

BC SPEAK Round 3 Survey **TECHNICAL NOTES**





MISSION

To understand the public's perceptions of risk, acceptability of public health measures and recovery measures, the broader impacts of COVID-19 on social, economic, physical health, mental well-being, and community resiliency.

VISION

To balance the successful management of the COVID-19 pandemic in British Columbia (BC) with the least burden on the overall health and well-being of the population.

VALUES

To build trust and support shared responsibility with the people we serve by improving our services and minimizing the unintended consequences of disease containment.

BACKGROUND

The British Columbia (BC) Survey on Population Experiences, Action, and Knowledge (SPEAK) is a web-based population health survey designed to elicit BC residents' experience, knowledge, and actions at different phases of the COVID-19 pandemic, and understand the impacts of the pandemic at local, regional, and provincial levels. The surveys were developed through collaboration between the BC Centre for Disease Control, First Nations Health Authority, Vancouver Coastal Health, Fraser Health, Interior Health, Northern Health, Island Health, and the Office of the Provincial Health Officer.

There have been three rounds of the BC SPEAK survey. Round one was conducted from May 12 to 31, 2020, to assess BC residents' experiences during the early stages of the pandemic, and to inform ongoing public health measures and assess unintended consequences. Approximately 400,000 BC residents participated in this round of the survey. Round two was conducted a year later with data collected from April 8 to May 9, 2021. This survey was designed to assess the changes in behaviours and experiences since the early phase of the pandemic, understand barriers to vaccination, inform health, social and economic investment during the pandemic recovery, and help identify inequities across different population groups. Approximately 200,000 residents took part in this round of the survey. Data collection for round three occurred between April 24 and July 31, 2023 with about 90,000 BC residents participating. This survey was designed to:

- 1. Assess the pandemic's broader impacts and unintended consequences on social, economic, physical, and mental health, well-being, and resiliency.
- Inform effective and targeted interventions to promote health equity to reduce further deterioration and inequities in the social determinants of health, especially within vulnerable and marginalized groups.
- 3. Understand and identify sustainable opportunities for transition, innovation, and adaption during post-pandemic recovery.



















The survey sought to capture information within the following domains:

- Health and Well-being Status
- Risk and Protective Factors Adults
- Risk and Protective Factors Children
- Resilience
- Neighbourhood Characteristics
- Healthcare Access
- Climate Adaptation

QUESTIONNAIRE CONTENT AND FORMAT

Content and Format

In round three, the SPEAK survey questions transitioned from focusing on the impact of the COVID-19 pandemic to capture more information about respondents' general health status and health-related behaviours. The survey instrument contained 108 questions with 39 retained from round two¹. The questions covered a variety of topic areas including general and mental health status, behavioural and risk factors, vaccination status, health of the children in the household, access to medical services, socio-demographic characteristics, and the built environment. Many questions were drawn from validated sources (e.g., Canadian Community Health Survey (CCHS), along with national and international population health surveys including specific Statistics Canada instruments. Other questions were taken from My Health My Community, a population health survey previously conducted by Vancouver Coastal Health and Fraser Health (see Appendix A).

Data were collected directly from participants via a self-administered online questionnaire developed using the Qualtrics computerized self-administered questionnaire (CSAQ) application. The questionnaire followed standard practices and wording used in a computer-assisted interviewing environment, such as automatic control of flows that depend on answers to earlier questions. A web-based survey was chosen as a cost-effective and rapid way to deploy the survey and collect data. The survey was made available in English, Traditional and Simplified Chinese, French, Punjabi, Korean, Spanish, and Vietnamese. Language guides were available for Farsi and Arabic. A relatively small number of surveys were obtained in areas with hard-to-reach populations identified by Health Authority partners using a truncated paper version of the questionnaire consisting of 63 questions. Data obtained in this version were entered into Qualtrics by BCCDC staff.

¹ The round one questionnaire contained 85 questions and 52 of these were retained and integrated into the round two survey instrument, which contained 102 questions.







Target Population & Sample Size

The target population for the survey was residents of BC 18 years of age or older. To achieve a large sample, a response target of 2% of the urban population and 4% for rural/remote communities were set for each Community Health Service Area (CHSA). Additionally, targets were calculated based on a 4% margin of error at 95% confidence interval for a proportion of 0.5 using hypergeometric distribution. The sample size calculated using the latter approach was selected as the final integrated target if this estimate was larger than the population proportion. This strategy was implemented in previous SPEAK rounds.

Targets were also established for age, gender, income, education, and racial group to reflect the population distribution in each geographic area. Progress towards these targets was monitored daily during the data collection period with detailed reports sent to each regional health authority, where staff would engage in purposeful promotion and stakeholder outreach to better reach underrepresented geographies and population demographics.

In round three, a final sample of 89,115 responses – 85% of the integrated target - were included in the final analytical dataset. The extent to which target sample sizes were achieved varied between geographical regions. The integrated targets were surpassed in two Health Authorities with 24,752 residents in Vancouver Coastal Health (112% of the integrated target), and 24,859 Island Health residents (136% of the integrated target) completing the survey. Targets were not reached in the other three regional health authorities. Specifically, 21,096 Fraser Health residents (71% of the integrated target), 14,885 Interior Health residents (67% of the integrated target), and 3,523 Northern Health residents (27% of the integrated target) completed the survey. The extent to which sample size targets were obtained varied even more across CHSAs from a low of 0% to a high of 249%.

As indicated, sample size targets were also set for various socio-demographic groups. For some groups, the final sample exceeded the targets and for other groups the sample did not reach the targets. When comparing the distribution of socio-demographic groups in the final sample with the distribution in the BC population, women between 35 and 74 years of age were over-represented, men for most age groups were under-represented, and both genders between 18 and 34 years of age were also under-represented. Individuals with lower levels of education and those with lower levels of incomes were under-represented in the sample, as were Indigenous and racialized groups, and those living in rural areas.

Participant Recruitment

Participants who voluntarily provided an email address in rounds one and/or two of the SPEAK survey and consented to participate in future rounds received an email notification inviting them to participate in round three. Potential respondents could also access the survey themselves on the BCCDC website. BC residents were encouraged to participate via promotion materials distributed through social media platforms including Twitter (X), LinkedIn, Facebook, and Instagram. The survey was also promoted through newspapers, radio, and printed material distributed to community centres in poor uptake areas. Regional health authorities also conducted community outreach and promotion. Local governments, district parent advisory councils, post-secondary schools, non-government organizations, as well as Indigenous organizations were emailed and invited to share the survey among their networks. Incentives were provided to encourage survey completion.







DATA PROCESSING

Data processing involves a series of steps to convert the electronic questionnaire responses from their initial raw format to a user-friendly dataset containing a comprehensive set of variables for analysis. A series of operations were executed to clean the data of inadvertent errors, rigorously check the data for consistency, create useful variables for data analysis, and finally to systematize and document the variables for ease of analytical usage. Several procedures were implemented to ensure each respondent was part of the target population and had completed a sufficient proportion of the questionnaire.

