Health Canada Santé Canada

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

Final Report

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Canada

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Final report

Prepared for Health Canada by Environics Research

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Executive summary

A. Background and objectives

The Air Quality Healthy 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.

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About this report

This report begins with an executive summary outlining key findings and conclusions, followed by detailed analysis of the quantitative results. A detailed set of "banner tables" is provided under separate cover; this presents results for all survey questions by segments such as region, age and gender as well as by vulnerable populations and high advisory zone residents.

Findings in the report are discussed in terms of key segments defined as follows:

Canadian general population (Canadians): based on the online panel sample of 1,509 Canadians. Unless otherwise noted, all demographic comparisons (gender, region, income, education, etc.) except for age are based on this sample.

Vulnerable Canadians: based on the oversample of 963 Canadians from vulnerable groups (Seniors, caregivers, or those with chronic respiratory conditions) and members of vulnerable groups from the general population sample (n = 1,087). There are a total of 2,050 vulnerable respondents in the final sample.

High advisory zone residents: Canadians living in areas with frequent air quality advisories, designated as high advisory zones. See methodology for details on how respondents were assigned. Unless otherwise noted, "high advisory zone" refers to those in the *Canadian general population sample*.

The quantitative results are expressed as percentages unless otherwise noted. Results may not add to 100% due to rounding or multiple responses. Net results cited in the text may not exactly match individual results shown in the charts due to rounding. Base size is the total sample of n=1,509 general population and n=2,050 vulnerable Canadians unless otherwise specified; these two groups are always reported separately and never as a combined total sample.

Where applicable, some results are compared to the 2017 Air Quality Health Index Omnibus survey conducted by Leger. The 2017 survey of 2,002 Canadian adults was conducted using a mixed telephone and online methodology; due to methodological differences, comparisons between the two studies should be interpreted with caution.

II. Detailed findings

1. Air Pollution / Indoor Air Quality Impact on Health

Impact of air pollution on health

More than eight in ten Canadians, and a similar proportion of vulnerable Canadians, believe that air pollution affects health.

Most Canadians see air pollution as a factor that affects health. More than eight in both the general population (83%) and among vulnerable Canadians (85%) say that air pollution affects health "somewhat" or "a great deal".

Among vulnerable Canadians, this perception is more common among those with chronic respiratory conditions (87%) and seniors (87%) than among caregivers (83%).

Perceived effect of air pollution on health

Effect on health of Canadians	Top 2 Net	A great deal	Somewhat	Not very much	Not at all	Not sure
General population n = 1,509	83%	34%	49%	13%	2%	2%
Vulnerable n = 2,050	85%	38%	47%	12%	2%	2%

Q7. In your view, to what extent does air pollution affect the health of Canadians? Does it affect them…

The perception that air pollution affects health "a great deal" or "somewhat" is also more widespread among:

- Canadians living outside high advisory zones, both general population (85%) and vulnerable (86%).
- Residents of Ontario (86%), Quebec (86%), and Atlantic Canada (88%).
- Women (86%, compared to 81% for men).

Impact of indoor air quality on health

Most Canadians also believe indoor air quality affects health at least somewhat, at a similar proportion to outdoor air pollution.

Views on the health impact of indoor air quality are very similar to those about air pollution. Most Canadians (85%) believe that indoor air quality affects health "somewhat" or "a great deal".

This proportion is nearly identical for vulnerable Canadians as a whole (86%), but skews higher among those with chronic conditions (89%).

Perceived effect of air indoor air quality on health

Effect on health of Canadians	Top 2 Net	A great deal	Somewhat	Not very much	Not at all	Not sure
General population n = 1,509	85%	37%	48%	11%	1%	2%
Vulnerable n = 2,050	86%	38%	48%	11%	1%	1%

Q8. In your view, to what extent does indoor air quality affect the health of Canadians? Does it affect them…

As with outdoor air pollution, the perception that indoor air quality affects health "a great deal" or "somewhat" is also more widespread among residents of Ontario (88%), Quebec (88%), and Atlantic Canada (91%).

2. Air Pollution Perceptions

Threshold levels for health effects of air pollution

Canadians are more likely than not to believe that people's health can be affected by air pollution even at very low levels.

More than half of Canadians (58%) believe that air pollution affects health at any level. By comparison, a minority (37%) think there is a health impact only when air pollution reaches a certain level. This distribution of views is similar among vulnerable Canadians.

Level at which air pollution affects health

Air pollution affects people's health…	At any level	Only when it reaches certain level	Not sure
General population n = 1,509	58%	37%	5%
Vulnerable n = 2,050	57%	37%	5%

Q9. Do you think that air pollution affects people's health…

The view that air pollution affects health even at very low levels is held by a majority in most regions except Alberta (48%), where an almost equal proportion believe air pollution is only a health issue once it reaches a certain level (47%). These views do not vary significantly by demographic or other subgroups.

Health hazards to local population

Fewer than half of Canadians believe that air pollution in their own community poses a health hazard, and this perception is no higher among vulnerable Canadians or in high advisory zones.

While Canadians say that air pollution clearly affects the health of Canadians generally, they are noticeably less likely to acknowledge this to be the case in their own community. Asked to consider air pollution specifically where they live, fewer than half of Canadians (47% of those in the general population and vulnerable Canadians), believe it poses a very or somewhat serious health hazard.

Perceived health hazard of air pollution to local population

Level of hazard	Net: Serious	Very serious	Somewhat serious	Not serious	No hazard at all	Not sure
General population n = 1,509	47%	10%	37%	41%	7%	4%
Vulnerable n = 2,050	47%	8%	38%	43%	7%	3%

Q10. How much of a hazard do you believe air pollution presents to the health of people living in your area?

Those most likely to see air pollution as a serious hazard (very or somewhat) to the health of people in their community include:

- Residents of British Columbia (48%), Ontario (55%) and Quebec (47%).
- Canadians with household incomes under $80K (54%)
- Among vulnerable Canadians, those with chronic conditions (49%) and caregivers (51%), ahead of seniors (43%).

Notably, Canadians in high advisory zones are no more likely than those in other areas to believe air pollution is a serious health hazard in their community.

Action to reduce air pollution exposure

Four in ten Canadians have taken action to reduce their exposure to air pollution, most commonly by avoiding second-hand smoke. The likelihood to have acted to reduce their exposure is higher among those with chronic respiratory conditions and caregivers, but not among Canadians in high advisory zones.

Given that substantial proportions of Canadians believe air pollution is a health hazard, have they done anything in response? Four in ten (42%) Canadians say they have taken action to reduce their exposure to air pollution; most indicate this is due to health (32%) rather than other reasons (9%). This marks a slight increase compared to 2017, when 38 percent said they had taken action to reduce their exposure.

Vulnerable Canadians (47%), and particularly caregivers (52%) and those with chronic conditions (50%) compared to seniors (44%), are more likely to have acted to reduce exposure.

Taken steps to reduce exposure to air pollution

Taken action	Net: Yes	Yes, because of health	Yes, other reasons	No	Not sure	2017 Net: Yes
General population n = 1,509	42%	32%	9%	52%	7%	38%
Vulnerable n = 2,050	47%	38%	9%	48%	5%	N/A

Q11. Have you taken specific actions to reduce your exposure to air pollution, either because of the effect it has had on your health, or because you want to avoid any effects on your health?

Other groups more likely to take steps to reduce their exposure to air pollution include:

- Residents of British Columbia (51%) and Ontario (44%).
- Canadians with household income below $80K (45%).
- Those who see air pollution as a very (76%) or somewhat (51%) serious local health hazard.

The likelihood to have taken action to reduce exposure is not significantly different in high advisory zones.

Specific actions taken. Those who have acted to reduce their exposure to air pollution were asked what specific steps they have taken (from a list provided). Avoiding second-hand smoke is the top action by a considerable margin Canadians as a whole (72% of those taking action). Among the general population, other relatively common actions include reducing time outdoors (44%), wearing a mask[1] (42%), getting away from polluted areas (39%), and seeking information about air quality (35%).

The relative prioritization of these actions is similar for vulnerable Canadians, although they are more likely than the general population to report avoiding second-hand smoke (77%; and especially seniors at 83%) and reducing their time outdoors (48%).

Steps taken to reduce exposure to air pollution

Steps taken (among those who indicated they have taken steps to reduce exposure to air pollution)	General population n = 631	Vulnerable n = 966
Avoid second-hand smoke	72%	77%
Reduced time spent outdoors/stay inside when air quality is bad	44%	48%
Wear a mask	42%	43%
Get out of the city/away from polluted area	39%	37%
Sought out more information on advisory/air quality	35%	38%
Saw doctor/health professional	17%	20%
Cut down on strenuous activity/aerobic exercise	14%	17%
Air purifier / HEPA filter / furnace filter	12%	13%
Other	2%	3%
Not sure	1%	2%

Q12. What steps have you taken to reduce your exposure to air pollution? BASE: Those who have taken actions to reduce exposure to air pollution (Gen Pop n=631, Vulnerable n=966)

Some actions are more or less common within certain regions and among particular subgroups.

