

Supporting Schools and Child Care Settings During Poor Air Quality Events

Background and Sample Policy

A resource for Ontario public health staff



Public Health
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About this Resource

This resource was developed to support public health staff in engaging schools and child care settings on the health risks associated with poor outdoor air quality, including wildfire smoke. It provides background information and a sample policy and procedure that can be adapted to local context.

Purpose

Policies and procedures for preparing for and responding to hazards are common in school and child care settings. They offer protection against potential harms by outlining hazard information and protocols to be followed. With climate change, poor air quality due to wildfire smoke is an increasing concern, particularly for children and other populations at greater risk. As an emerging issue, many settings do not yet have internal protocols to respond to adverse air quality events.

This sample policy and procedure (P&P) was developed to support public health agencies across Ontario in engaging school and child care settings to understand the risks associated with adverse air quality and to jump-start the development of health-protective policy. The sample P&P is intended as a starting point and can be modified by users to suit their unique local context and organizational needs.

Intended Audience

This resource is intended for public health staff working with schools and child care centres. The sample policy and procedure is designed to be shared with, and adapted by, school boards, child care operators, and other child-serving organizations.

How to Use This Resource

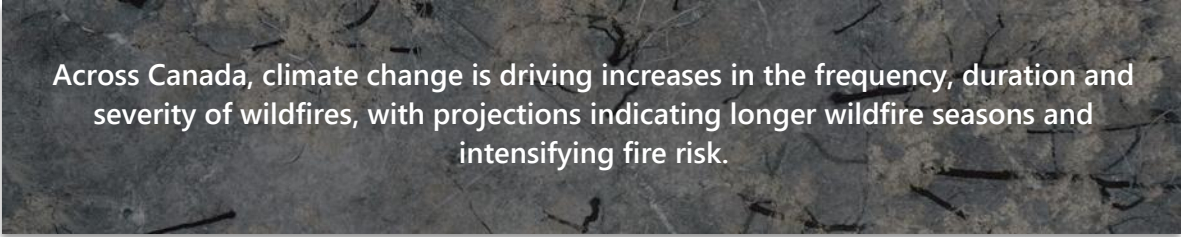
The background section provides context on outdoor air quality and health impacts to support engagement and education.

Appendix A includes a sample policy and procedure that can be used as a starting point for local policy development and should be adapted in consultation with users.

Appendix B includes a draft email that public health staff may use to initiate supportive, collaborative conversations with schools and child care settings about preparing for and responding to adverse air quality events.

Background

Poor outdoor air quality in Ontario can be caused by a range of sources, including wildfire smoke, elevated ground-level ozone, traffic-related air pollution, and local air contaminant emissions.



Across Canada, climate change is driving increases in the frequency, duration and severity of wildfires, with projections indicating longer wildfire seasons and intensifying fire risk.

Wildfire smoke can significantly degrade air quality not only from fires occurring within Ontario, but also from smoke transported over long distances from wildfires burning in other provinces, territories and countries, resulting in widespread and sometimes prolonged air quality impacts. The Government of Ontario publishes [local data](#) on special air quality statements.

Anyone can develop symptoms from air pollution, but children are at higher risk because their lungs and immune systems are still developing, they breathe more air relative to their body size and at faster rates, and they are often active outdoors. Children are also more likely to have asthma, which can be worsened by poor air quality.

Exposure to wildfire smoke most commonly results in minor symptoms such as eye or throat irritation, cough, runny nose and headache. More severe symptoms include dizziness, chest pain, difficulty breathing, wheezing and heart palpitations. Smoke exacerbates existing conditions like asthma, chronic obstructive pulmonary disease and congestive heart failure. Some emerging evidence suggests smoke may impact childhood development.

Establishing clear policies and procedures can help school and child care settings prepare for and respond to adverse air quality events, reducing the risk of severe health impacts for children and staff.

In recent years, public health units across Ontario have received increased inquiries from day camps, child care settings, and schools during periods of poor air quality related to wildfire smoke. In response, some jurisdictions have implemented targeted communications to these settings at the start of wildfire season to raise awareness and support preparedness. While such communications can be helpful, a more reliable and consistent approach to protecting children and staff is for premises to operationalize air quality awareness and response through clear policies and procedures.

