



Health Canada Santé
Canada Canada

Air Quality Health Index (AQHI) and Indoor Air Behaviour Change Survey

Executive Summary

Prepared for Health Canada

Supplier Name: Environics Research

Contract Number: HT372-204283/001/CY

Contract Value: \$74,513.95 (including HST)

Award Date: 2021-01-22

Delivery Date: 2021-03-26

Registration Number: POR 108-20

Health Canada POR Number: POR 20-19

For more information on this report, please contact Health Canada at: hc.cpab.por-rop.dgcap.sc@canada.ca

Ce rapport est aussi disponible en français.

Air Quality Health Index (AQHI) and Indoor Air Behaviour Change Survey Executive Summary

Prepared for Health Canada by Environics Research

March 2021

Permission to reproduce

This publication may be reproduced for non-commercial purposes only. Prior written permission must be obtained from Health Canada. For more information on this report, please contact Health Canada at:

hc.cpab.por-rop.dgcap.sc@canada.ca

Catalogue Number: H14-371/2021E-PDF

International Standard Book Number (ISBN): 978-0-660-39629-3

Related publications (registration number: POR 108-20)

H14-371/2021F-PDF (Final Report, French)

978-0-660-39630-9

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Health, 2021

Table of Contents

Executive summary	2
A. Background and objectives	2
B. Methodology	2
C. Contract value.....	3
D. Key findings.....	3
E. Political neutrality statement and contact information.....	6



Executive summary

A. Background and objectives

The Air Quality Health Index (AQHI) is a communications tool that calculates local air quality levels and reports it on a simple scale from one to ten plus. The higher the number, the greater the risk to health. The scale is also accompanied by health messages, both for the general and vulnerable populations. The AQHI has been publicly available in Canada for over a decade, and one of the program's key objectives is to have Canadians adapt their behaviour when outdoor air quality is poor, to protect their health.

Canadians spend around 90% of their time indoors. Efforts have been made over the years to provide recommended actions to reduce personal exposure to indoor air contaminants. The Water and Air Quality Bureau seeks to have Canadians adapt behaviours to improve the air quality within their homes and indoor spaces.

Recently, there have been numerous efforts to promote AQHI and indoor air messaging to Canadians. This public opinion research was considered essential in measuring the success of these outreach efforts.

The primary objective of this research is to measure behaviour change from AQHI use and indoor air information consumption, among vulnerable populations. Specifically, the research aims to gain a better understanding of:

- Canadians' awareness and understanding of the AQHI;
- Canadians' awareness of the health impacts of poor indoor air quality;
- Whether Canadians understand Health Canada's indoor and AQHI messaging and change their behaviour according to the advice provided.

B. Methodology

Environics Research conducted an online survey from February 25 to March 11, 2021. The findings are based on two key target audiences:

- General population (n = 1,509 adult Canadians).
- Vulnerable Canadians, defined as those with chronic respiratory conditions, caregivers of children or elderly relatives, and seniors 65 and older (n = 2,050, including 1,087 identified in the general population sample plus an additional oversample of 963).

To enrich analysis, air quality advisory data from the past five years was used to identify communities that most frequently receive air quality advisories. Communities within the top quintile (i.e., top 20%) in terms of advisory frequency were identified as "high advisory zones", representing communities receiving 14 or more air quality advisories in the past five years. This analysis showed that approximately 16 percent of the Canadian population lives within a high advisory zone, which are mainly concentrated in western Canada where forest fires are a frequent cause of air quality advisories. Regional quotas were designed to ensure sufficient representation of high advisory zones in the final sample.

Survey respondents were selected from registered members of an opt-in online panel. Since a sample drawn from an online panel is not a random probability sample, no formal estimates of sampling error can be calculated.

More information about the methodology for research is included in Appendix A of the full report.

C. Contract value

The contract value was \$74,513.95 (HST included).

D. Key findings

The survey results reveal that awareness of and frequency of consulting the AQHI are fairly low within the general population, but are slightly better among those at higher risk from air pollution: vulnerable Canadians and those living in high advisory zones (i.e., in the top quintile of the population for number of air quality advisories in the past five years). Canadians' tendency to discount the health risk posed by their local air quality is a barrier, since those who do not believe the risk is serious are significantly less likely to use air quality information and the AQHI, or to have taken action to reduce their exposure to air pollution.

In terms of indoor air quality, there is widespread acknowledgement of its health impacts (on par with outdoor air pollution) and a reasonable understanding of its causes. Health Canada has a good opportunity to impact perceptions and behaviours on this topic, as the information source most likely to be consulted by Canadians who are taking action to reduce their exposure to poor indoor air quality.

Air quality perceptions and behaviour

- There is broad recognition of the health risks of air pollution, but as past surveys on this topic have shown, Canadians continue to downplay the risk in their own community. Eight in ten Canadians believe air pollution affects the health of Canadians at least somewhat, if not a great deal. Moreover, a majority (58%) say the risk exists at any level of air pollution and not just when it reaches a certain threshold level. However, fewer than half consider their local air pollution to represent a serious health hazard. These perceptions are very similar among vulnerable Canadians.
- Four in ten (42%) Canadians have taken action to reduce their exposure to air pollution, up slightly from 2017 (38%). Likelihood to have acted to reduce their exposure is higher among those with chronic respiratory conditions (50%) and caregivers (52%), but not seniors (44%).