Avoiding second-hand smoke is less widely reported by those taking action to reduce air pollution exposure in British Columbia (63%) and Quebec (64%).

Reduced time outdoors to reduce air pollution exposure is more widely reported by:

[1] The proportion who report wearing a mask may be inflated by local and provincial mandates to wear masks during the COVID-19 pandemic

- Canadians in high advisory zones, both in the general population (55%) and among vulnerable Canadians (61%).
- Residents of British Columbia (54%), Alberta (54%), and Ontario (46%).
- Women (50%, vs. 37% of men).

Getting away from the city or away from polluted areas to reduce exposure is more widely reported by:

- Canadians outside high advisory zones (41%, vs. 31% in high advisory zones).
- Residents of Ontario (40%), Quebec (41%), and Atlantic Canada (61%).

Several actions are also more widely reported by those consider air pollution to be a serious local health hazard.

3. General Awareness and Use of Air Quality Information

Familiarity with air quality information in community

There is modest familiarity with air quality information, with one third who are at least somewhat familiar with what is available for their community. Familiarity is higher for vulnerable Canadians and those living in high advisory zones, but still sits at less than half of these target audiences.

One in three Canadians (34%) say they are very or somewhat familiar with the air quality information available for their community. This is unchanged from the 2017 survey (34% very or somewhat familiar).

Familiarity with air quality information is comparatively higher among vulnerable Canadians (39%).

Familiarity with air quality information available for community

Familiarity	Net: Familiar	Very familiar	Somewhat familiar	Not very familiar	Not at all familiar	Not sure	2017 Net: Familiar
General population n = 1,509	34%	5%	29%	41%	23%	2%	34%
Vulnerable n = 2,050	39%	6%	33%	41%	18%	2%	N/A

Q13. How familiar are you with the air quality information available for your community?

Familiarity (very or somewhat) with air quality information is also higher among:

- Canadians in high advisory zones, both in the general population (44%) and among vulnerable Canadians (47%).
- Residents of British Columbia (51%).
- Men (40%, vs. 27% of women).
- Those who consider air pollution a very (58%) or somewhat (39%) serious local health hazard (vs. 27% who say it is not serious).

Use of air quality information

One-third of Canadians look for air quality information at least monthly, while nearly four in ten never do. Vulnerable Canadians and those in high advisory zones consult air quality information somewhat more frequently compared to the general population. The Weather Network, including its online and mobile offerings, is the most widely used source of air quality information.

The frequency with which Canadians report looking for current air quality information varies widely. One in ten look for it on a daily to weekly basis (13%) and a total of 33 percent view it on a monthly basis or more. One-quarter (25%) look for it only a few times a year, while almost four in ten (37%) never do.

Vulnerable Canadians look at this information slightly more frequently, four in ten (40%) looking at it monthly or more often. Still, even among vulnerable groups, one in three (32%) say they never look for this information.

Frequency of consulting air quality information

Frequency	Daily	Weekly (includes daily)	Monthly (includes weekly)	A few times per year	Never	Not sure
General population n = 1,509	5%	13%	33%	25%	37%	5%
Vulnerable n = 2,050	7%	15%	40%	24%	32%	4%

Q14. How frequently do you look for information on the current air quality in your community?

Subgroups that are more likely to consult air quality information at least monthly include:

- Canadians in high advisory zones, both in the general population (38%) and among vulnerable audiences (45%).
- Residents of British Columbia (39%), Alberta (39%) and Ontario (37%).
- Men (40%, vs. 26% of women).
- Canadians with a postsecondary degree (35%, vs. 27% without)
- Those who consider air pollution a very (56%) or somewhat (43%) serious local health hazard (vs. 23% who say it is not serious).

Sources of air quality information. Canadians who regularly seek air quality information most often use the Weather Network (35%), followed by the internet in general (25%). Comparatively fewer use federal government sources (12%). This is consistent with the 2017 survey, where the top two sources mentioned were also the Weather Network (33%) and the internet generally (25%).

While vulnerable Canadians are more likely than the general population to seek out this information in the first place, the sources they use are similar.

Air quality information sources used

Information source (among those who look for this information at least monthly)	General population n = 532	Vulnerable n = 853
Any Weather Network mention (net)	**35%**	**38%**
Weather network (not specified)	24%	26%
Weather Network (app)	6%	6%
Weather Network (website)	4%	4%
Weather Network (TV)	3%	2%
Internet/website – other	25%	24%
Any Government of Canada mention (net)	**12%**	**12%**
Environment and Climate Change Canada (not specified)	5%	4%
Government of Canada (unspecified)	5%	4%
Environment and Climate Change Canada website/Weather.gc.ca website	2%	2%
TV – Other	5%	7%
An app on my phone	3%	3%
Radio	3%	4%
News (unspecified)	2%	4%
Newspaper	2%	4%
Other	8%	9%
Not sure / prefer not to answer	16%	12%

Q15. And where are you most likely to look for this air quality information? BASE: Those who look for air quality information at least monthly (Gen Pop n = 532, Vulnerable n = 853).

Across sub-groups, Canadians generally mention similar information sources. However, the Weather Network is more widely used by those who regularly seek air quality information:

- Not in high advisory zones, both in the general population (38%) and among vulnerable Canadians (41%).
- In Ontario (38%).

Direct air quality information

Direct air quality alerts are used by two in ten Canadians overall, and one-quarter of caregivers and Canadians living in high advisory zones.

One in five Canadians (21%), and an identical proportion of vulnerable Canadians (21%), receive air quality information directly from electronic push alert sources, the most common being an app (15% each).

Among vulnerable Canadians, those with chronic conditions (22%) and caregivers (25%) are more likely to receive air quality information directly this way, compared to 16 percent of seniors.

Regularly receive air quality information sent directly from source

Format	General population n = 1,509	Vulnerable n = 2,050
Receive any (net)	**21%**	**21%**
Through an app	15%	15%
As an e-mail alert	4%	4%
As a text message alert	4%	4%
Through a Twitter feed	3%	2%
As a free telephone message alert	3%	2%
None of the above	79%	79%

Q16. Do you get air quality information sent directly to you on a regular basis in any of the following ways?

Those more likely to receive any of these types of direct alerts also include:

- Canadians in high advisory zones, both in the general population (25%) and among vulnerable groups (26%).
- Canadians with a postsecondary education (23% vs. 15% without).
- Those who consider air pollution a very (44%) or somewhat (23%) serious local health hazard (vs. 15% who say it is not serious).

Doctor or health care professional provided information

One in ten Canadians have had a conversation with their doctor or another health care professional about the effects of air pollution. Those more likely to report a discussion on this topic include Canadians with chronic conditions, caregivers, and those who consider air pollution to be a serious local hazard.

Very few Canadians (9%) say a doctor or other health care professional has ever spoken to them about the negative health effects of air pollution. This is consistent with the findings from the 2017 survey (10%).

Vulnerable Canadians are only slightly more likely to say they received this type of information from a health professional (12%), although this is more commonly reported by those with chronic conditions and caregivers (15% each) than by seniors (11%).

Received information about health impacts of air pollution from health care professional

Information from doctor / health care professional	Yes	No	Not sure	2017 Yes
General population n = 1,509	9%	86%	4%	10%
Vulnerable n = 2,050	12%	84%	4%	N/A

Q17. Has a doctor or other health care professional ever talked to you or provided you with information about the negative effects that air pollution could have on your health specifically?

In addition to the vulnerable segment, the proportion who report having a discussion with their health professional about the health impacts of air pollution is higher among those who consider air pollution to be a very (23%) or somewhat (13%) serious local hazard (vs. 5% who say it is not serious).

4. Air Quality Health Index (AQHI)

Recall of numbered scale for air quality or air pollution

There is modest awareness of a numbered air quality scale, with one in three definitely recalling it. Canadians with chronic respiratory conditions and those living in high advisory zones are more likely to remember a scale.

One in three Canadians, both in the general population (32%) and among vulnerable groups (35%), definitely recall a numbered scale for air quality in their community. Combined with those who say "maybe" to this question, the proportion with potential recall of the scale is about half each of Canadians (51%) and vulnerable Canadians (53%). This represents a potential increase compared to 2017 (40% yes or maybe), although caution should be used due to methodology differences.