Recommendation: Develop Health Protective Policies



Under the [Health Hazard Response Protocol, 2019](#) (Government of Ontario) and the [Emergency Management Standard](#) (Government of Ontario), boards of health are required to collaborate with community partners to develop effective strategies to reduce exposure to health hazards and reduce the burden of illness from health hazards in the physical environment, including poor air quality events.

The best way to protect everyone's health, including at-risk groups, is to reduce exposure to polluted air. Individuals working with children and young people can ensure that effective air quality policies are in place to minimize harm and protect health. Establishing a policy demonstrates an organization's commitment to safety and helps communicate the seriousness of poor air quality and the dangers of exposure. Importantly, when a written policy exists, people are more likely to follow recommended behaviours and take appropriate action.

Components of an Effective Outdoor Air Quality Policy

Information going into a policy should be gathered from credible sources and evidence. An outdoor air quality policy should include information about the hazards, the people at risk, and the signs and symptoms of exposure. It should also include protocols to prepare for and monitor air quality conditions as well as recommended actions to follow in the case of adverse air quality. Following severe wildfire seasons in British Columbia and Ontario in 2021 to 2023, new guidance for responding to poor air quality was released by provincial and federal health authorities. The information guides people to refer to air quality forecasts and alert notification services and provides recommendations on how to adjust activities depending on health risk from air pollution.

Using the Sample Template

Two key guidance documents were utilized in the development of this sample procedure and policy (P&P), including: [Wildfire Smoke and Air Quality Reference Document](#) (PDF), produced by the Ontario Ministry of Health in 2024, and [Wildfire Smoke: Schools and childcare facilities](#), produced by Vancouver Coastal Health and Fraser Health in 2024.

In alignment with these key documents, the sample P&P identifies people at higher risk, describes symptoms of exposure, and outlines recommended actions for readiness and response, including monitoring and following the [Air Quality Health Index](#) and receiving [WeatherCAN](#) notifications when poor air quality is forecast or occurring. Guidance on combined heat and air quality events is also included.

Public health units across Ontario can use this sample P&P to engage school and child care settings to build understanding of the health risks of adverse air quality and kick-start the development of health-protective policy. Because people are more likely to be enthusiastic and supportive about a policy when they help shape it, the sample P&P should be used as a starting point rather than a final, prescriptive product. Everyone should understand that a good policy and procedure is developed in consultation with users.

In tailoring the sample policy and procedures, organizations might try to:

- Ensure that every point is relevant to the setting and the users.
- Confirm that the policy is realistic given the resources available.
- Align the material with existing related policies, such as those on hot weather or medication access and use (like asthma inhalers).
- Be clear about who is responsible for implementing each task.

Linking to Prevention and Climate Resilience

In addition to supporting preparedness and response, public health professionals may use this work to advance broader efforts that reduce air pollution and strengthen climate resilience. This may include supporting initiatives like tree canopy enhancement, promoting greener transportation options, integrating air quality into climate planning, and aligning with healthy built environment initiatives. Addressing both response and upstream prevention helps reduce long-term health risks and advances equity.



Conclusion

Implementing an air quality policy and procedure will significantly enhance the safety of children and demonstrate the school or childcare organization's commitment to providing a healthy, safe environment. Engaging school and child care settings with the sample P&P puts the health risks of outdoor air quality front and center and helps drive the development of health-protective policies. Based on available resources and local context, public health agencies will determine the most appropriate engagement strategies.

Appendix A:

Sample Outdoor Air Quality Policy for Schools and Child Care Settings

Outdoor air quality is impacted by pollution from transportation sources, industry, and increasingly, wildfire smoke. Climate change is affecting air quality by increasing levels of certain air pollutants and increasing the frequency and severity of wildfires. This policy promotes air quality awareness and outlines the roles, responsibilities, and procedures for monitoring outdoor air quality and taking action before and during periods of poor air quality to help protect children and staff in school and child care settings.

Hazards of Outdoor Air Pollution

Outdoor air pollution, including wildfire smoke, contains various gases, water vapour and small particles. Small particles known as *particulate matter* (PM), especially those measuring less than 10µm, are the most harmful because they can be inhaled deep into the lungs. Exposure to poor air quality can result in milder symptoms such as headache, throat irritation, eye irritation, cough and runny nose. More severe symptoms include dizziness, chest pain, difficulty breathing, wheezing and heart palpitations. Symptoms triggered by poor air quality can lead to visits to physicians and emergency rooms, admissions to hospital and increased utilization of medications to treat respiratory conditions.¹

Who is at Greater Risk?