Air quality information

- Canadians report limited familiarity with and use of the air quality information available for their community. One-third (34%) are at least somewhat familiar with the information available, and 18 percent look for information about current air quality at least weekly (including five percent who do so daily). Both familiarity with (39%) and use of air quality information (21% weekly) is slightly higher among vulnerable populations.

- Among those who regularly seek out air quality information (both in the general population and among vulnerable audiences), their main source is the Weather Network, followed by general internet searches; comparatively fewer use federal government sources like the Environment Canada and Climate Change or weather.gc.ca websites. Notably, one in five Canadians receive air quality information sent directly to them through electronic push alert sources (e.g., apps, email or text message alerts); this is less common for seniors (16%), possibly due to lower comfort levels with this technology.
- Health professionals are not a widespread source of information about the negative health effects of air pollution. One in ten Canadians say they had a conversation with their doctor about this topic, unchanged from the 2017 survey. Such conversations are more widely reported by those with chronic health conditions and caregivers (15% each), but not by seniors (11%).

AQHI recall

- There is low overall awareness of the AQHI name. Two percent can name, without prompting, the scale that provides air quality information for their community, and one in three recognize hearing about the AQHI when prompted. Moreover, aided recall of the AQHI is unchanged since 2017. This low awareness is similarly true for vulnerable audiences.
- Beyond its name, a series of questions explored familiarity more generally with the AQHI's number and colour format. There is moderate recall of a numbered air quality scale (half of Canadians definitely or may recall it), although few of this group correctly identify it as using a 1 to 10 scale (32%, translating to 17% of Canadians). Canadians are no better at identifying the colours used to indicate different air quality levels: only six percent correctly identify the AQHI's blue to red spectrum.
- Those aware of the AQHI tend to recall last hearing about it between four to 12 months ago (45%) rather than more recently (two in ten in the past month). The relatively small group with recent (past month) recall of the AQHI tend to remember hearing about current air quality conditions and the air quality forecast for the day, and report taking a wide range of actions in response. Vulnerable Canadians are more likely than others to recall hearing specifically about current air quality conditions, and in response, to report avoiding second-hand smoke and paying closer attention to the forecast.
- One in three Canadians, and a similar proportion of vulnerable Canadians, say the information available to them gives them what they need to deal with air quality conditions; this view is more widespread among those in high advisory zones. By comparison, almost one in four say the current air quality information is inadequate, which skews to lower income individuals.
- Canadians consider the federal government to be the most trustworthy source for air quality information, followed by provincial and municipal governments, well ahead of doctors and other health professionals and the internet and social media sources. Vulnerable Canadians are more likely to include municipal governments among their top three most trusted sources.

Impact of high advisory zones

- Canadians in high advisory zones are no more likely than others to believe air pollution is a serious local health hazard. In fact, the perception that air pollution affects the health of Canadians is higher outside high advisory zones (i.e., in Ontario, Quebec and the Atlantic provinces).
- In terms of their behaviour, Canadians in high advisory zones are no more likely to have taken action to reduce their air pollution exposure. However, when they do, they are more likely than those outside high advisory zones to reduce their time spent outdoors. Since high advisory zones tend to reflect frequent forest fire advisories, their avoidance behaviour may reflect the availability of visual cues from smoke; it could also indicate they have a better understanding of how to protect themselves.
- High advisory zones are clearly correlated with greater awareness and use of air quality information. Canadians in high advisory zones, and especially vulnerable Canadians in those zones, report more familiarity with and use of local air quality information generally, including a greater likelihood to receive direct air quality alerts. They also have higher recall of both a numbered scale for air quality and the AQHI name specifically. As a result, they tend to be more likely to say they have the information they need to deal with air quality conditions.
- *Perceptions* of local air quality conditions are as important (if not more important) a factor as actual geographic location in Canadians' behaviours, and awareness and use of air quality information. Key measures such as taking action to reduce exposure to air pollution, frequency of consulting air quality information, and awareness of the AQHI are all highest among those who consider air pollution a very serious local health hazard – and beyond the levels reported by those in high advisory zones.

Indoor air quality

- There is broad recognition of the health risks of indoor air quality. More than eight in ten (85%) say it affects the health of Canadians at least somewhat, if not a great deal, which is on par with perceptions of the health risks of outdoor air pollution. However, as with air pollution, relatively few Canadians consider air quality to be a risk to them personally. Three-quarters rate their air quality at home as excellent (16%) or good (61%), compared to one in five who say it is only fair (17%) or poor (2%).
- Canadians are most likely to identify poor ventilation, followed by dust and second-hand smoke, as causes of poor indoor air quality.
- Four in ten Canadians self-report having taken steps to reduce exposure to poor indoor air quality, including removing the problem source (e.g., dust, chemicals, cigarettes) and improving or maintaining filter and ventilation systems. This group is most likely to look for information about indoor air quality from Government of Canada sources, followed by the Weather Network and general internet searches.

E. Political neutrality statement and contact information

I hereby certify as senior officer of Environics that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the Communications Policy of the Government of Canada, and Procedures for Planning and Contracting Public Opinion Research. Specifically, the deliverables do not include information on electoral voting intentions, political party preferences, standings with the electorate, or ratings of the performance of a political party or its leaders.

Sarah Robertson
Vice President, Corporate and Public Affairs
Environics Research
sarah.roberton@environics.ca
(613) 793-2229

Supplier name: Environics Research
PWGSC contract number: HT372-204283/001/CY
Original contract date: 2021-01-22
For more information, contact Health Canada at hc.cpab.por-rop.dgcap.sc@canada.ca