Recall seeing or hearing about numbered scale for air quality / air pollution

Recall numbered scale	Yes	Maybe	Net: Yes or maybe	No	Not sure	2017 Net: Yes or maybe
General population n = 1,509	32%	19%	51%	43%	7%	40%
Vulnerable n = 2,050	35%	18%	53%	40%	7%	N/A

Q18. Do you recall seeing or hearing about a numbered scale that measures air quality or air pollution for your community?

Definite recall varies among different segments, with the following groups most likely to say they clearly recall a numbered scale for air quality:

- Among vulnerable Canadians, those with chronic respiratory conditions (39%).
- Those living in high advisory zones, both in the general population (42%) and among vulnerable groups (48%).
- British Columbia (44%) and Alberta (42%).
- Men (38% vs. 27% of women).
- Canadians with a postsecondary education (35%, vs. 25% without).

Additionally, those with household income below $40K are significantly less likely to recall a numbered (21%).

Recall specific number system used in air quality or air pollution scale

Of those who recall a scale for air quality, one in three correctly identify the 1 to 10 scale used for the AQHI. Vulnerable Canadians specifically in high advisory zones have higher recall of the correct scale.

Of those who definitely or may recall a numbered scale for air quality, one in three of both the general population (34%) and vulnerable Canadians (34%) correctly identify it as a 1 to 10 scale (from a list provided). When calculated as a function of the total sample, the proportion with correct recall of the 1 to 10 scale translates to 17% of all Canadians and 18% of the vulnerable population.

Recall numbers used in scale for air quality / air pollution

Numbers in scale recalled (among those who definitely or may recall a scale)	1 to 10 scale	0 to 100 scale	0 to 120 scale	Other	Not sure
General population n = 781	34%	12%	2%	3%	49%
Vulnerable n = 1,156	34%	11%	1%	2%	51%

Q19. Can you recall what kind of numbers are shown on this scale to indicate different levels of air quality? BASE: Those who recall seeing a numbered scale (Gen Pop n = 781, Vulnerable n = 1.156).

Correct recall of the 1 to 10 scale is broadly consistent across sub-groups, but is higher:

- Among vulnerable Canadians only, those in high advisory zones are more likely to correctly identify the 1 to 10 scale (43%) (this pattern is not evident in the general population).
- In Alberta (52%) and Manitoba / Saskatchewan (46%).
- Among men (39% vs. 29% of women).

Recall colours used to indicate air quality levels

Canadians are largely unsure of the colours used to denote air quality levels, and frequently guess incorrectly that it uses a red to green or rainbow scale. Seniors are particularly uncertain about this.

Asked about the colours used to indicate different levels of air quality (from a list provided), two-thirds of Canadians (65%) are unsure. Just six percent of Canadians correctly identify the AQHI's blue to red spectrum used to denote air quality, while 21 percent incorrectly guess it uses a red to green spectrum.

Among vulnerable Canadians, an even higher proportion (69%) say they are unsure about the colours used. Seniors in particular have difficulty recalling this information (80% unsure).

Recall colours used in scale for air quality levels

Colours in scale recalled	Red to green (or Rainbow) spectrum	Blue to red (or brown) spectrum	Red	Blue	Other	Not sure
General population n = 1,509	21%	6%	5%	1%	<1%	65%
Vulnerable n = 2,050	18%	6%	5%	1%	1%	69%

Q20. Can you recall any particular colour(s) that is/are used to indicate different levels of air quality?

Other groups most likely to say they are "not sure" about the colours include:

- Those living outside high advisory zones, both in the general population (67%) and among vulnerable groups (72%).
- Residents of Atlantic Canada (79%).
- Those who do not consider air pollution to be a serious health hazard where they live (70%).

AQHI awareness

There is low overall awareness of the AQHI. Two percent of Canadians can name it without prompting, and one in three recognize the name when prompted. Canadians in high advisory zones have higher aided awareness of the AQHI.

Unaided awareness. When asked to type in the name of the scale used for air quality (unaided, with no list provided), most Canadians (84%) could not hazard a guess. Of the few who do offer a name, "Air Quality Index" is a more common response (7%) than Air Quality Health Index (2%). These findings are consistent among vulnerable Canadians.

Unaided awareness of AQHI

Name of index or scale	General population n = 1,509	Vulnerable n = 2,050
Air Quality Index/AQI	7%	7%
Air Quality Health Index/AQHI	2%	2%
Air Pollution index	1%	1%
Other	7%	6%
Not sure	84%	85%

Q21. Can you recall the name(s) of the index(es) or scale that provides air quality information for your community?

Large majorities (80+%) in all regions and subgroups say they unsure about the index name; none of the subgroups demonstrate better unaided recall of the AQHI name.

Aided awareness. Asked directly if they have heard of the AQHI, one in three (34%) Canadians say they have. This proportion is the same for vulnerable Canadians (34%), though within this group, caregivers specifically have higher recall at 40 percent. Aided recall of the AQHI is stable compared to 2017.

Aided awareness of AQHI

Recall hearing about AQHI	Yes	No	Not sure	2017 Yes
General population n = 1,509	34%	50%	17%	34%
Vulnerable n = 2,050	34%	50%	16%	N/A

Q22. Do you recall hearing anything about something called the "Air Quality Health Index" or "AQHI"?

Aided recall of the AQHI is higher among:

- Canadians in high advisory zones, both in the general population (47%) and among vulnerable groups (51%).
- Residents of British Columbia (45%) and Alberta (50%); aided recall is particularly low in Quebec (10%).
- Those with a university education (37%, vs. 30% with a high school diploma or less education).
- Those who think air pollution is a very serious local health hazard (44%).

Recently seen or heard about AQHI

Of those aware of the AQHI, two in ten have heard or seen something about it in the past month. Recall is most commonly linked to the six to 12 month time span, especially for those in high advisory zones; this timing is consistent with the most recent forest fire season.

Among those who have heard of the AQHI, one in ten recall hearing or seeing something about the index in the past week, among both the general population (10%) and the vulnerable groups (12%).

Within the vulnerable group, past week recall of the index is somewhat higher for those with chronic conditions (14%).

Looking back to include the past month, about one in five Canadians (19%) and vulnerable Canadians (21%) recall hearing about the AQHI.

Most recent time seeing or hearing something about AQHI

Last heard about AQHI (among those who recall hearing about AQHI)	Past week	Past month	Past 2 to 3 months	Past 4 to 6 months	Past 6 to 12 months	12 months or more	Not sure
General population n = 519	10%	9%	10%	17%	28%	17%	8%
Vulnerable n = 817	12%	9%	10%	14%	32%	12%	10%

Q23. When was the most recent time you recall hearing or seeing something about the Air Quality Health Index? (BASE: Those aware of AQHI. Gen pop n = 519, Vulnerable n = 817)

Past week recall of the AQHI is highest among those aware of the index who are:

- Outside high advisory zones, both in the general population (13%) and among vulnerable groups (15%).
- Residents of Quebec (25%).
- Men (16%, vs. 4% of women).

Looking more closely at Canadians in high advisory zones, one in three most recently recall hearing or seeing the AQHI between six to 12 months ago, both for the general population (34%) and vulnerable Canadians (36%). This timing is consistent with the most recent forest fire season.

What was recently heard / seen about AQHI

Of those who recall hearing or seeing something about the AQHI within the past month, most remember hearing about air quality conditions, followed by a daily air quality forecast.

Those who recall seeing or hearing something about the AQHI in the past month were asked what they saw or heard (from a list of possible responses). They most often recall current air quality conditions (64%) or a daily forecast (49%). Other aspects recalled include allergen or pollen count (39%), information about types of pollutants (34%), a maximum air pollution level for the day (33%), and humidity levels (30%).

Recall is similar among vulnerable Canadians, although this group is somewhat more likely to recall current air quality conditions (70%) and less likely to mention hearing about pollutant types (27%).

Within the vulnerable group, seniors are most likely to mention seeing a daily forecast (64%), while caregivers are more likely than others to note pollutant type (34%), health effects (34%), and who is most at risk (33%).

What was specifically heard / seen about AQHI

Specific information recall hearing / seeing about AQHI (among those who recall hearing about AQHI in past month)	General population n = 96	Vulnerable n = 158
Current air quality conditions	64%	70%
Forecast air quality for the day	49%	51%
Allergen/pollen count	39%	39%
Types of pollutants causing poor air quality	34%	27%
Forecast maximum air pollution level for the day	33%	33%
Humidity levels	30%	33%
Potential health effects of pollution level for the day	27%	25%
Who is most at risk to health effects of air pollution	27%	25%
Forecast for how long an air pollution episode is expected to last	26%	20%
How to limit personal exposure to air pollution/How to protect health	17%	16%
What can be done to reduce personal contribution to air pollution	16%	12%
Other	2%	1%
Not sure	1%	1%

Q24. And what specifically do you recall hearing or seeing? (BASE: Those who recall hearing / seeing about AQHI in past month. Gen pop n = 96, Vulnerable n = 158)

Sample sizes for other subgroups are not large enough to identify other differences between groups.