Duplicate records were identified based on Personal Health Number, email address, phone number, age, and gender; duplicates with the highest item non-response were removed. Moreover, surveys where the respondent provided answers to less than 10% of eligible questions were removed from the dataset along with surveys where the respondent indicated their age was less than 18 or greater than 100 years. Surveys where the respondent did not provide sufficient information to identify the British Columbia regional health authority in which they live were also removed. Standard health geographies (Health Service Delivery Area or HSDA, Local Health Area or LHA, and Community Health Service Area or CHSA) were derived based on the respondent's postal code or community of residence.²

SAMPLE WEIGHTING

In SPEAK round 3, weights were calculated using auxiliary socio-demographic data for the entire target population obtained from the 2021 Canadian census to adjust for over and under-representation of different subgroups of the target population. This helps adjust for coverage inadequacies that result in the survey sample differing from the target population. For example, women were more likely than men to respond to the survey. Yet the two groups make up about the same proportion in the population. Because the survey sample over-represented women and under-represent men, a weight was used to compensate for the skewedness.

The method used to compute weights was similar to the approach used in SPEAK rounds one and two. A custom tabulation was obtained from Statistics Canada. Census population counts were compiled for the following variables for each standard health geography (CHSA, LHA, HSDA): age group (18-34, 35-54, 55-74, 75+), gender identity (man, woman), education (high school or less, post-secondary below bachelor level, bachelor level or above), racial identity (White - European descent, racialized groups). The Census and SPEAK files were linked to obtain both sample size and population counts for each stratum. The sample weight for each individual in a stratum equals the population count divided by the sample size in that stratum.

LIMITATIONS

Sampling errors occur when estimates obtained from the sample differ from results we would obtain from a complete census of the population under similar conditions using the same questionnaire, processing methods etc. Given the SPEAK survey consists of individuals who self-selected and volunteered to participate, sampling errors due to selection bias must be carefully considered before generalizing estimates obtained from the sample to the target population.

² The number and boundaries of CHSAs are periodically updated based on the most recent Census data. SPEAK rounds one and two provided information for 218 CHSAs based on the 2106 Census, compared to 231 CHSAs based on the 2021 Census in round three





Your Story

To generalize results observed from the survey participants to the BC population, one must assume the survey participants are representative of those not participating in terms of the indicators measured in the survey. This is an assumption that cannot be validated in practice. While weighting by known population socio-demographic characteristics obtained from the 2021 Census may reduce some of the self-selection and coverage bias, it is unlikely to correct for it entirely. This is especially true if the indicators of interest (e.g., physical activity) are not highly correlated with the socio-demographic characteristics used to calculate the weights (see the description of weight calculation). As a result, inferences about the general population should be made with caution.

Since the estimates obtained from the survey are based on a sample, there is variability in the values obtained in the sense that a different sample could result in different results. The amount of uncertainty increases as the sample size decreases. While unreliable estimates with high sampling variability due to small sample size were suppressed, estimates with moderate variability - especially for many CHSAs - are presented. All CHSA level estimates should be interpreted with caution not only due to sampling variability but also because small samples are more likely to be unrepresentative of the general population.

Exercise caution when comparing round three indicators with estimates reported in previous rounds. Differences may be due to sampling variation and/or to differences in the wording of several survey questions that make up some indicators. Slight variations in wording can make direct comparisons challenging without considering the full context when interpreting the results. For example, many questions in rounds one and two asked respondents to compare their current experience with the time before the COVID-19 pandemic. Meanwhile in round three, respondents were asked to compare their current situation with one year ago.

DASHBOARD INDICATORS

Selection of Indicators for the Dashboard

A list of indicators was drawn from the survey questions. Descriptive analysis was conducted to describe, organize, and summarize the survey data. Sample weights were applied when producing the proportions presented on the BC SPEAK Dashboards. Indicators were selected for inclusion based on the importance and relevance of the findings to survey objectives and in consultation with epidemiology leads from the regional health authorities and BCCDC.

Stratifications

The BC SPEAK Dashboards allows the user to explore indicators by five different levels of geography: provincial, Health Authority, HSDA (Region), LHA (Sub-region), and CHSA (Community). Wherever applicable, each indicator is made available at the BC, Health Authority, and HSDA geographic levels by age, gender, education, household income, racial identity, and household composition.

Statistical Significance

Statistical significance was not reported for the indicators in the dashboards when comparisons were provided, nor were confidence intervals provided. Differences observed may or may not be statistically significant and should be interpreted with caution.

Your Story





Our Future

SPEAK Survey

Data Suppression

Efforts were made to not release estimates that are highly variable given small sample sizes. Coefficients of variation were calculated for each stratification level for each indicator in the dashboard. Estimates with coefficients of variation greater than 33.3%, equal to zero, or missing were considered unreliable and were suppressed in the dashboard. Statistics Canada uses similar cut-offs in national surveys like the Canadian Community Health Survey. Estimates were also suppressed if the sample size used to calculate the estimate was less than 30. Data were also suppressed for standard health geographies where 25% or more of the population consists of First Nations peoples based on the 2021 Census. Suppression is indicated with a missing or gray bar in the dashboard or by a tooltip on the map.

SUGGESTED CITATIONS

Technical Notes

British Columbia Centre for Disease Control (2023). BC SPEAK Round 3 Survey – Technical Notes. Prepared by British Columbia Centre for Disease Control.

Survey Results

British Columbia Centre for Disease Control (2020). BC COVID-19 SPEAK Round 1 Survey. Prepared by British Columbia Centre for Disease Control.

British Columbia Centre for Disease Control (2021). BC COVID-19 SPEAK Round 2 Survey. Prepared by British Columbia Centre for Disease Control

British Columbia Centre for Disease Control (2023). BC SPEAK Round 3 Survey. Prepared by British Columbia Centre for Disease Control







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
SOCIO-DEMOGRAPHICS			
GENDER This variable indicates	Indicator derived from question: What is your gender identity? Check all that apply	The analysis and reporting in the	Statistics Canada,
the respondent's gender identity	Indicator derived from question: What is your gender identity? Check all that apply	dashboard were restricted to man and woman due to	Canadian Census¹
	☐ Man	small sample size	
	□ Woman	of other gender	
	□ Transgender	responses.	
	□ Non-binary		
	☐ Prefer to self-describe as		
	☐ Prefer not to answer		
Woman	Respondents who selected woman either alone or along with option(s) other than man, or derived from text entered in 'Prefer to self-describe as'		
Man	Respondents who selected man either alone or along with option(s) other than female, or derived from text entered in 'Prefer to self-describe as'		
AGE CATEGORY	Indicator derived from question: What is your age?	BC SPEAK Survey	Statistics
This variable groups the respondent's reported age into four age categories		target population was ages 18 and over. This was a mandatory	Canada, Canadian Census ¹
18-34		question to take	
35-54		part in the survey	
55-74			
75+			