Anyone can experience symptoms from poor air quality, but some people are at greater risk. People in schools/child care settings who are at greater risk include:

- infants and young children;
- people of any age with an existing illness or chronic health condition (e.g., asthma, heart or lung conditions, diabetes, cancer);
- people involved in strenuous outdoor activities;
- pregnant people;
- people who smoke; and
- people living in situations of lower socio-economic status (e.g., lower income, experiencing housing insecurity)

¹ Health Canada. (2024). *Human health effects of wildfire smoke*. Government of Canada. <https://www.canada.ca/en/health-canada/services/publications/healthy-living/human-health-effects-wildfire-smoke.html>

Children and young people are at higher risk from outdoor air pollution due to a combination of behavioural and physiological factors. They naturally breathe more air relative to their body size, and their lungs and immune systems are still developing. Time spent active outdoors can further increase exposure. Young people are also more likely to have asthma, which can be worsened by poor air quality. Some individuals experience overlapping risk factors, such as a child with asthma who is active outdoors.

People with conditions like asthma, chronic obstructive pulmonary disease and cardiovascular disease can be particularly sensitive to poor air quality and will generally experience more serious health effects. Poor air quality can aggravate their existing health conditions, leading to more severe symptoms, increased medication use and needing to seek medical care.

Procedures for Outdoor Air Quality Awareness, Preparedness, and Monitoring

- Annually at the start of wildfire season, an appropriate person *[specify]* prepares staff to know the risk factors and symptoms of poor air quality exposure and recognize when medical attention is recommended.
- For routine programming and when planning new outdoor activities or events, staff are reminded to include alternatives in case of extreme weather and/or degraded air quality.
- The organization subscribes to air quality notifications on the [WeatherCAN app](#), and monitors the weather forecast [inclusive of [Air Quality Health Index \(AQHI\)](#) daily each morning. Where AQHI information is unavailable or changing rapidly, supplementary sources such as local air quality sensor data (for example, [PurpleAir](#)) and visible or noticeable smoke conditions (including seeing or smelling smoke) may also be used to support situational awareness.

Procedures for Adverse Air Quality Response

Trigger for Action

When the AQHI reaches moderate risk or above, a designated staff person *[specify name of individual]* communicates the status of an air quality alert or forecast to an appropriate person/decision-maker *[specify name of individual]*. In accordance with the air quality alert or AQHI, recommended actions for indoor air quality and outdoor activities are followed (Table 1).

Activity Modifications

Table 1: Air Quality Health Index (AQHI) and Recommended Actions for Schools and Child Care Centres

AQHI Risk Category	AQHI Index	Actions for Indoor Air Quality	Actions for outdoor activities
Low Risk	1	Normal air quality	Encourage outdoor play.
	2		
	3		
Moderate Risk	4	Keep exterior windows and doors closed. Make sure the indoor environment does not get too hot (temperatures below 26°C are best).	Allow children experiencing symptoms to modify their activities or stay indoors. For younger children (under 5) consider limiting time outdoors. Check-in on all children, especially those who may be more sensitive to air quality.
	5		
	6	Consider running portable air cleaners continuously in spaces used by children.	
High Risk	7	Enhance filtration where possible in building ventilation systems.	Move activities indoors whenever possible. If outdoor activities are required, limit them to low intensity activities. Cancel or postpone high physical exertion activities outdoors. Check-in on all children, especially those who may be more sensitive to air quality.
	8		
	9	Run the building ventilation system in 're-circulation' mode.	
Very High Risk	10		Move all outdoor activities indoors. Limit the intensity of activities indoors. Check-in on all children, especially those who may be more sensitive to air quality. Follow Ministry of Health guidance when symptoms are present.
	10+		

Indoor Air Protection Measures

During periods of poor outdoor air quality, it is important to protect and improve indoor air spaces. You can do this by keeping windows and doors closed as much as possible and adjusting ventilation so less outdoor air is moved inside. Remove contaminants from the air by enhancing filtration in the HVAC system. Use the best quality air filter that your ventilation system can handle based on the manufacturers' recommendation. A MERV 13 rated air filter is recommended to remove fine particulate matter. A quality portable air purifier can be used in spaces where you spend the most time.