Steps taken in response to AQHI information

Those who recall hearing about the AQHI recently report taking a wide range of actions in response.

Those who recall seeing or hearing something about the AQHI in the past month were asked what steps, if any, they took in response (from a list provided). The most widely reported actions taken in response to the AQHI are wearing a mask[2] (44%) and simply paying closer attention to the air quality forecast (43%). Avoiding second-hand smoke (40%), protection from the heat (38%), and reduced time outdoors (38%) are also common. One in ten acknowledge they did nothing in response.

Vulnerable Canadians who recently heard about the AQHI are more likely to report avoidance of second-hand smoke (53%) and paying closer attention to the forecast (50%).

Steps taken in response to AQHI

Steps taken in response to AQHI (among those who recall hearing about AQHI in past month)	General population n = 96	Vulnerable n = 158
Wore a mask	44%	41%
Paid closer attention to air quality forecasts/information	43%	50%
Avoided second-hand smoke	40%	53%
Protected self from the sun/heat	38%	41%
Reduced time spent outdoors/postponed outdoor activities	38%	40%
Sought out more information on advisory/air quality	30%	23%
Cut down/doing less strenuous activity/aerobic exercise outdoors	29%	32%
Reduced use of vehicle/motorized equipment	28%	24%
Changed schedule of activity to avoid exposure at certain times of day	25%	30%
Got out of the city/away from polluted area	20%	19%
Took public transit	9%	9%
Saw doctor/health professional	8%	8%
Took medication/oxygen	8%	9%
Other	1%	2%
None/taken no steps	12%	11%
Not sure	2%	1%

Q25. What steps, if any, have you or others in your household taken in response to what you've heard or seen about the Air Quality Health Index? (BASE: Those who recall hearing / seeing about AQHI in past month. Gen pop n = 96, Vulnerable n = 158)

Sample sizes for other subgroups are not large enough to identify other differences between groups.

[2] The proportion who report wearing a mask may be inflated by local and provincial mandates to wear masks during the COVID-19 pandemic

Air quality information adequate for needs

One in three 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.

Regardless of their level of awareness of the AQHI, all respondents were asked if the air quality information available to them gives them what they need to deal with air quality conditions. One in three Canadians (32%) and vulnerable Canadians (34%) agree the available information meets their needs, which is very similar to 2017 (33%). Close to one in four say they don't have the information they need to deal with air quality conditions; the remainder say they don't need this information or are unsure.

Within the vulnerable group, those with chronic conditions (36%) and caregivers (38%) are somewhat more likely to say they have adequate air quality information.

Currently available air quality information gives information needed

Gives information you need	Yes	No	Info not needed	Not sure	2017 Yes
General population n = 1,509	32%	24%	13%	31%	33%
Vulnerable n = 2,050	34%	23%	14%	29%	N/A

Q26. Does the air quality information currently available to you give you the information you need to deal with air quality conditions?

Agreement that they have the air quality information they need is more widespread among Canadians living in high advisory zones, both in the general population (41%) and among the vulnerable group (43%).

The proportion who say they do not have the information they need is higher among:

- Residents of Quebec (34%).
- Those with household incomes under $40K (34%).
- Those who consider air pollution to be a very serious (38%) local health hazard.

Trustworthy sources for air quality information

Canadians consider the federal government to be the most trustworthy source for air quality information, followed by provincial and municipal governments.

Respondents were asked to rank the top three most trustworthy sources of air quality information from a list provided. The federal government is ranked at the top, with 36 percent rating it as the most trustworthy source, and a total of 72 percent rating it among the top three most trustworthy sources of information.

Majorities rank provincial governments (66%) and municipal governments (58%) within their top three most trustworthy sources; four in ten include non-governmental organizations.

Vulnerable Canadians are more likely to rate municipal governments among their top three most trusted sources of air quality information, but their ratings are otherwise very similar to the general population. Within the vulnerable group, those with chronic conditions are more likely than others to rate the federal government as a trustworthy source (72% rate it top three), and seniors are more likely to rate provincial (69%) and municipal governments (65%) in their top three.

Trust rating of sources for air quality information

Information sources	Ranked as top source		Ranked among top 3 sources	
	General population (n = 1,509)	Vulnerable (n = 2,050)	General population (n = 1,509)	Vulnerable (n = 2,050)
Federal government (e.g. Health Canada, Environment and Climate Change Canada)	36%	36%	72%	71%
Non-governmental organization (e.g. environmental or health organization)	18%	16%	41%	40%
Municipal government / local health authorities / public health unit	16%	17%	58%	62%
Provincial government (e.g. provincial ministry of health)	13%	13%	66%	66%
Family doctor	8%	8%	23%	23%
Google search	4%	3%	15%	13%
Other health professional	3%	3%	15%	15%
Word of mouth / friends / family	2%	2%	7%	7%
Social media influencers (e.g. Instagram, blogs, Facebook, Twitter)	1%	1%	4%	4%

Q27. From the following list, please rank the top three sources you would consider most trustworthy for air quality information where "1" is most trustworthy, "2" is second most trustworthy and "3" is third most trustworthy.

Looking at the combined top three rankings, there are some differences between groups:

- The federal government is more likely to be rated as a top three source by those with a university education (75%) and those with household income of $100K or more (77%).
- Provincial governments are most often chosen as a top three source by residents of British Columbia (78%) and Manitoba / Saskatchewan (73%), those in high advisory zones (72% for both general population and vulnerable Canadians), and those with household income of $100K or more (74%).
- Municipal governments are most likely to earn a top three ranking from residents of British Columbia (59%), Alberta (66%), and Ontario (60%), from those with a university education (64%), and those with a household income between $80K and <$100K (63%).

5. Impact of High Advisory Zones

Air Pollution and Outdoor Air Quality

Canadians in high advisory zones are no more likely than others to believe air pollution is a health hazard, either generally or in their community, or to have taken action to reduce their exposure. However, those who have taken steps to reduce exposure are more likely to report reducing their time outdoors.

One of the key objectives of the research was to identify any differences in perceptions and behaviours related to outdoor air quality among Canadians in "high advisory zones" – that is, those who are more frequently exposed to air quality advisories. High advisory zones are communities within the top quintile (i.e., top 20%) in terms of advisory frequency, representing communities receiving 14 or more air quality advisories in the past five years.

The tables below show key results broken out by high advisory zone, for both the general population and vulnerable Canadians. Generally speaking, a similar pattern applies for both populations within high advisory zones.

Perceptions of the health impacts of air pollution, generally and specifically in their community, are not linked to high advisory zones. Despite being exposed to air quality advisories on a more frequent basis, those living in high advisory zones are less likely than others to perceive a threat to health from air pollution, and no more likely to rate air pollution as a serious health hazard where they live.

In terms of behaviour, those living in high advisory zones are no more likely to take steps to reduce their exposure to air pollution in general. However, among those have taken such actions, high advisory zone residents are more likely to reduce their time outdoors. This may reflect the circumstances surrounding air quality advisories in those zones, which are primarily driven by forest fires, with air quality effects that might be perceptible by sight and smell. It also suggests that residents in high advisory zones may be more knowledgeable about protecting themselves from air pollution.

Air pollution and outdoor air quality perceptions and behaviours in high advisory zones

Air Pollution and Outdoor Air Quality Perceptions and Behaviours	General population (n = 1,509)		Vulnerable (n = 2,050)	
	High advisory zone (n = 475)	Not high advisory zone (n = 1,034)	High advisory zone (n = 694)	Not high advisory zone (n = 1,356)
Air pollution affects health somewhat or a great deal (Q7)	78%	85%	81%	86%
Air pollution is a somewhat or very serious hazard where they live (Q10)	44%	49%	44%	47%
Acted to reduce exposure to air pollution, Net: Yes (Q11)	44%	41%	49%	46%
Step taken: Reduced time outdoors (Q12)[1]	55%	40%	61%	44%

[1]Base: Among those who acted to reduce air pollution exposure (Gen pop n = 631, Vulnerable n = 966).

AQHI and Air Quality Awareness

Living within a high advisory zone corresponds with higher awareness of air quality information in general, and the AQHI specifically.

Among the general population and within vulnerable groups, those living in high advisory zones report greater familiarity with air quality information in their community. They also look at air quality information more often, and are more likely to receive direct air quality alerts from sources like apps, email alerts, and social media.

In terms of the AQHI specifically, those in high advisory zones have better recall of a numbered scale, and stronger aided awareness of AQHI. High advisory zone residents aware of the AQHI more often recall last hearing about it six to twelve months ago, which corresponds with the most recent forest fire season when advisories would have been prominent.