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
EDUCATION This variable indicates the	Indicator derived from question: What is the highest level of education you have completed?	The BC COVID-19 SPEAK education	Statistics Canada,
highest level of education	Less than high school graduation	question was based on Statistics	Canadian Census¹
attained by the respondent	High school graduation	Canada, Canadian	
	Trade certificate or diploma from a vocational school or apprenticeship training	Census questions.	
	Non-university certificate or diploma from a community college, CEGEP or nursing school		
	University certificate below bachelor's level		
	Bachelor's degree		
	Graduate degree		
	Prefer not to answer		
High school or less	Respondents who answered Less than high school graduation or high school graduation		
Post-secondary certificate or diploma below bachelor level	Respondents who answered trade certificate or diploma from a vocational school or apprenticeship training, or non-university certificate or diploma from a community college, CEGEP or nursing school, or university certificate below bachelor's level		
University degree	Respondents who answered bachelor's degree or graduate degree		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
HOUSEHOLD GROSS INCOME This variable groups the total household income from all sources	Indicator derived from question: <i>Can you estimate your household income, before taxes and deductions, from all sources for the last calendar (tax) year?</i> Under \$20,000 \$20,000 to \$39,999 \$40,000 to \$59,999 \$60,000 to \$79,999 \$100,000 to \$119,999 \$120,000 to \$139,999 \$140,000 to \$159,999 \$160,000 to \$179,999 \$180,000 to \$199,999 \$180,000 and over I don't know Prefer not to answer	20% of SPEAK participants did not provide information about their household income.	Statistics Canada. Canadian Census¹ Canadian Community Health Survey (CCHS).²
Under \$20,000	Respondents who answered Under \$20,000		
\$20,000 to \$59,999	Respondents who answered \$20,000 to \$39,999 or \$40,000 to \$59,999		
\$60,000 to \$99,999	Respondents who answered \$60,000 to \$79,999 or \$80,000 to \$99,999		
\$100,000 to \$139,999	Respondents who answered \$100,000 to \$119,999 or \$120,000 to \$139,999		
\$140,000 and above	Respondents who answered \$140,000 to \$159,999 or \$160,000 to \$179,999 or \$180,000 to \$199,999 or \$200,000 and over		







Appendix 1

INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
RACIAL IDENTITY This variable indicates the racial identity of the respondent.	Indicator derived from question: In our society, people are often described by their race or racial background. These are not based in science, but our race may influence the way we are treated by individuals and institutions, and this may affect our health. Do you consider yourself to be. Check all that apply.		Statistics Canada. Canadian Census¹
	 □ First Nations □ Métis □ Inuit □ White (European Descent) □ Chinese □ South Asian (e.g., East Indian, Pakistani, Sri Lankan) □ Black (e.g., African or Caribbean) □ Filipino □ Latin American/Hispanic □ Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian) □ Arab □ West Asian (e.g., Iranian, Afghan) □ Korean □ Japanese □ Other □ Prefer not to answer 		
White (European descent) identity	Respondents who answered White (European Descent) or category was derived from text entered in 'Other'		
Racialized identities	Respondents who selected any other category, except Prefer not to answer, or category was derived from text entered in 'Other'		







