

Air Quality in Halton

Climate change & health

Climate change

and air quality are closely linked. Key air pollutants produced by fossil fuel combustion are sources of greenhouse gas emissions and wildfires. These pollutants are increasing as a result of climate change.

Climate change is impacting air quality in Canada and many air pollutants directly contribute to climate change



Air Pollution

The effects of pollution on health



Outdoor air pollution is a globally recognized cause of premature mortality from heart disease, stroke, and lung cancer.¹

Exposure to ambient air pollution, particularly fine particulate matter (PM_{2.5}), exacerbates respiratory conditions such as asthma. It is the largest global environmental risk factor for premature mortality, and worldwide, results in several million premature deaths from cardiovascular and respiratory diseases every year.²

In 2023, there were 1,182 emergency department visits for asthma and 382 admissions for asthma in Halton hospitals. There were more children under the age of 10 visiting emergency rooms for asthma-related diagnoses than any other age group.³

Air pollution is expected to exacerbate asthma and other respiratory conditions.



Priority Populations



Older adults are at a higher risk of health complications resulting from poor air quality, particularly if they have co-morbid cardiovascular or respiratory conditions



Outdoor workers may have greater exposure to poor air quality due to higher levels of exposure to ambient air pollution while on the job^{4,5}



Children living in low-income areas, racialized populations, and immigrants may be exposed to higher levels of air pollution⁶

Health Outcomes in Halton

In 2015, across Halton Region there were:



41,000 asthma symptom person-days



470,000 acute respiratory symptom person-days



950 child acute bronchitis person-days

associated with exposure to air pollution⁷

Air pollution in Halton Region has a number of sources including, but not limited to: transportation; burning of fossil fuels for electricity and heating; industrial activities; and transboundary air flows.

In 2015, the transportation and industry sectors contributed to most health outcomes.

The Government of Canada estimates that above-background air pollution, including air pollution from human sources in North America, contributes to 15,300 premature deaths per year in Canada with an economic cost of \$114 billion, including 6,600 premature deaths annually in Ontario.

Wildfires

After a brief decrease in 2020-2021, likely due to staying indoors during pandemic restrictions, rates of respiratory conditions such as asthma and chronic obstructive pulmonary disease began to increase. Wildfire Special Air Quality Statements happened on June 5-9, June 18-19, and June 27-June 29, 2023 in Halton. Figure 1 illustrates the number of emergency department visits for respiratory conditions from June 1 to 30, 2023. The fire icons show the days where there was a special air quality advisory in effect.

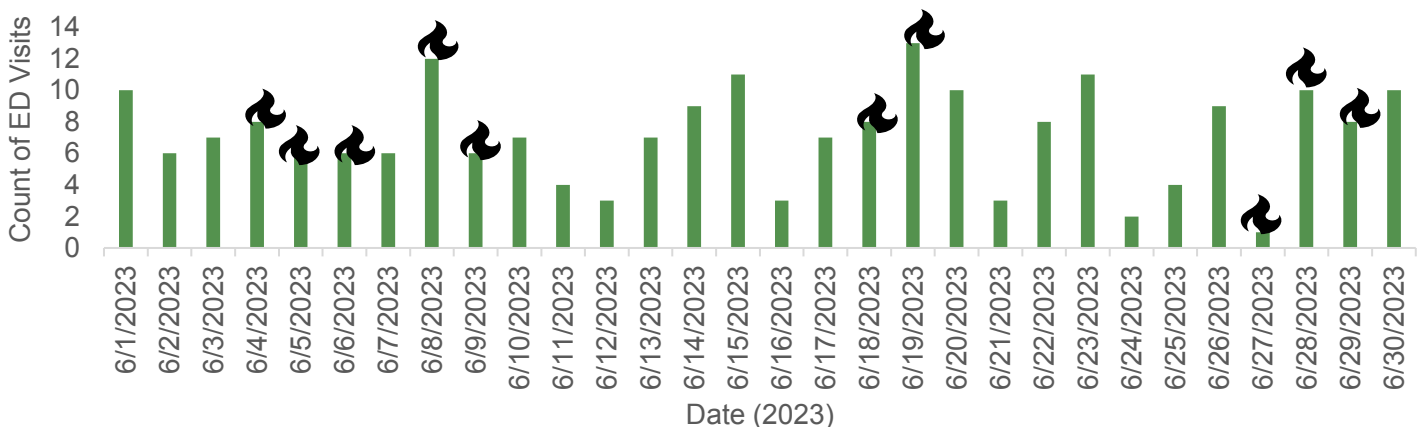


Figure 1. Count of emergency department visits for respiratory conditions at Halton hospitals, June 1-June 30, 2023. Source: NACRS & DAD, IntelliHealth, Ministry of Health, ICD-10 CA codes J40-47.

Priority populations including those who exercise heavily outdoors, children and older adults, should pay close attention to the Air Quality Health Index (AQHI) – a scale designed to help people understand the health risks of air quality. AQHI values are communicated via Environment and Climate Change Canada and Air Quality Ontario.

Did you know?

Exposure to wildfire smoke is associated with an increase in all-cause mortality and respiratory infections, as well as exacerbations of asthma and chronic obstructive pulmonary disease. Wildfires have caused Halton Region to closely monitor air quality levels and communicate Special Air Quality Statements (SAQS).

References

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5. Bell, M.L. et al., 2014 as referenced in Buse, C. et al. (2022). Climate Change and Health Vulnerability Assessment for Waterloo Region, Wellington County, Dufferin County, and the City of Guelph. Waterloo and Guelph, ON: Region of Waterloo Public Health and Wellington-Dufferin-Guelph Public Health Unit. Retrieved from <https://www.regionofwaterloo.ca/en/health-and-wellness/resources/Documents/Climate-Change-and-Health-Vulnerability-Assessment.pdf>
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This highlight report provides a high-level overview of this impact category. The full Climate Change and Health in Halton Region report is available upon request by contacting 311 or 905-825-6000 or by emailing accesshalton@halton.ca.

For more information on Halton Region's climate change initiatives visit halton.ca.