As with their general behaviour to reduce air pollution, residents with past month recall of the AQHI in high advisory zones more often report reducing time outdoors in response. Overall, high advisory zone residents are more likely than others to feel there are adequate resources in their community to give them the information they need to deal with air quality conditions.

AQHI and air quality information awareness in high advisory zones

AQHI and Air Quality Information Awareness	General population (n = 1,509)		Vulnerable (n = 2,050)	
	High advisory zone (n = 475)	Not high advisory zone (n = 1,034)	High advisory zone (n = 694)	Not high advisory zone (n = 1,356)
Very or somewhat familiar with air quality information in community (Q13)	44%	31%	47%	37%
Look at air quality information monthly (Q14)	38%	32%	45%	39%
Receive air quality information directly through apps, email alerts, etc. (Q16)	25%	20%	26%	19%
Recall or maybe recall numbered scale for air quality (Q18)	62%	48%	66%	50%
Correctly recall 1 to 10 AQHI scale (Q19)	38%	32%	43%	31%
Aided awareness of AQHI (Q22)	47%	29%	51%	29%
Last recall hearing / seeing AQHI six months to a year ago (Q23)[1]	34%	25%	36%	30%
Steps taken in response to AQHI: Reduced time outdoors (Q25)[2]	61%	29%	58%	33%
Air quality information available gives what they need to deal with conditions (Q26)	41%	29%	43%	31%

[1]Base: Those aware of the AQHI (Gen pop n = 519, Vulnerable n = 817).

[2]Base: Those with past month recall of the AQHI (Gen pop n = 96, Vulnerable n = 158).

6. Indoor Air Quality

Rating quality of air in home

Canadians generally believe their own home's air quality is good if not excellent.

Canadians are generally positive in their assessment of their indoor air quality, with close to eight in ten (77%) saying the quality of the air they are breathing in their home is excellent (16%) or good (61%). Only two percent say their home air quality is poor.

Similarly, vulnerable populations also hold largely positive perceptions of their indoor air quality (80%); of the three vulnerable groups, seniors rate their indoor air most positively (85%).

Rating of indoor air quality in home

Quality rating	Net: Excellent or good	Excellent	Good	Only fair	Poor	Not sure
General population n = 1,509	77%	16%	61%	17%	2%	4%
Vulnerable n = 2,050	80%	17%	63%	16%	2%	3%

Q28. How would you rate the quality of the air in your home generally? By air quality I mean the absence and presence of pollutants. Would you say the quality of the air you are breathing in your home currently is…?

Perceptions that their indoor air quality is "excellent" are more widespread:

- in the Western provinces (24% in Manitoba/Saskatchewan, 23% in Alberta and 21% in BC); and
- among Canadians in the highest income bracket (24% earning $100K or more).

Notably, those with weaker assessments of their own indoor air appear more aware of the potential risk to health: almost half (46%) of those with only fair or poor indoor air quality say it affects the health of Canadians a great deal, compared to close to one-third (36%) who say their indoor air quality is excellent or good.

Causes of poor indoor air quality

Canadians are most likely to identify poor ventilation, followed by dust and second-hand smoke, as causes of poor indoor air quality.

When asked to name the major causes of poor indoor air quality (unprompted, without providing response options), lack of ventilation is most widely mentioned (26%). The next most commonly mentioned sources include dust (19%) and second-hand smoke or tobacco (14%). One in ten or fewer cite other causes such as dirty ducts and filters (10%), mould (9%), outdoor air pollution (8%), and pet dander (7%). A substantial minority (34%) could not or choose not to identify any causes of poor indoor air quality.

Vulnerable Canadians mention the same types of indoor air pollutants in very similar proportions to the general population.

Major causes of poor indoor air quality
(Top mentions of 3% or higher)

Indoor air pollutants	General population n = 1,509	Vulnerable n = 2,050
Lack of ventilation	26%	25%
Dust/dust mites	19%	19%
Second-hand smoke/tobacco	14%	15%
Dirty ducts / vents / furnace filters	10%	11%
Mould	9%	10%
Outdoor air pollution	8%	8%
Pets/pet dander	7%	8%
Cooking fumes/frying oils	4%	5%
Moisture/dampness/mildew (not mould)	4%	5%
New carpeting/products/off-gassing	4%	6%
Toxic chemicals	4%	4%
Carbon monoxide	3%	3%
Cleaning products	3%	4%
Pollen	3%	2%
Radon	3%	3%
Other mentions (<3%)	15%	17%
Not sure/prefer not to answer	34%	30%

Q29. As far as you know, what are the major causes of poor indoor air quality?

Lack of ventilation is cited as the top cause of poor indoor air quality in most provinces except Alberta, where residents are most likely to mention dust (31%). Notably, those with lower socio-economic status are less likely to identify any causes of poor indoor air quality (43% "not sure" among those with incomes under $40,000 and 43% among those without a post-secondary education).

Perceptions that second-hand smoke is a cause of poor indoor air quality are more common among those who rate their own indoor air as "excellent" (27%). In turn, dust is a more widely mentioned cause among those who say their indoor air is good (20%) or only fair/poor (22%).

Action to reduce exposure to poor indoor air quality

Almost four in ten Canadians, and a slightly greater proportion of vulnerable Canadians, have taken steps to reduce their exposure to poor indoor air quality. A wide range of actions are reported, including removing the source of the problem and improving the filter system.

Almost four in ten Canadians (38%) say they have taken actions to reduce their exposure to poor indoor air quality, in most cases for health (33%) rather than for other (6%) reasons.

The proportion who have taken steps is slightly higher among vulnerable Canadians (45%), reaching half (50%) of those with chronic conditions.

Taken steps to reduce exposure to poor indoor air quality

Taken action	Net: Yes	Yes, because of health	Yes, other reasons	No	Not sure
General population n = 1,509	38%	33%	6%	53%	9%
Vulnerable n = 2,050	45%	38%	7%	49%	6%

Q30. Have you or others in your household taken specific actions to reduce your exposure to poor indoor air quality because of the impact it has had on your health?

Taking action to reduce exposure to poor indoor air quality is more widely reported by Canadians with a post-secondary education (41%, vs. 31% with a high school diploma or less). Likelihood to have taken steps does not differ significantly by perceptions of their home's indoor air quality (i.e., it is no higher among those who say their home has excellent indoor air quality).

Steps taken. Those who say they have taken action to reduce exposure to poor indoor air quality were asked what steps they have taken (from a list provided). A wide range of actions are reported, including removing the source of the problem (84%), improving the filter system (80%), opening windows (72%), using a fan (67%) or cleaning more frequently (60%). Vulnerable Canadians report taking similar actions at similar levels.

Steps taken to reduce exposure to poor indoor air quality

Steps taken (among those who indicated they have taken steps to reduce exposure)	General population n = 502	Vulnerable n = 775
NET: Remove Source	**84%**	**87%**
Minimize dust in house	63%	65%
Used cleaning products with fewer chemicals	45%	49%
Removed source of pollution (e.g. carpeting, mould)	42%	43%
Smoke cigarettes outside only	21%	18%
Removed pets from home	7%	8%
NET: Change/improve filter system	**80%**	**85%**
Changed furnace/ventilation filter	55%	62%
Improved ventilation system/changed filter	44%	47%
Purchased air purifier	41%	42%
Had air ducts cleaned	41%	41%
Opened windows	72%	67%
Used a bathroom/kitchen fan	67%	66%
Increased frequency of cleaning/vacuuming	60%	58%
Purchased Carbon Monoxide (CO) detector	52%	56%
Followed manufacturer's instructions for furnace/ventilation	26%	29%
Had indoor air monitoring or inspection done	11%	10%
Reduced time spent in problem location/area	10%	9%
Saw doctor/health professional	10%	10%
Other	5%	4%
Not sure	1%	0%

Q31. What steps have you taken to reduce your exposure? BASE: Those who have taken actions to reduce exposure to poor indoor air quality (Gen Pop n=502, Vulnerable n=775)

The likelihood to have removed the source of the problem is higher among women (88%). The proportion who report changes to their filter system increases with household income (from 63% with incomes under $40K to 95% with incomes of $100K or more). Those with excellent air quality at home are more likely than others to report taking several measures, including using a fan (75%), changing their furnace filter (67%), improving their ventilation system (54%) and having an indoor air inspection (20%).

Sources of information about indoor air quality

Canadians who have taken steps to reduce their poor indoor air quality exposure are most likely to look for information on this topic from federal government sources, followed by the Weather Network and the internet generally.

Those who have taken action to reduce exposure to poor indoor air quality were asked where they go for information about indoor air quality (from a list provided). Canadians are most likely to look for information about indoor air quality from Government of Canada sources (64%), including the websites of Health Canada (50%) and Environment and Climate Change Canada (ECCC)(39%) or the ECCC app (23%). Other widely used sources are the Weather Network (55%) or the internet in general (48%).