INDICATOR	QUESTIONS AND DI	ERIVED VARIABLES	NOTES	SOURCE
HOUSEHOLD COMPOSITION This variable indicates whether there are children less than 18 years of age living in the household	Indicator derived from two questions: 1. Do you live by yourself? Yes No Prefer not to answer	Among those who indicated 'NO' 2. For each person who lives in your household please indicate their age category and relationship to you Aged < 1 year Aged 1- 4 years Aged 5 - 12 years Aged 13 - 17 years Aged 18 - 39 years Aged 40 - 64 years Aged 65 - 79 years Aged 80 + Prefer not to answer	10% of respondents did not provide information about their household composition	My Health My Community. ³
Households with children	Respondents who answered who indicated at least one ho than 18 years of age			
Households with no children	Respondents who answered there were no household me age			
HEALTH STATUS AND WE	LL-BEING			
SELF-RATED GENERAL HEALTH Proportion of respondents who reported perceiving their own health status as being either excellent or very good, or fair or poor, depending on the indicator. Self-rated general health refers to the perception of a person's health in general.	Indicators derived from quests ay your health is: Excellent Very good Good Fair Poor Prefer not to answer	tion: <i>In general, would you</i>	Denominator does not include "Prefer not to answer" or missing responses	Statistics Canada. Canada Community Health Survey (CCHS) ² My Health My Community. ³
Self-rated general health – very good or excellent	Respondents who answered,	excellent or very good		
Self-rated general health – fair or poor	Respondents who answered,	fair or poor		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
HEALTH CHANGE COMPARED TO ONE YEAR AGO Proportion of respondents who reported their own health got better or got worse, depending on the indicator, over the previous year	Indicators derived from question: Compared to one year ago, how would you say your health is now? A lot better Somewhat better now About the same Somewhat worse A lot worse I don't know Prefer not to answer	Denominator does not include "I don't know", "prefer not to answer" or missing responses.	My Health My Community ³ Statistics Canada. Canadian Community Health Survey (CCHS) ²
Health change compared to one year ago - worse	Respondents who indicated their health is somewhat worse or a lot worse		
Health change compared to one year ago - better	Respondents who indicated their health is somewhat better or a lot better		
Proportion of respondents who reported perceiving their own mental health status as being excellent or very good or fair or poor, depending on the indicator. Self-rated mental health provides a general indication of the population suffering from mental or emotional problems, or distress, not necessarily reflected in perceived health.	Indicators derived from question: In general, would you say your mental health is: Excellent Very good Good Fair Poor Prefer not to answer	Denominator does not include "Prefer not to answer" or missing responses	Statistics Canada. Canada Community Health Survey (CCHS) ² My Health My Community ³
Self-rated mental health – very good or excellent	Respondents who answered, excellent or very good		
Self-rated mental health – fair or poor	Respondents who answered, fair or poor		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
MENTAL HEALTH COMPARED TO ONE YEAR AGO	Indicators derived from question: Compared to one year ago, how would you rate your mental health (such as feeling anxious, depressed, or irritable) now?	Denominator does not include "Prefer not to answer" or missing responses.	My Health My Community ³
Proportion of respondents who reported their own mental health got better or got worse, depending on the indicator, over the previous year	 ☐ Much better ☐ Slightly better ☐ About the same ☐ Slightly worse ☐ Much worse ☐ Prefer not to answer 		Statistics Canada. Canadian Health Measures Survey (CHMS) ⁴
Mental health compared to one year ago - worse	Respondents who indicated their mental health is slightly worse or much worse		
Mental health compared to one year ago - better	Respondents who indicated their mental health is slightly better or much better		
PERCEIVED LIFE STRESS Proportion of respondents who reported perceiving that most days in their life were very or somewhat stressful, depending on the indicator. Perceived life stress refers to the amount of stress in the person's life, on most days.	Indicators derived from question: Thinking about the amount of stress in your life, would you say that most days are: Not very stressful Somewhat stressful Quite stressful Extremely stressful Prefer not to answer	Denominator does not include "Prefer not to answer" or missing responses	My Health My Community ³
Perceived life stress - quite or extremely stressed most days	Respondents who indicated most days are extremely or quite stressful		
Perceived life stress – a bit or somewhat stressed most days	Respondents who indicated most days are a bit or somewhat stressful		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
FEEL HOPEFUL FOR FUTURE Proportion of respondents who reported they felt hopeful for the future most days over the past week or reported they did not feel hopeful for the future at all over the past week	Indicators derived from question: In the past week, how often have you felt hopeful for the future? Not at all or less than 1 day 1-2 days 3-4 days 5-7 days I don't know Prefer not to answer	Denominator does not include "I don't know", "Prefer not to answer" or missing responses	Johns Hopkins University. COVID-19 Community Response Survey ⁵
Feel hopeful for future in the past week - most days	Respondents who only answered 5-7 days		
Feel hopeful for future in the past week – no	Respondents who only answered not at all or less than 1 day		
RISK AND PROTECTIVE FA	ACTORS: ADULTS		
PHYSICAL ACTIVITY - 150 MINUTES PER WEEK OR MORE Indicates the proportion of adults (aged 18 & older) who are physically active, meaning that they participate in at least 150 minutes of moderate to vigorous intensity physical activity during the past week. Moderate exercise is defined as an activity that causes a person to breathe harder.	Indicators derived from questions: During the last 7 days, how many days did you do moderate or vigorous physical activities that made you breathe harder than normal? Such as exercise, dancing, active commuting, cycling, sports, active chores, climbing stairs, heavy lifting /digging/construction) days per week I don't know Prefer not to answer On average, how much time did you spend doing moderate or vigorous physical activities on one of those days? hours per day andminutes per day don't know Prefer not to answer	Denominator does not include "I don't know", missing responses or "prefer not to answer".	My Health My Community ³ Statistics Canada. Canadian Health Measures Survey (CHMS) ⁴
Physical activity - 150 min/ week or more	Number of minutes per week = number of days x number of minutes per day (hoursx60 + minutes)		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
FRUIT AND VEGETABLE CONSUMPTION - 5+ SERVINGS PER DAY Indicates the proportion of respondents who reported usually eating 5 or more servings of fruits, vegetables, and/or legumes per day. Does not consider the amount consumed.	Indicator derived from questions: In general, how many servings of fruit do you eat in a day? Do not include fruit juice, but can include fresh, frozen, and canned fruits. One serving is equal to one piece of fruit or ½ cup (about what would fit in your cupped hand). Servings of fruit per day I don't know Prefer not to answer In general, how many servings of vegetables and legumes do you eat in a day? Do not include vegetable juice, but can include fresh, frozen and canned vegetables. One serving is equal to ½ cup or about what would fit in your cupped hand. servings of vegetables per day I don't know Prefer not to answer	Denominator does not include "I don't know", missing responses or "prefer not to answer".	My Health My Community ³ Adapted from Statistics Canada. Canadian Community Health Survey (CCHS) ²
Fruit and vegetable consumption - 5+ servings per day	Number of servings of fruit + number of servings of vegetables and legumes		
CIGARETTE SMOKING STATUS The proportion of respondents who indicated they currently, previously, or never, depending on the indicator, smoked cigarettes. Does not consider the number of cigarettes smoked.	Indicators derived from question: Which of the following best describes your cigarette use? I smoke cigarettes daily I smoke cigarettes occasionally I no longer smoke cigarettes, but I used to smoke cigarettes daily I no longer smoke cigarettes, but I used to smoke cigarettes occasionally I have never smoked cigarettes I don't know Prefer not to answer	Denominator does not include "I don't know", missing responses or "prefer not to answer".	My Health My Community ³ Adapted from Statistics Canada. Canadian Community Health Survey (CCHS) ²
Cigarette smoking – daily/ occasionally smoke	Respondents who answered, I smoke cigarettes daily or I smoke cigarettes occasionally		
Cigarette smoking – no longer but used to smoke	Respondents who answered, I no longer smoke cigarettes, but I used to smoke cigarettes daily or I no longer smoke cigarettes, but I used to smoke cigarettes occasionally		
Cigarette smoking – never smoked	Respondents who answered, I have never smoked cigarettes		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
E-CIGARETTE/VAPING IN THE PAST 12 MONTHS The proportion of respondents who indicated	Indicators derived from question: The following question is about electronic cigarettes (e-cigarettes) or vaping devices. Please exclude vaping cannabis. In the past 12 months, how often have you used an	Denominator does not include "I don't know", missing responses	My Health My Community ³
they used an electronic	electronic cigarette (e-cigarette) or vaped?	or "prefer not to answer".	
cigarette or vaped at least once in the past 12 months.	□ Never		
Does not present the	☐ Less than once a month		
frequency of vaping.	☐ Once a month		
	☐ 2 to 3 times a month		
	☐ Once a week		
	☐ 2 to 3 times a week		
	☐ 4 to 6 times a week		
	☐ Every day		
	☐ I don't know		
	☐ Prefer not to answer		
E-cigarette/Vaping in the past 12 months - yes	Respondents who answered, less than once a month, once a month, 2 to 3 times a month, once a week, 2 to 3 times a week, 4 to 6 times a week, or every day		
CANNABIS/MARIJUANA/ HASHISH IN THE PAST 12 MONTHS	Indicators derived from question: In the past 12 months, how often have you used cannabis, marijuana, or hashish?	Denominator does not include "I don't know",	My Health My Community³
The proportion of	□ Never	missing responses	
respondents who indicated	☐ Less than once a month	or "prefer not to answer".	
they used cannabis at least once in the past 12 months.	☐ Once a month		
Does not present the	☐ 2 to 3 times a month		
frequency of use.	☐ Once a week		
	☐ 2 to 3 times a week		
	☐ 4 to 6 times a week		
	□ Every day		
	☐ I don't know		
	☐ Prefer not to answer		
Cannabis/marijuana/ hashish in the past 12 months - yes	Respondents who answered, less than once a month, once a month, 2 to 3 times a month, once a week, 2 to 3 times a week, 4 to 6 times a week, or every day		







Appendix 1

INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
ALCOHOLIC BEVERAGE CONSUMPTION IN THE PAST 12 MONTHS The proportion of respondents who indicated they drank alcoholic beverages at least once a month, less than once a month or never, depending on the indicator, in the past year. Does not consider the amount drank.	Indicators derived from question: In the past 12 months, how often did you drink alcoholic beverages? Never Less than once a month Once a month Once a week 2 to 3 times a week 2 to 3 times a week Every day I don't know Prefer not to answer	Denominator does not include "I don't know", missing responses or "prefer not to answer".	My Health My Community ³ Statistics Canada. Canadian Health Measures Survey (CHMS) ⁴
Alcoholic beverage consumption in the past 12 months – regularly drink	Respondents who only answered Once a month, 2 to 3 times a month, Once a week, 2 to 3 times a week, 4 to 6 times a week, or Every day		
Alcoholic beverage consumption in the past 12 months – occasionally drink	Respondents who only answered Less than once a month		
Alcoholic beverage consumption in the past 12 months – did not drink	Respondents who only answered Never		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
SUBSTANCE USE (OTHER THAN ALCOHOL, TOBACCO, OR CANNABIS) IN THE PAST 12 MONTHS	Indicator derived from question: In the past 12 months have you used any of the following substances (other than alcohol, tobacco, or cannabis)? Check all that apply	Denominator does not include "I don't know", missing responses	My Health My Community³
The proportion of respondents who indicated they consumed an illicit substance at least once in the past year. Or did not consume illicit substances in the past year. Does not consider the amount or frequency of consumption.	 □ I have not used any substances □ Cocaine (crack, freebase, powder) □ Ecstasy (MDMA, E, XTC, Molly) □ Methamphetamine (speed, crystal meth, ice, side, jib) □ Hallucinogens (such as ketamine, LSD, acid, magic mushrooms, shrooms, PCP) □ Opioid (fentanyl, heroin, junk, smack, down) □ Pills or prescription drugs that were not prescribed to you (such as opioids, Dilaudid, oxycodone, Percocet, Xanax bar, benzodiazepines, Ritalin, Dexedrine, Adderall) □ Other, please specify: □ I don't know □ Prefer not to answer 	or "prefer not to answer"	Adapted from Statistics Canada Canadian Alcohol and Drugs Survey ⁶
Substance use (other than alcohol, tobacco, or cannabis) in the past 12 months - yes	Respondents who selected any of, cocaine, ecstasy, methamphetamines, hallucinogens, opioids, pills or prescription drugs not prescribed to you, or other		
Substance use (other than alcohol, tobacco, or cannabis) in the past 12 months - no	Respondents who answered I have not used any substances		
CHANGE IN WALKING/ RUNNING/CYCLING FOR RECREATION PAST YEAR The proportion of respondents who indicated they increased or decreased, depending on the indicator, walking/ running/cycling for recreation over the past year	Indicators derived from question: Compared to one year ago, have some of your behaviors changed? Walking, running, or cycling for recreation Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Denominator does not include missing responses or "prefer not to answer"	My Health My Community ³
Increase walking/running/ cycling for recreation	Respondents who answered significantly more or somewhat more		
Decrease walking/running/ cycling for recreation	Respondents who answered significantly less or somewhat less		Your Story





