note that Table 2 does not include mention of any policies surrounding indoor air quality. The Report makes no mention of the fact that there are no laws that directly govern and enforce acceptable indoor air quality, and there is no defined standard for what constitutes clean, safe-to-breathe air.

In particular, Table 2 does not mention that Ontario *Building Code* relies on ventilation Standard 62.1, written by the American Society of Heating, Ventilating and Air Conditioning Engineers (ASHRAE).[17,18] This *Code* is rarely enforced after construction; compliance is assumed but only checked when someone complains.

Table 2 also does not mention that the City of Toronto has an indoor air quality policy for its office-based employees that is based on ASHRAE Standard 62.1[19], but this policy does not extend to all of Toronto's buildings, creating inequitable access to clean air. Many Toronto buildings do not comply with ASHRAE Standard 62.1, including public schools. Poor indoor air quality is associated with higher rates of disease and poor health, and since buildings with poor air quality are more likely to be found in lower income communities, this is clearly an equity issue.

Poor ventilation and poor air quality can give rise to health hazards, wherein occupants of a space are exposed to harmful air pollution, including potentially cancer-causing agents, for extended periods of time. Under the Ontario *Health Protection and Promotion Act*, TPH has a duty to inspect for "the purpose of preventing, eliminating, and decreasing the effects of health hazards" (Section 10), and to respond to a complaint of a suspected health hazard (Section 11).[20]

(iii) Collaboration with other agencies; working with other levels of government

The Report mentions that TPH is working with other agencies and other levels of government in their efforts to reduce environmental and occupational exposures.

Item 2022.HL35.8, "Bringing a Public Health Lens to Indoor Ventilation Requirements" was adopted by City Council on April 6, 2022, in which a review of the latest knowledge and best practices for air ventilation to reduce the transmission of agents of infectious disease through the air was requested from the Executive Director of Municipal Licensing and Standards, the Chief Building Official, and the Executive Director, Toronto Building, in consultation with the Medical Officer of Health.

At the Board of Health meeting on January 16, 2023, Dr. Kate Mulligan raised related item 2023.HL1.3, in which an update on progress related to the directions set out in Item 2022.HL35.8 was requested. However, Toronto Public Health has yet to present the results of the review requested in Item 2022.HL35.8, or an update on the progress of the discussions that should have taken place with these municipal agencies, as requested in Item 2023.HL1.3.

As noted by Councillor Gord Perks during the October 21, 2024 Board of Health meeting, there is the need for transparency with respect to TPH's discussions with other agencies, and that the status of such discussions should be shared with the Board of Health and the public to generate a more robust response in matters of protecting the health of the people of Toronto.

Considering that three years has passed since the initial request, we ask that TPH provide the public with a status report on on-going discussions with Municipal Licensing & Standards, and Toronto Building.

3. Lack of public awareness

The Report states that TPH's actions include increasing public awareness of primary cancer prevention. However, most of the public continues to be unaware of the increased risks of cancer associated with chronic exposure to indoor air pollutants such as PFAS, and airborne pathogens such as EBV, fungi, and SARS-CoV-2.

TPH's website features actionable information on improving ventilation, using portable air purifiers, and recommendations to use a snug-fitting high-quality mask such as an N-95 respirator. However, this information is often hidden in drop-down tabs, and scattered across a number of different pages, making it difficult to find and access.

In view of the above issues, especially with regards to the lack of indoor air quality regulations and the lack of public awareness, we ask that the Board of Health direct TPH to carry out the following actions:

1. **Advocate that the City of Toronto take the following actions to promote clean indoor air**:

   (i) Adopt an indoor air quality policy and bylaw that follow the latest recommendations from ASHRAE and the Ontario Society of Professional Engineers (OSPE) with regards to reducing airborne disease transmission and fine particulate (PM2.5) air pollution[21–23];

   (ii) Invest in an incentive program to accelerate HVAC upgrades and retrofits to help meet the standards laid out in (i); and

   (iii) An IAQ monitoring system for indoor levels of carbon dioxide (CO_2) and PM2.5, for municipal buildings and public schools, which includes public, real-time reporting of collected data.[22,24]

2. **Promote public awareness of indoor air quality**: run an education campaign on the importance of clean indoor air for good health, and how air pollutants and airborne infectious diseases that concentrate in poorly ventilated indoor spaces are harmful to long-term health, including an increased risk of cancer.

3. **Publish guidelines for good indoor air quality:** how to improve indoor air quality with available tools, and guidance on how to reduce exposure to indoor air pollution and airborne infectious diseases.

Expert organizations including ASHRAE, the Lancet COVID-19 Commission, and the Ontario Society of Professional Engineers have published recommendations on indoor air quality with regards to reducing infectious aerosols and fine particulate (PM2.5) pollution.[21–23,25] In response, the California Department of Public Health updated their air quality guideline for classrooms, recommending a minimum of 5 air changes per hour or 30 cubic feet per minute per person.[26] This is an opportunity for TPH to lead the way for other public health agencies in Canada, and to protect the health of the people of Toronto.

We urge the Board of Health to invest in the well-being of our city by directing TPH to take actions that promote access to clean indoor air. By doing so, the City of Toronto can reduce barriers and inequities that prevent Torontonians from achieving their fullest potential, and fulfilling their aspirations without the risk or burden of cancer and poor health.

Please feel free to contact us if you have any questions or if you wish to further discuss this issue.

Yours Sincerely,

On behalf of Clean Indoor Air Toronto:
[26 names hidden for privacy]

Safe Air Collective

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