The sources used by vulnerable Canadians are similar to the general population. Within this group, seniors are more likely than others to name traditional news media sources like television (25%) and newspapers (19%).

Indoor air quality information sources

Information source (among those who indicated they have taken steps to reduce exposure)	General population n = 502	Vulnerable n = 775
Any Government of Canada mention (net)	**64%**	**64%**
Health Canada website	50%	46%
Environment and Climate Change Canada/Weather.gc.ca website	39%	40%
Environment and Climate Change Canada (app)	23%	25%
Any Weather Network mention (net)	**55%**	**55%**
Weather Network (app)	31%	28%
Weather Network (website)	29%	30%
Weather Network (TV)	26%	27%
Internet/website – other	48%	43%
TV – Other	20%	20%
Radio	14%	14%
Newspaper	13%	14%
Friend/family member	11%	10%
Social media/Facebook/Twitter	8%	7%
Other	2%	3%
Not sure	8%	7%

Q32. Where are you most likely to look for information about indoor air quality, contaminants, and the actions you can take to improve indoor air quality? BASE: Those who have taken actions to reduce exposure to poor indoor air quality (Gen Pop n=502, Vulnerable n=775)

The federal government is more widely used as a source of indoor air quality information by those with a university degree (71%). Men (61%) are more likely than women (50%) to report using the Weather Network for this purpose.

II. Appendix A: Methodology

Environics Research conducted an online survey with 2,472 Canadians aged 18 and over. This total sample was split into two distinct sample groups:

- General population (n = 1,509).
- An oversample of vulnerable Canadians, defined as those with chronic respiratory conditions, caregivers of children or elderly relatives, and seniors (n = 963).

A breakdown of the sample composition is outlined in the following table:

Sample Composition

General population	Vulnerable within general population	Vulnerable oversample	Total vulnerable
1,509	1,087	963	2,050

Survey respondents were also categorized by residence within, or not within, communities with frequent air quality advisories (high advisory zones). Please see below section on high advisory zone analysis for details.

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.

Sample design, weighting and respondent profile

Environics Research conducted this online survey from February 25, 2021 to March 11, 2021. The sampling method was designed to complete interviews with at least 2,400 Canadians ages 18 and over (1,500 general population plus 900 vulnerable oversample).

Quotas for the general population were set by age, gender, and region. The following subgroups were oversampled to ensure sufficient sample sizes for vulnerable Canadians, and those in high advisory zones:

- Age quotas were set to include a higher proportion of older Canadians (55+) than actual population proportions. This was to ensure sufficient sample sizes of vulnerable Canadians who are more likely to fall into this age bracket (i.e. chronic conditions, caregivers, and seniors).
- Regional quotas were set to slightly oversample regions with a higher proportion of the population living in high advisory zones (specifically Alberta and Saskatchewan). See the methodology section below on high advisory zones for more details.

The final general population data were then weighted to ensure the sample is representative of the Canadian population, according to the most recent Census.

The survey obtained the following distribution for the general population:

Variable	% of population	Target (quota)	% of sample	Actual Unweighted	Actual Weighted*
Jurisdiction					
Atlantic	7%	102	7%	103	106
Quebec	24%	300	20%	302	362
Ontario	38%	473	32%	473	573
Manitoba / Saskatchewan	7%	125	8%	128	106
Alberta	11%	225	15%	228	166
British Columbia	13%	275	18%	275	196
CANADA	100%	1,500	100%	1,509	1,509
Age					
18-34	27%	250	17%	168	407
35-54	34%	350	23%	410	377
55+	39%	900	60%	931	724
Gender					
Male	49%	735	49%	725	739
Female	51%	765	51%	770	756

*Results are weighted by region, gender and age to 2016 Census data.

The following table presents the weighted distribution of general population survey participants by specific variables.

Variable	Total sample %	% of population
Education [α]		
High school or less	26	35
Apprentice/college/some university	34	36
University graduate/post-graduate	38	29
Employment status [α]		
Full time/self employed	49	50
Part time	7	11
Not in work force (including retired)	42	35
Total annual household income+		
Under $40,000	18	17
$40,000-<$80,000	32	30
$80,000-<$100,000	16	13
$100,000-<$150,000	21	22
$150,000 or more	12	18
Survey language /official languages		
English	82	85
French	18	15

[α] Actual Census categories differ from those used in this survey; categories have been adjusted to correspond. Statistics Canada figures for education are for Canadians aged 25 to 64 years. For employment age 15+.
[+] Percentaged on those providing a response

Quotas for the vulnerable oversample were set by vulnerable category (i.e. 300 each from chronic conditions, caregivers, seniors). For analysis, this sample was combined with vulnerable Canadians from the general population sample, and the entire group was weighted by region to match 2016 Census data. In total, there were 2,050 respondents classified as vulnerable per the screening questions.

Vulnerable Population Sample Composition

Category	General Population	Oversample	Total
Chronic respiratory conditions	674	517	1,191
Caregivers	360	457	817
Seniors	447	499	946
Total*	**1,087**	**963**	**2,050**

[*] Categories add up to more than total sample due to overlap between categories.

Questionnaire design

Health Canada provided Environics with desired topic areas and questions that addressed the research objectives. Environics then designed a questionnaire that incorporated these questions, advising on best practices in question design, particularly for online surveys. Environics also drew question wording from previous studies, specifically the 2017 Air Quality Health Index Omnibus survey and the 2005 Health Canada Indoor Air Quality Study. Upon approval of the English questionnaire, Environics arranged for the questionnaire to be translated into French by professional translators.

Environics' data analysts programmed the questionnaires, then performed thorough testing to ensure accuracy in set-up and data collection. This validation ensured that the data entry process conformed to the surveys' basic logic. The data collection system handles sampling invitations, quotas and questionnaire completion (skip patterns, branching, and valid ranges).

Prior to finalizing the survey for field, a pre-test (soft launch) was conducted in English and French. The pre-test assessed the questionnaires in terms of question wording and sequencing, respondent sensitivity to specific questions and to the survey overall, and to determine the survey length; standard Government of Canada pre-testing questions were also asked. As no changes were required following the pre-test, the n=71 responses (54 English, 17 French) have been included in the final data set.

The final survey questionnaire is included in Appendix B.

Fieldwork

The survey was conducted by Environics using a secure, fully featured web-based survey environment. The average interview length was 9.3 minutes.

All respondents were offered the opportunity to complete the surveys in their official language of choice. All research work was conducted in accordance with the Standards for the Conduct of Government of Canada Public Opinion Research – Online Surveys and recognized industry standards, as

well as applicable federal legislation (Personal Information Protection and Electronic Documents Act, or PIPEDA).

Following data collection, the data from this survey were statistically weighted to ensure the sample is representative of the Canadian population according to the most recently available Census information.

Completion results

The completion results are presented in the following table.

Contact disposition

Disposition		N
Total invitations	(c)	15,715
Total completes	(d)	2,472
Qualified break-offs	(e)	3,905
Disqualified	(f)	282
Not responded	(g)	8,049
Quota filled	(h)	1,007
Contact rate = (d+e+f+h)/c		48.8%
Participation rate = (d+f+h)/c		23.9%

Non-response bias analysis

The table below presents a profile of the final general population sample (unweighted), compared to the actual population of Canada (2016 Census information). The final sample underrepresents those with high school or less education, which is a typical pattern for public opinion surveys in Canada (e.g., those with more education are more likely to respond to surveys). Note that age quotas deliberately oversampled those over 55 to ensure sufficient sample sizes in specific groups of interest, therefore age is excluded from this analysis.

Non-response bias analysis

Sample type	Sample*	Canada (2016 Census)
Gender (18+)		
Male	49%	49%
Female	51%	51%
Education level α		
High school diploma or less	26%	35%
Trades/college/post sec no degree	34%	36%
University degree	28%	29%

* Data are unweighted and percentaged on those giving a response to each demographic question
α Actual Census categories differ from those used in this survey and have been recalculated to correspond. Statistics Canada figures for education are for Canadians aged 25 to 64 years.

High Advisory Zone Analysis

To enrich analysis, Health Canada provided air quality advisory data from the past five years indicating how often these advisories were issued in different communities. This data was tallied to determine the towns and cities that most frequently received air quality advisories over the past five years. Communities within the top quintile (i.e. top 20%) were identified as high advisory zones. High advisory zones are communities where there were 14 or more air quality advisories in the past five years.

Based on this analysis, it was determined that approximately 16 percent of the Canadian population lives within a high advisory zone. These communities are mainly concentrated in western Canada, where forest fires are a frequent cause of air quality advisories.