Our Future

INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
CHANGE IN WALKING/ RUNNING/CYCLING FOR COMMUTING PAST YEAR	Indicators derived from question: Compared to one year ago, have some of your behaviors changed? Walking, running, or cycling for commuting	Denominator does not include missing responses	My Health My Community ³
The proportion of respondents who indicated they increased or decreased, depending on the indicator, walking/running/cycling to commute over the past year	☐ Significantly more ☐ Somewhat more ☐ Same ☐ Somewhat less ☐ Significantly less ☐ Never ☐ Prefer not to answer	or "prefer not to answer"	
Increase walking/running/ cycling to commute	Respondents who answered significantly more or somewhat more		
Decrease walking/running/ cycling to commute	Respondents who answered significantly less or somewhat less		
CHANGE IN FRUIT AND VEGETABLE CONSUMPTION PAST YEAR The proportion of respondents who indicated they increased or decreased, depending on the indicator, fruit and vegetable consumption over the past year	Indicators derived from question: Compared to one year ago, have some of your behaviors changed? Fruit and vegetable consumption Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Denominator does not include missing responses or "prefer not to answer"	My Health My Community ³
Increased fruit and vegetable consumption	Respondents who answered significantly more or somewhat more		
Decreased fruit and vegetable consumption	Respondents who answered significantly less or somewhat less		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
CHANGE IN SLEEP PAST YEAR	Indicators derived from question: Compared to one year ago, have some of your behaviors changed? Sleep	Denominator does not include	My Health My Community ³
The proportion of respondents who indicated they increased or decreased, depending on the indicator, sleep over the past year	☐ Significantly more ☐ Somewhat more ☐ Same ☐ Somewhat less ☐ Significantly less ☐ Never ☐ Prefer not to answer	missing responses or "prefer not to answer"	
Increased sleep	Respondents who answered significantly more or somewhat more		
Decreased sleep	Respondents who answered significantly less or somewhat less		
CHANGE IN ALCOHOL CONSUMPTION PAST YEAR	Indicators derived from question: Compared to one year ago, have some of your behaviors changed? Drink alcohol	Denominator does not include missing responses	My Health My Community ³
The proportion of respondents who indicated they increased or decreased, depending on the indicator, alcohol consumption over the past year	☐ Significantly more ☐ Somewhat more ☐ Same ☐ Somewhat less ☐ Significantly less ☐ Never ☐ Prefer not to answer	or "prefer not to answer"	
Increased alcohol consumption	Respondents who answered significantly more or somewhat more		
Decreased alcohol consumption	Respondents who answered significantly less or somewhat less		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
CHANGE IN CONNECTING WITH FRIENDS PAST YEAR The proportion of respondents who indicated they increased or decreased, depending on the indicator, connecting with friends over the past year	Indicators derived from question: Compared to one year ago, have some of your behaviors changed? Connecting with friends Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Denominator does not include missing responses or "prefer not to answer"	My Health My Community ³
Increased connection with friends	Respondents who answered significantly more or somewhat more		
Decreased connection with friends	Respondents who answered significantly less or somewhat less		
CHANGE IN CONNECTING WITH FAMILY PAST YEAR The proportion of respondents who indicated they increased or decreased, depending on the indicator, connecting with family over the past year	Indicators derived from question: Compared to one year ago, have some of your behaviors changed? Connecting with family Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Denominator does not include missing responses or "prefer not to answer"	My Health My Community ³
Increased connection with family	Respondents who answered significantly more or somewhat more		
Decreased connection with family	Respondents who answered significantly less or somewhat less		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE	
CHANGE IN USE OF PUBLIC TRANSIT PAST YEAR	Indicators derived from question: Compared to one year ago, have some of your behaviors changed? Use of public transit	Denominator does not include missing responses		My Health My Community ³
The proportion of respondents who indicated they increased or decreased, depending on the indicator, use of public transit over the past year	 □ Significantly more □ Somewhat more □ Same □ Somewhat less □ Significantly less □ Never □ Prefer not to answer 	or "prefer not to answer"		
Increased use of public transit	Respondents who answered significantly more or somewhat more			
Decreased use of public transit	Respondents who answered significantly less or somewhat less			
RISK AND PROTECTIVE FA	ACTORS: CHILDREN			
CHANGE IN CHILD'S OR CHILDREN'S WELL-BEING OVER PAST YEAR The proportion of respondents who indicated their child's or children's well-being got better or worse, depending on the indicator, compared to one year ago.	Compared to one year ago, overall, how has your child's or your children's well-being changed? Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household. Denominator does not include missing responses or "prefer not to answer"	Novel	
Child well-being compared to one year ago – better	Respondents who only answered significantly better or somewhat better			
Child well-being compared to one year ago - worse	Respondents who only answered significantly worse or somewhat worse			







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
CHANGE IN CHILD'S OR CHILDREN'S PHYSICAL ACTIVITY OVER PAST YEAR The proportion of respondents who indicated their child's or children's physical activity increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Physical activity Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s wellbeing compared to one year ago. Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s physical activity	Respondents who answered significantly more or somewhat more		
Decrease in child(ren)'s physical activity	Respondents who answered significantly less or somewhat less		
CHANGE IN CHILD'S OR CHILDREN'S STRESS OVER PAST YEAR The proportion of respondents who indicated their child's or children's stress increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Stress Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s wellbeing compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s stress	Respondents who answered significantly more or somewhat more		4
Decrease in child(ren)'s stress	Respondents who answered significantly less or somewhat less		Your Stor



INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
CHANGE IN CHILD'S OR CHILDREN'S SCREEN TIME OVER PAST YEAR The proportion of respondents who indicated their child's or children's screen time increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Screen time Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s wellbeing compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s screen time	Respondents who answered significantly more or somewhat more		
Decrease in child(ren)'s screen time	Respondents who answered significantly less or somewhat less		
CHANGE IN CHILD'S OR CHILDREN'S FRUIT AND VEGETABLE CONSUMPTION OVER PAST YEAR The proportion of respondents who indicated their child's or children's fruit and vegetable consumption increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Fruit and vegetable consumption Significantly more Somewhat more Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s well-being compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s fruit and vegetable consumption	Respondents who answered significantly more or somewhat more		9
Decrease in child(ren)'s fruit and vegetable consumption	Respondents who answered significantly less or somewhat less		Your Stor



INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
CHANGE IN CHILD'S OR CHILDREN'S SUGARY BEVERAGE CONSUMPTION OVER PAST YEAR The proportion of respondents who indicated their child's or children's sugary beverage consumption increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Sugary beverage consumption Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s wellbeing compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s consumption of sugary beverages	Respondents who answered significantly more or somewhat more		
Decrease in child(ren)'s consumption of sugary beverages	Respondents who answered significantly less or somewhat less		
CHANGE IN CHILD'S OR CHILDREN'S CONNECTION WITH FRIENDS OVER PAST YEAR The proportion of respondents who indicated their child's or children's connection with friends increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Connection with friends Significantly more Somewhat more Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s wellbeing compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s connection with friends	Respondents who answered significantly more or somewhat more		Your Story
Decrease in child(ren)'s connection with friends	Respondents who answered significantly less or somewhat less		Our Future BC SPEAK



Survey

INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
CHANGE IN CHILD'S OR CHILDREN'S CONNECTION WITH FAMILY OVER PAST YEAR The proportion of respondents who indicated their child's or children's connection with family increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Connection with family Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s wellbeing compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s connection with family	Respondents who answered significantly more or somewhat more		
Decrease in child(ren)'s connection with family	Respondents who answered significantly less or somewhat less		
CHANGE IN CHILD'S OR CHILDREN'S LEARNING OVER PAST YEAR The proportion of respondents who indicated their child's or children's learning increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Learning Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s wellbeing compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s learning	Respondents who answered significantly more or somewhat more		9
Decrease in child(ren)'s learning	Respondents who answered significantly less or somewhat less		Your Sto





INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
CHANGE IN CHILD'S OR CHILDREN'S SLEEP OVER PAST YEAR The proportion of respondents who indicated their child's or children's sleep increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Sleep Significantly more Same Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s well-being compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s sleep	Respondents who answered significantly more or somewhat more		
Decrease in child(ren)'s sleep	Respondents who answered significantly less or somewhat less		
CHANGE IN CHILD'S OR CHILDREN'S CULTURAL EVENTS OVER PAST YEAR The proportion of respondents who indicated their child's or children's cultural events increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Cultural events Significantly more Somewhat more Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s wellbeing compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s cultural events	Respondents who answered significantly more or somewhat more		•
Decrease in child(ren)'s cultural events	Respondents who answered significantly less or somewhat less		Your Stor



INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
CHANGE IN CHILD'S OR CHILDREN'S EXTRA- CURRICULAR ACTIVITIES OVER PAST YEAR The proportion of respondents who indicated their child's or children's extra-curricular activities increased or decreased, depending on the indicator, compared to one year ago	Indicators derived from question: Please indicate how your child's or children's well-being has changed? Extra-curricular activities Significantly more Somewhat more Same Somewhat less Significantly less Never Prefer not to answer	Based on information provided by respondents who indicated there is a child or children less than 18 years of age in household and who indicated a change in child(ren)'s wellbeing compared to one year ago Denominator does not include missing responses or "prefer not to answer"	Novel
Increase in child(ren)'s extra-curricular activities	Respondents who answered significantly more or somewhat more		
Decrease in child(ren)'s extra-curricular activities	Respondents who answered significantly less or somewhat less		
RESILIENCE			
COMMUNITY BELONGING The proportion of respondents who reported their sense of belonging to their local community as being strong or weak, depending on the indicator. Research shows a high correlation of sense of community-belonging with physical and mental health.	Indicators derived from question: How would you describe your sense of belonging to your local community? Very strong Somewhat strong Somewhat weak Very weak I don't know Prefer not to answer	Denominator does not include missing responses, "prefer not to answer" or "I don't know"	My Health My Community ³ Adapted from Statistics Canada. Canadian Community Health Survey (CCHS) ²
Community belonging - strong	Respondents who answered very strong or somewhat strong		
Community belonging - weak	Respondents who answered very weak or somewhat weak		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
FEELING LONELY The proportion of respondents who reported feeling lonely seldom or often, depending on the indicator. Research shows a high correlation of social connection with physical and mental health	Indicators derived from question: How often do you feel lonely (e.g., feeling left out, isolated from others, or lacking companionship)? Never or hardly ever Some of the time Often Almost always Prefer not to answer	Denominator does not include missing responses or "prefer not to answer"	Adapted from My Health My Community ³ Based on University of California Los Angeles (UCLA) 3 item Loneliness scale ⁷
Feeling lonely - often/ almost always	Respondents who answered often or almost always		
Feeling lonely - some of the time/never or hardly ever	Respondents who answered never or hardly ever or some of the time		
EXPERIENCED DISCRIMINATION PAST 12 MONTHS	Indicator derived from question: In the past 12 months, have you experienced any discrimination, been treated unfairly or with less respect because of any of the following? Check all that apply. Age Sex or gender Sexual orientation Ethnicity, nationality, race or skin colour Substance use Being homeless Culture Language or accent Religion Family or marital status (e.g. single parent, divorced) Disability or health status Low income Other, please specify: No, I have not been treated unfairly or with less respect Prefer not to answer	Denominator does not include missing responses or "prefer not to answer"	Adapted from My Health My Community ³
Discrimination in past 12 months - yes	Respondents who selected age, sex or gender, sexual orientation, ethnicity, nationality, race or skin colour, substance use, being homeless, culture, language or accent, religion, family or marital status, disability or health status, low income, or other		Your Sto