Symptom Monitoring and Response

To monitor and respond to symptoms, staff should follow the guidance as below:

Milder symptoms include:

- headache
- throat irritation
- eye irritation
- cough
- runny nose

People with these symptoms should **stop physical activity and seek cleaner air.**

More severe symptoms include:

- dizziness
- chest pains
- difficulty breathing
- wheezing
- heart palpitations

Those with severe symptoms should **seek medical attention.**

Keep in mind that air quality conditions can change quickly. Check the AQHI, alerts and air quality forecast regularly on the WeatherCAN app. Be prepared for changing conditions and communicate with *[specify name of individual]* to adjust activities as necessary.

Ensure that children with medical conditions or who are prescribed medications have a plan in place and access to their medications in accordance with school/centre policies (e.g., inhalers for asthma).

Encourage children and staff to drink plenty of water. Water helps your body cope with adverse air quality.

Take care of your mental health during a wildfire smoke or other adverse air quality event. Anyone who is having trouble coping with symptoms of stress, anxiety or depression should seek help from a health professional.

[If one exists, link or refer to mental health policy here].

Poor Air Quality and Extreme Heat

Poor air quality and extreme heat can occur at the same time. Response measures should address both maintaining safe indoor temperatures and reducing air pollution exposure. Refer to guidance from Health Canada on how to [stay safe and cool](#) during hot weather. If necessary, prioritize staying cool. Apply measures like air conditioning and window shading to maintain safe indoor temperatures and cool spaces with cleaner air.

Pay attention to risk factors, how you feel physically, and check-in with those in your care. Anyone with symptoms of heat illness should immediately stop strenuous activities, move to a cool place (air-conditioned is best), and seek medical attention if needed. Everyone should drink water to stay hydrated.

[If one exists, link or refer to hot weather/sun safety policy here].

Policy Review Cycle

This policy will be reviewed *[specify cycle, e.g., every two years]* by *[specify individual or role]* and approved by *[specify individual or role]*.

Review date:

Approved date:

Additional Resources

- [Air Quality Health Index](#) (Environment and Climate Change Canada)
- [WeatherCan App](#) (Environment and Climate Change Canada)
- [Guidance for Cleaner Air Spaces during Wildfire Smoke Events](#) (Health Canada)
- [Wildfire Smoke, Air Quality and your Health](#) (Health Canada)
- Wildfire Smoke 101 factsheets and infographics (Health Canada):
 - [Wildfire smoke 101: Wildfire smoke and your health](#)
 - [Wildfire smoke 101: Preparing for wildfire smoke events](#)
 - [Wildfire smoke 101: Wildfire smoke with extreme heat](#)
 - [Wildfire smoke 101: Using an air purifier to clean indoor air](#)
 - [Infographic: Protecting your indoor air from outdoor pollutants](#)

Appendix B:

Email Template to Child Care Setting

Subject: Supporting schools and child care settings during poor air quality events

Dear [Name],

I am reaching out from [Public Health Unit name] to share some information and offer support related to outdoor air quality and wildfire smoke, which have become more frequent considerations for schools and child care settings across Ontario.

As you know, outdoor play is an important part of daily programming. At the same time, periods of poor air quality, particularly during wildfire smoke events, can raise questions about when and how to modify outdoor activities to protect children and staff. In recent years, many schools and child care settings have contacted public health for guidance during these events, especially when conditions change quickly.

One approach that some settings have found helpful is having a simple policy or procedure in place that outlines how air quality information is monitored and how decisions about outdoor activities are made during poor air quality events. These policies are typically brief, align with existing health and safety practices, and are intended to support staff by providing clarity and consistency rather than adding new requirements.

To support these conversations, we have developed background information and a sample outdoor air quality policy and procedure that can be adapted to fit the needs, resources and context of individual schools or child care settings. This is intended as a starting point only and can be modified or simplified as appropriate for your unique context.

If this is something you would like to explore, we would be happy to share the resource, answer questions or talk through how it could fit alongside your existing policies. Our goal is to support practical, manageable approaches that help keep children and staff safe during periods of poor air quality.

Please feel free to reach out if you would like to discuss this further.

Kind regards,

[Your name]

[Title]

[Public Health Unit]

[Contact information]