The proportion of Canadians living in high advisory zones within each region is shown in the following table:

Proportion of population living in high advisory zones

Region	% of population living in high advisory zones
Canada TOTAL	18%
British Columbia	67%
Alberta	53%
Saskatchewan	76%
Manitoba	1%
Ontario	<1%
Quebec	0%
New Brunswick	0%
Nova Scotia	0%
Prince Edward Island	0%
Newfoundland and Labrador	0%

Based on this analysis, regional quotas were designed to obtain sufficient sample sizes of Canadians living in high advisory zones, both within the general population sample and the vulnerable oversample.

At survey completion, data was analyzed based on each respondent's last known FSA to identify respondents in high advisory zones. Due to federal government POR restrictions, this FSA data was provided by the panel sample provider database and not asked within the survey itself. Respondents living within high advisory zones were tagged within the dataset and their awareness and perceptions are compared with respondents living outside these zones.

In total, the sample includes 842 respondents living in high advisory zones (475 from the general population sample, 367 from the vulnerable oversample).

III. Appendix B: Questionnaire

Environics Research Group
February 22, 2021

Health Canada
Air Quality Health Index (AQHI) and Indoor Air Behaviour Change
Questionnaire – Draft (2)
Online survey conducted with n=2,400 Canadians 18+;
15-minute average length

LANDING PAGE
Please select your preferred language for completing the survey / Veuillez sélectionner la langue de votre choix pour remplir le sondage.
01–English / Anglais
02–Français / French

Welcome to the survey. Environics Research, an independent research company, is conducting this survey about current issues of interest to Canadians on behalf of the Government of Canada.

The survey will take about 15 minutes of your time. Your participation is entirely voluntary and all of your answers will be kept completely anonymous.

This study has been registered with the Canadian Research Insights Council's Research Verification Service so that you may validate its authenticity. If you would like to enquire about the details of this research, you can visit CRIC's website www.canadianresearchinsightscouncil.ca. If you choose to verify the authenticity of this research, you can reference project code TBD.

Thank you in advance for your participation.
< PROGRAMMING NOTE: All questions are mandatory unless specified.>

SCREENING NOTES:

OVERSAMPLE QUOTAS (NOT EXCLUSIVE)

PRE-EXISTING CONDITION (Q4 = 1) N = 300
CAREGIVER (Q5 = 1 OR Q6 = 1) N = 300
SENIOR (Q1 = 65 AND OVER) N = 300

Screening

1. In what year were you born?
   DROP DOWN LIST – SEE QUOTAS
   IF 2003, ASK:

   1A. "As of today, are you 18?"

   01 Yes
   02 No [TERMINATE]

03 Prefer not to answer [TERMINATE]

IF UNDER 18 THANK AND TERMINATE
[SCREENING: 65 AND OVER = SENIOR]

2. In what province or territory do you live?
Select one only
DROP DOWN LIST – SEE QUOTAS
01-British Columbia
02-Alberta
03-Saskatchewan
04-Manitoba
05-Ontario
06-Quebec
07-New Brunswick
08-Nova Scotia
09-Prince Edward Island
10-Newfoundland and Labrador
11-Yukon
12-Northwest Territories
13-Nunavut

3. How do you identify your gender? (This may be different from the information noted on your birth certificate or other official documents)
Select one only – SEE QUOTAS
01-Female gender
02-Male gender
03-Gender diverse
99-Prefer not to answer

4. Has a doctor ever told you, or someone else in your household, that you or they have any of the following health problems?
[01 "YES, SELF" TO ANY = PRE-EXISTING CONDITION, FOR OVERSAMPLE THIS QUESTION SHOULD BE IN THE SCREENER]
   a. Asthma
   b. Lung disease
   c. Heart disease
   d. Hay fever, seasonal or environmental allergies
   e. Diabetes

   01 - Yes, self
   02 - Yes, someone else in household
   03 - No
   99 – Not sure

5. Are you a parent, guardian, or primary caregiver for any children under age 12?

[01 "YES" = CAREGIVER, FOR OVERSAMPLE THIS QUESTION SHOULD BE IN THE SCREENER]
01 - Yes
02 - No
99 – Not sure

6. Are you a caregiver for an elderly parent or relative?
[01 "YES" = CAREGIVER, FOR OVERSAMPLE THIS QUESTION SHOULD BE IN THE SCREENER]
01 - Yes
02 - No
99 – Not sure

A. Air Pollution / Outdoor Air Quality Perceptions

7. In your view, to what extent does air pollution affect the health of Canadians? Does it affect them…
[TRACKING – Q2 2010]
01 - A great deal
02 - Somewhat
03 - Not very much
04 - Not at all
99 - Not sure

8. In your view, to what extent does indoor air quality affect the health of Canadians? Does it affect them:
[TRACKING – IAQ 2005 Q10]
01 - A great deal
02 - Somewhat
03 - Not very much
04 - Not at all
99 - Not sure

9. Do you think that air pollution affects people's health:
[TRACKING – Q8 2010]
RANDOMIZE 01-02
01 – At any level; that is, even when there are only very low levels of pollutants in the air
02 – Only when air pollution reaches a certain level
99 - Not sure

10. How much of a hazard do you believe air pollution presents to the health of people living in your area? Does it present:
[TRACKING – Q9 2010]
01 - A very serious hazard
02 - A somewhat serious hazard
03 - Not a serious hazard, or
04 - No health hazard at all

99 - Not sure

11. Have you taken specific actions to reduce your exposure to air pollution, either because of the effect it has had on your health, or because you want to avoid any effects on your health?
[TRACKING – Q18 2017]
01 - Yes – because of / to avoid effects on health
02 - Yes, for reasons other than impact on health
03 - No
99 – Not sure

12. [IF Q11=01-02] What steps have you taken to reduce your exposure to air pollution?
[TRACKING – Q19 2017]
SHOW LIST, RANDOMIZE, ANCHOR 98,99
01 - Cut down on strenuous activity/aerobic exercise
02 - Reduced time spent outdoors/stay inside when air quality is bad
03 - Sought out more information on advisory/air quality
04 - Saw doctor/health professional
05 - Wear a mask
06 - Avoid second-hand smoke
07 - Get out of the city/away from polluted area
98 – Other (SPECIFY _____)
99 – Not sure

B. Awareness and use of air quality information (general)

13. How familiar are you with the air quality information available for your community?
[TRACKING – Q2 2017]
01 – Very familiar
02 – Somewhat familiar
02 – Not very familiar
03 – Not at all familiar
99 – Not sure

14. How frequently do you look for information on the current air quality in your community?
[TRACKING – Q3 2017]
01 - Two or more times a day
02 - Once a day
03 - Several times a week
04 - At least once a week
05 - Several times a month
06 - No more than once a month
06 – A few times per year [SKIP TO Q16]
07 – Never [SKIP TO Q16]
99 – Not sure [SKIP TO Q16]

15. [ASK IF LOOK FOR INFO, Q14=01-05] And where are you most likely to look for this air quality information?
[TRACKING – Q4 2017]
RECORD VERBATIM, DO NOT SHOW LIST, USE AS POST-CODES
01 - Friend/family member
02 - Weather Network (TV)
03 - Weather Network (website)
04 - Weather Network (app)
05 - Weather network (not specified)

06 - Health Canada website
07 - Environment and Climate Change Canada website/Weather.gc.ca website
08 - Environment and Climate Change Canada app
09 - Environment and Climate Change Canada (not specified)
10 - Internet/website – other
11 - Radio
12 - TV – Other
13 - Newspaper
14 - Social media/Facebook/Twitter
98 – Other (SPECIFY _____) [DO NOT CODE]
99 – Not sure / Prefer not to answer [ADD BUTTON]

16. Do you get air quality information sent directly to you on a regular basis in any of the following ways?
[TRACKING – Q5 2017]
[RANDOMIZE]
a) Through a Twitter feed
b) As an e-mail alert
c) As a text message alert
d) As a free telephone message alert
e) Through an app [NEW]

01 – Yes
02 – No
99 – Not sure

17. Has a doctor or other health care professional ever talked to you or provided you with information about the negative effects that air pollution could have on your health specifically?
[TRACKING – Q20 2017]
01 - Yes
02 - No
99 – Not sure

C. AQHI (specific)

18. Do you recall seeing or hearing about a numbered scale that measures air quality or air pollution for your community?
[TRACKING – Q8 2017]
01 – Yes
02 – No [SKIP TO Q20]
03 – Maybe
99 – Not sure [SKIP TO Q20]

19. [IF Q18=YES/MAYBE] Can you recall what kind of numbers are shown on this scale to indicate different levels of air quality?
[TRACKING – Q9 2017]
01 - 1 to 10 scale
02 - 0 to 100 scale
03 - 0 to 120 scale
98 – Other (SPECIFY _____)
99 – Not sure