Our Future

BC SPEAK Survey

INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
MEETING FINANCIAL NEEDS COMPARED TO ONE YEAR AGO	Indicators derived from question: Compared to one year ago, how has it been for you or your household to meet its financial needs?	Denominator does not include missing responses, "prefer	My Health My Community³
The proportion of respondents who reported it was more difficult or less difficult, depending on the indicator, to meet their financial needs compared to one year ago	 ☐ Much more difficult ☐ Somewhat more difficult ☐ Neither more difficult nor easier ☐ Somewhat easier ☐ Much easier ☐ I don't know ☐ Prefer not to answer 	not to answer" or "I don't know"	
Meeting financial needs compared to one year ago - more difficult	Respondents who answered much more difficult or somewhat more difficult		
Meeting financial needs compared to one year ago - less difficult	Respondents who answered much easier or somewhat easier		
CONCERN FOR FOOD SECURITY PAST YEAR The proportion of respondents who reported concern for food security in the past 12 months	Indicator derived from question: Please indicate whether the following statement is often true, sometimes true, or never true during the past 12 months. You worry that food will run out before you get money to buy more. □ Often true □ Sometimes true □ Never true □ I don't know □ Prefer not to answer	Denominator does not include missing responses, "prefer not to answer" or "I don't know"	Statistics Canada. Canadian Community Health Survey (CCHS) ²
Concern for food security in the past 12 months	Respondents who answered often true or sometimes true		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
LIKELY TO MOVE WITHIN THE NEXT 6 MONTHS BECAUSE CAN NO LONGER AFFORD CURRENT HOME The proportion of respondents who reported they are likely or unlikely to move, depending on the indicator, in next 6 months because they can no longer afford the current home	Indicators derived from question: How likely is it that you will need to move within the next 6 months because you can no longer afford your current home? Very likely Likely Neither likely nor unlikely Unlikely Very unlikely I don't know Prefer not to answer	Denominator does not include missing responses, "prefer not to answer" or "I don't know"	My Health My Community ³
Likely to move within the next 6 months because they can no longer afford current home	Respondents who answered very likely or likely		
Unlikely to move within the next 6 months because they can no longer afford current home	Respondents who answered very unlikely or unlikely		
NEIGHBOURHOOD CHAR	ACTERISTICS		
NEIGHBOURHOOD HAS DEDICATED CYCLIST AND PEDESTRIAN PATHS The proportion of respondents who agreed or disagreed, depending on the indicator, that there are dedicated cyclist and pedestrian paths in their neighbourhood	Indicators derived from question: There are special lanes, separate paths or trails, or shared use paths for cyclists and pedestrians in my neighbourhood Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a distance of one mile (1.6 km) from respondent's home. Denominator does not include missing responses, or "prefer not to answer"	My Health My Community ³ Statistics Canada. National Household Survey (NHS) ⁸
Neighbourhood has dedicated cyclist and pedestrian paths – agree	Respondents who answered strongly agree or somewhat agree		
Neighbourhood has dedicated cyclist and pedestrian paths – disagree	Respondents who answered strongly disagree or somewhat disagree		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
NEIGHBOURHOOD HAS WELL MAINTAINED SIDEWALKS The proportion of respondents who agreed or disagreed, depending on the indicator, there are well maintained sidewalks in their neighbourhood	Indicators derived from question: There are sidewalks in my neighbourhood that are well maintained (paved, with few cracks) and not obstructed Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a distance of one mile (1.6 km) from respondent's home. Denominator does not include missing responses, or "prefer not to answer"	My Health My Community ³ Statistics Canada. National Household Survey (NHS) ⁸
Neighbourhood has well maintained sidewalks – agree	Respondents who answered strongly agree or somewhat agree		
Neighbourhood has well maintained sidewalks – disagree	Respondents who answered strongly disagree or somewhat disagree		
NEIGHBOURHOOD HAS LOCAL AMENITIES The proportion of respondents who agreed or disagreed, depending on the indicator, that there are many shops, restaurants, services and facilities within easy walking/rolling or cycling distance of their home	Indicators derived from question: There are many shops, restaurants, services and facilities are within easy walking/rolling or cycling distance of my home Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a distance of one mile (1.6 km) from respondent's home. Denominator does not include missing responses, or "prefer not to answer"	My Health My Community ³ Statistics Canada. National Household Survey (NHS) ⁸
Neighbourhood has local amenities – agree	Respondents who answered strongly agree or somewhat agree		
Neighbourhood has local amenities – disagree	Respondents who answered strongly disagree or somewhat disagree		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
NEIGHBOURHOOD HAS LARGE SELECTION OF FRUIT AND VEGETABLES The proportion of respondents who agreed or disagreed, depending on the indicator, that there are a large selection of fruit and vegetables in their neighbourhood	Indicators derived from question: There are a large selection of fruits and vegetables is available in my neighbourhood Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a one-mile (1.6 km) radius from respondent's home. Denominator does not include missing responses, or "prefer not to answer"	My Health My Community ³ Statistics Canada. National Household Survey (NHS) ⁸
Neighbourhood has large selection of fruits and vegetables – agree	Respondents who answered strongly agree or somewhat agree		
Neighbourhood has large selection of fruits and vegetables – disagree	Respondents who answered strongly disagree or somewhat disagree		
NEIGHBOURHOOD HAS MANY ATTRACTIVE NATURAL SITES The proportion of respondents who agreed or disagreed, depending on the indicator, that there many attractive natural sites in their neighbourhood	Indicators derived from question: There are many attractive natural sites in my neighbourhood (such as landscaping, views, or parks) Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a one-mile (1.6 km) radius from respondent's home. Denominator does not include missing responses, or "prefer not to answer"	My Health My Community ³ Statistics Canada. National Household Survey (NHS) ⁸
Neighbourhood has many attractive natural sites – agree	☐ Respondents who answered strongly agree or somewhat agree		
Neighbourhood has many attractive natural sites – disagree	☐ Respondents who answered strongly disagree or somewhat disagree		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
NEIGHBOURHOOD TRAFFIC A CONCERN FOR WALKING The proportion of respondents who agreed or disagreed, depending on the indicator, that traffic in neighbourhood makes it difficult, unpleasant, or unsafe to walk	Indicators derived from question: <i>Traffic in my neighbourhood makes it difficult, unpleasant, or unsafe to walk</i> Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a one-mile (1.6 km) radius from respondent's home. Denominator does not include missing responses, or "prefer not to	My Health My Community ³ Statistics Canada. National Household Survey (NHS) ⁸
Neighbourhood traffic a concern for walking – agree	Respondents who answered strongly agree or somewhat agree	answer"	
Neighbourhood traffic a concern for walking – disagree	Respondents who answered strongly disagree or somewhat disagree		
NEIGHBOURHOOD TRAFFIC A CONCERN FOR CYCLING The proportion of respondents who agreed or disagreed, depending on the indicator, that traffic in neighbourhood makes it difficult, unpleasant, or unsafe to bike	Indicators derived from question: <i>Traffic in my neighbourhood makes it difficult, unpleasant, or unsafe to bike</i> Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a one-mile (1.6 km) radius from respondent's home. Denominator does not include missing responses, or "prefer not to answer"	Statistics Canada. National Household Survey (NHS) ⁸
Neighbourhood traffic a concern for cycling – agree	Respondents who answered strongly agree or somewhat agree		
Neighbourhood traffic a concern for cycling – disagree	Respondents who answered strongly disagree or somewhat disagree		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
NEIGHBOURHOOD SAFE AFTER DARK The proportion of respondents who agreed or disagreed, depending on the indicator, that they feel safe being alone in their neighbourhood after dark	Indicators derived from question: <i>I feel safe being alone in my neighbourhood after dark</i> Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a one-mile (1.6 km) radius from respondent's home. Denominator does not include missing responses, or "prefer not to answer"	My Health My Community ³ Statistics Canada. National Household Survey (NHS) ⁸
Neighbourhood safe after dark – agree	Respondents who answered strongly agree or somewhat agree		
Neighbourhood safe after dark – disagree	Respondents who answered strongly disagree or somewhat disagree		
MANY PEOPLE WALKING AND CYCLING IN NEIGHBOURHOOD The proportion of respondents who agreed or disagreed, depending on the indicator, that they see a lot of people walking and cycling in neighbourhood	Indicators derived from question: <i>I see a lot of people walking and cycling in my neighbourhood</i> Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a one-mile (1.6 km) radius from respondent's home. Denominator does not include missing responses, or "prefer not to answer"	My Health My Community ³ Statistics Canada. National Household Survey (NHS) ⁸
Many people walking and cycling in neighbourhood – agree	Respondents who answered strongly agree or somewhat agree		
Many people walking and cycling in neighbourhood – disagree	Respondents who answered strongly disagree or somewhat disagree		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
NEIGHBOURHOOD ACCESSIBLE IF USING MOBILITY AIDS The proportion of respondents who agreed or disagreed, depending on the indicator, it is safe and convenient to get around in their neighbourhood using mobility aids, such as a stroller, wheelchair, scooter, or walker	Indicators derived from question: It is safe and convenient to get around in my neighbourhood using mobility aids, such as a stroller, wheelchair, scooter, or walker Strongly disagree Somewhat disagree Neutral Somewhat agree Strongly agree Prefer not to answer	Neighbourhood refers to the area within a 20-minute walk or a one-mile (1.6 km) radius from respondent's home. Denominator does not include missing responses, or "prefer not to answer"	My Health My Community ³ Statistics Canada. National Household Survey (NHS) ⁸
Neighbourhood accessible - agree	Respondents who answered strongly agree or somewhat agree		
Neighbourhood accessible – disagree	Respondents who answered strongly disagree or somewhat disagree		
CLIMATE ADAPTATION			
The proportion of respondents who reported their home provides cool space during very hot weather	 Indicator derived from question: Is your home or where you live able to provide you with a space that is cool during very hot weather? Yes No Prefer not to answer 	Denominator does not include missing responses, or "prefer not to answer"	Novel
Home provides cool space - yes	Respondents who answered yes		
HOME IS EQUIPPED WITH A/C OR A HEAT PUMP The proportion of respondents who reported their home is equipped with an air conditioner or a heat pump	Indicator derived from question: <i>Is your home or where you live equipped with an air conditioner or a heat pump?</i> Yes, a central air conditioner that cools the whole home Yes, a heat pump that cools the whole home Yes, a heat pump, a window or portable air conditioner that cools one or more rooms Yes, a mini-split heat pump that cools one or more rooms No, I don't feel I need one No, but I would like one I don't know Prefer not to answer	Denominator does not include missing responses, "prefer not to answer" or "I don't know"	Adapted from My Health My Community ³
Home is equipped with an A/C or heat pump – yes	Respondents who answered their home is equipped with a central air conditioner that cools the whole home, a heat pump that cools the whole home, a heat pump, a window or portable air conditioner that cools one or more rooms, or a mini-split heat pump that cools one or more rooms		Your Sto



INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
HEALTHCARE ACCESS			
DID NOT RECEIVE MENTAL HEALTH HELP WHEN NEEDED IN THE PAST 12 MONTHS The proportion of respondents who reported they did not receive mental health help when needed over the past 12 months	Indicator derived from the question: During the past 12 months, was there ever a time when you felt that you needed mental health help, but didn't receive it? (This could include emotional problems or use of alcohol or other substances). Yes No Prefer not to answer	Denominator does not include missing responses, or "prefer not to answer"	Statistics Canada. Survey on Mental Health and Stressful Events ⁹
Did not receive mental health help when needed in the past 12 months - yes	Respondents who answered yes		
HAVE A REGULAR HEALTH CARE PROVIDER The proportion of respondents who reported they have a regular health care provider (such as a family doctor, clinic or nurse practitioner) Have a regular health care	Indicator derived from the question: <i>Do you have a regular health care provider (such as a family doctor, clinic or nurse practitioner)?</i> Yes No I don't know Prefer not to answer Respondents who answered yes	Denominator does not include missing responses, "prefer not to answer" or "I don't know"	Statistics Canada. Canadian Community Health Survey (CCHS) ² My Health My Community ³
DIFFICULTY ACCESSING HEALTHCARE WHEN NEEDED IN THE PAST 12 MONTHS The proportion of respondents who reported they had difficulty accessing healthcare when needed in the past 12 months	Indicator derived from the question: In the past 12 months, have you experienced difficulty in accessing health care you needed from a doctor, nurse, traditional health care provider or other health professional? I haven't needed care Yes No I don't know Prefer not to answer	Denominator does not include missing responses, "prefer not to answer", "I haven't needed care", or "I don't know"	Adapted from My Health My Community ³
Difficulty accessing healthcare when needed in the past 12 months - yes	Respondents who answered yes		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
DIFFICULTY ACCESSING SELECTED TYPE OF HEALTHCARE WHEN NEEDED IN THE PAST 12 MONTHS The proportion of respondents who reported they had difficulty accessing a family doctor or difficulty accessing emergency/urgent care services in the past 12 months, among those who indicated that they experienced difficulty accessing needed healthcare	Indicator derived from the question: What kind of care have you had difficulty accessing? Check all that apply. Family doctor Scheduled surgery Diagnostic services (e.g., laboratory, imaging, endoscopy, angiography etc.) Emergency or urgent care services Preventive care (e.g., Immunizations/shots, mammography, cervical screening) Specialty care (e.g., dermatologist, optometrist, obstetrician, podiatrist) Complementary care (e.g., physical therapy, massage therapy, nutritionist, chiropractor) COVID-19 immunization Influenza (flu) immunization Routine immunization (other than COVID-19 or Influenza (Flu)) Dental care Counselling Mental health care Traditional wellness/healing Harm reduction services for substance use Treatment services for substance use Contraception services (e.g., abortion, birth control) Sexually Transmitted Infections (STI) prevention services (e.g., STI testing, supplies to prevent STI's) Other, please specify: I don't know Prefer not to answer	Denominator comprises respondents who indicated they had difficulty accessing healthcare when needed in the past 12 months Denominator does not include missing responses, "prefer not to answer" or "I don't know"	Novel
Difficulty accessing family doctor when needed in the past 12 months - yes	Respondents who answered family doctor		
Difficulty accessing emergency or urgent care when needed in the past 12 months - yes	Respondents who answered emergency or urgent care services		







Appendix 1

INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
DIFFICULTY ACCESSING HEALTHCARE NEGATIVELY IMPACTED HEATH The proportion of respondents who reported that difficulty accessing healthcare negatively impacted their health	Indicator derived from the question: How do you think this difficulty accessing the care you needed has impacted your health? Significantly worsened my health Somewhat worsened my health Has likely not impacted my health I don't know how it has impacted my health Prefer not to answer	Denominator comprises respondents who indicated they had difficulty accessing healthcare when needed in the past 12 months Denominator does not include missing responses, or "prefer not to answer"	Novel
Difficulty accessing health care has impacted health - worsened my health	Respondents who answered significantly worsened my heath or somewhat worsened my health		







INDICATOR	QUESTIONS AND DERIVED VARIABLES	NOTES	SOURCE
DIFFICULTY ACCESSING SELECTED HEALTHCARE FOR CHILD(REN) IN THE HOUSEHOLD IN THE PAST YEAR The proportion of respondents who reported they had difficulty accessing selected types of healthcare for child(ren) in their household in the past 12 months	Indicator derived from the question: In the past 12 months, have you had difficulty accessing any of the following healthcare services for child(ren) in your household? Check all that apply. Family doctor Scheduled surgery Diagnostic services (e.g., laboratory, imaging, endoscopy, angiography etc.) Emergency or urgent care services COVID-19 immunization	Denominator comprises respondents who indicated there is a child or children less than 18 years of age in household Denominator does not include missing responses or "prefer not to answer" or "I don't	Novel
	 □ Routine immunization, other than COVID-19 or Influenza (Flu) □ Specialty care (e.g., dermatologist, optometrist, obstetrician, podiatrist) □ Complementary care (e.g., physical therapy, massage therapy, nutritionist, chiropractor) □ Dental care □ Counselling □ Mental health care □ Traditional wellness/healing □ Other, please specify: □ I don't know □ Prefer not to answer 	know"	
Difficulty accessing family doctor for child(ren) in the past 12 months - yes	Respondents who answered family doctor		
Difficulty accessing emergency or urgent care services for child(ren) in the past 12 months - yes	Respondents who answered emergency or urgent care services		







Appendix 1

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