20. Can you recall any particular colour(s) that is/are used to indicate different levels of air quality? [TRACKING – Q10 2017]
[RANDOMIZE]
01 - Blue to red/brown spectrum
02 - Red
03 - Blue
04 - Red to green spectrum/Rainbow
98 – Other (SPECIFY _____)
99 – Not sure

21. Can you recall the name(s) of the index(es) or scale that provides air quality information for your community?
[TRACKING – Q11 2017]
RECORD VERBATIM, DO NOT SHOW LIST, USE AS POST-CODES
01-Air Quality Health Index/AQHI
02-Air Quality Index/AQI
03-Air Pollution index
04-Alberta Air Quality Index
05-InfoSmog
98-Other
99-Not sure / Prefer not to answer [ADD BUTTON]

22. Do you recall hearing anything about something called the **"Air Quality Health Index"** or **"AQHI"?**
[TRACKING – Q12 2017]
01 – Yes
02 – No [SKIP TO Q27]
99 – Not sure [SKIP TO Q27]

23. [IF AWARE AQHI Q22=YES] When was the most recent time you recall hearing or seeing something about the Air Quality Health Index?
[TRACKING – Q13 2017]
01 - In the past week
02 - In the past month
03 - In the past 2 to 3 months SKIP TO Q.26

04 - In the past 4 to 6 months SKIP TO Q.26
05 - At least 6 months ago, but less than 12 SKIP TO Q.26
06 - At least 12 months ago SKIP TO Q.26
99 – Not sure SKIP TO Q.26

24. [IF PAST MONTH RECALL Q23=01-02] And what specifically do you recall hearing or seeing?
[TRACKING – Q15 2017]
SHOW LIST, RANDOMIZE, ANCHOR 98,99
01 - Current air quality conditions
02 - Forecast air quality for the day
03 - Forecast maximum air pollution level for the day
04 - Potential health effects of pollution level for the day
05 - Types of pollutants causing poor air quality
06 - Forecast for how long an air pollution episode is expected to last
07 - How to limit personal exposure to air pollution/How to protect health
08 - Who is most at risk to health effects of air pollution
09 - What can be done to reduce personal contribution to air pollution
10 - Humidity levels
11 - Allergen/pollen count
98 – Other (SPECIFY _____) [DO NOT CODE]
99 – Not sure

25. [IF Q22 = 1, 2] What steps, if any, have you or others in your household taken in response to what you've heard or seen about the Air Quality Health Index?
[TRACKING – Q16 2017]
SHOW LIST, RANDOMIZE, ANCHOR 97, 98,99
01 - Cut down/doing less strenuous activity/aerobic exercise outdoors
02 - Reduced time spent outdoors/postponed outdoor activities
03 - Sought out more information on advisory/air quality
04 - Saw doctor/health professional
05 - Wore a mask
06 - Took medication/oxygen
07 - Protected self from the sun/heat
08 - Avoided second-hand smoke
09 - Got out of the city/away from polluted area
10 - Paid closer attention to air quality forecasts/information
11 - Changed schedule of activity to avoid exposure at certain times of the day
12 - Reduced use of vehicle/motorized equipment
13 - Took public transit
98 – Other (SPECIFY _____) [DO NOT CODE]
97-None/taken no steps
99 – Not sure

26. Does the air quality information currently available to you give you the information you need to deal with air quality conditions?
[TRACKING – Q21 2017]
01 - Yes
02 - No
03 - No air quality information needed
99 – Not sure

27. From the following list, please rank the top three sources you would consider most trustworthy for air quality information, where "1" is most trustworthy, "2" is second most trustworthy and "3" is third most trustworthy.
[NEW]
RANDOMIZE LIST
01 - Federal government (e.g. Health Canada, Environment and Climate Change Canada)
02 - Provincial government (e.g. provincial ministry of health)
03 - Municipal government / local health authorities / public health unit
04 - NGO (e.g. environmental or health organization)
05 - Social media influencers (e.g. Instagram, blogs, Facebook, Twitter)
06 - Family doctor
07 - Other health professional
08 - Google search
09 - Word of mouth / friends / family

D. Indoor Air Quality

The next questions are about indoor air quality. By that, we mean the air inside your home, workplace, or other indoor places you spend time in.

28. How would you rate the quality of the air in your home generally? By air quality I mean the absence and presence of pollutants. Would you say the quality of the air you are breathing in your home currently is:
[TRACKING – IAQ 2005 Q6]

01 – Excellent
02 – Good
03 – Only fair
04 – Poor
99 – Not sure

29. As far as you know, what are the major causes of poor indoor air quality?
[TRACKING – IAQ 2005 Q7]

RECORD VERBATIM, DO NOT SHOW LIST, USE AS POST-CODES

01 – Dust/dust mites
02 – Mould
03 – Toxic chemicals
04 – Cleaning products
05 – Second-hand smoke/tobacco
06 – Gas furnaces/appliances
07 – Wood stoves/fireplaces
08 – Candles/incense
09 – Lack of ventilation
10 – Outdoor air pollution
11 – Carbon monoxide
12 – Radon
13 – Pollen
14 – Scented products
15 – Air fresheners
16 – New carpeting/products/off-gassing
17 – New paint/varnishes/finishes
18 – Pets/pet dander
19 – Hobbies
20 – Live near high traffic area
21 – Formaldehyde
22 – Lead
23 – Asbestos
24 – Moisture/dampness/mildew (NOT MOULD)
98 – Other
99 - Not sure / Prefer not to answer [ADD BUTTON]

30. Have you or others in your household taken specific actions to reduce your exposure to poor indoor air quality because of the impact it has had on your health?
[TRACKING – IAQ 2005 Q26]

01 - Yes
02 - No SKIP TO Q.33
03 - Yes, for reasons other than impact on health SKIP TO Q.33
99 – Not sure SKIP TO Q.33

31. [IF YES TO Q.32] What steps have you taken to reduce your exposure?
[TRACKING – IAQ 2005 Q27]

SHOW LIST, RANDOMIZE, ANCHOR 98,99

01 – Purchased air purifier
02 – Used a bathroom/kitchen fan
03 – Opened windows
04 – Removed source of pollution (e.g. carpeting, mould)
05 – Improved ventilation system/changed filter
06 – Reduced time spent in problem location/area
07 – Saw doctor/health professional
08 – Removed pets from home
09 – Increased frequency of cleaning/vacuuming
10 – Changed furnace/ventilation filter
11 – Had air ducts cleaned
12 – Had indoor air monitoring or inspection done
13 – Purchased Carbon Monoxide (CO) detector
14 – Followed manufacturer's instructions for furnace/ventilation
15 – Smoke cigarettes outside only
16 – Used cleaning products with fewer chemicals
17 – Minimize dust in house
98 – Other (SPECIFY)_____ [DO NOT CODE]
99 – Not sure

32. Where are you most likely to look for information about indoor air quality, contaminants, and the actions you can take to improve indoor air quality?
[NEW]

SHOW LIST, RANDOMIZE, ANCHOR 98,99

01 - Friend/family member
02 - Weather Network (TV)
03 - Weather Network (website)
04 - Weather Network (app)
05 - Health Canada website
06 - Environment and Climate Change Canada website/Weather.gc.ca website
07 - Environment and Climate Change Canada (app)Internet/website – other
08 - Radio

09 - TV – Other
10 - Newspaper
11 - Social media/Facebook/Twitter
98 – Other (SPECIFY _____) [DO NOT CODE]
99 – Not sure

Demographics

The following are a few questions about you and your household, for statistical purposes only. Please be assured all of your answers will remain completely confidential.

33. What is the highest level of formal education you have completed?
Select one only
01–Up to high school
02–Some high school
03–High school diploma or equivalent
04–Registered Apprenticeship or other trades certificate or diploma
05–College, CEGEP or other non-university certificate or diploma
06–University certificate or diploma below bachelor's level
07–Bachelor's degree
08–Post graduate degree above bachelor's level
99–Prefer not to answer

34. Which of the following best describes your own present employment status?
Select one only
01-Working full-time
02-Working part-time
03-Unemployed or looking for a job
04-Self-employed
05-Stay at home full-time
06-Student
07-Retired
99–Prefer not to answer

35. Which of the following categories best describes your total household income? That is, the total income of all persons in your household combined, before taxes?
Select one only
01–Under $20,000
02–$20,000 to just under $40,000
03–$40,000 to just under $60,000
04–$60,000 to just under $80,000
05–$80,000 to just under $100,000
06–$100,000 to just under $150,000
07–$150,000 and above
99–Prefer not to answer

This completes the survey. On behalf of Health Canada, thank you for your valuable input. In the coming months, the results of this survey will be available on the Library and Archives Canada website.

RECORD LOCATION INFO FROM PANEL DATA